

**Virginia Board of Housing and Community Development
 CODES AND STANDARDS COMMITTEE
 2015 CODE CHANGE CYCLE – BOOK 6
 September 18, 2017**

Opening Statement

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C-102.3 cdpVA-15

Proponent : Sub-workgroup for Utility/Cable/Wireless Equipment

DHCD Staff Contact: Vernon.Hodge@dhcd.virginia.gov

2012 Virginia Construction Code

(further modify the proposed regulations as follows)

102.3 Exemptions. The following are exempt from this code:

1. ~~Equipment, and wiring, and supporting structures~~ used for providing ~~wired~~ utility, ~~telecommunications~~ communications, information, ~~or~~ cable television, broadcast or radio service in accordance with all of the following conditions:

~~1.1. The equipment, and wiring, and supporting structures are owned and controlled by a provider of publicly regulated utility service or franchised cable television operator or its affiliates.~~

~~1.2. The equipment, wiring, and supporting structures are located on either rights-of-way or property for which the service provider has rights of occupancy and entry.~~

~~1.3.~~ 1.2. Buildings housing exempt equipment and wiring shall be subject to the USBC.

~~1.4.~~ 1.3. The equipment, and wiring, and supporting structures exempted by this section shall not create an unsafe condition prohibited by the USBC.

2. Support structures owned or controlled by a provider of publicly regulated utility service or its affiliates for the transmission and distribution of electric service in accordance with all of the following conditions:

2.1. The support structures are located on either rights-of-way or property for which the service provider has rights of occupancy and entry.

2.2. The support structures exempted by this section shall not create an unsafe condition prohibited by the USBC.

3. Direct burial poles used to support equipment or wiring providing communications, information or cable television services. The poles exempted by this section shall not create an unsafe condition prohibited by the USBC.

(remainder of section renumbered but no change in text from proposed regulations)

2012 Virginia Construction Code

(further modify proposed regulations as follows)

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 and equipment that (i) operates at less than 50 volts, (ii) is for ~~network-powered~~ broadband communications systems, ~~or~~ (iii) is exempt under Section 102.3(1) or ~~102.3(2)~~ 102.3(4), or (iv) is for monitoring or automation systems in dwelling units, except when any such installations are located in a plenum, penetrate fire rated or smoke protected construction or are a component of any of the following:

- 1.1. Fire alarm system.
- 1.2. Fire detection system.
- 1.3. Fire suppression system.
- 1.4. Smoke control system.
- 1.5. Fire protection supervisory system.
- 1.6. Elevator fire safety control system.
- 1.7. Access or egress control system or delayed egress locking or latching system.
- 1.8. Fire damper.
- 1.9. Door control system.

(remainder of section unchanged from proposed regulation)

Reason: DHCD initiated a sub-workgroup to address public comments on the proposed 2015 USBC submitted by the cable and telecommunications industries. The sub-workgroup met to review the public comments and seek consensus on revisions to the utility equipment and supporting structure language in the section setting out exemptions to the code.

The revisions are to clarify the existing language concerning support structures under the control of electric power companies and to add a new exemption for direct burial poles used for equipment or wiring for communication, information or cable television services since direct burial poles do not raise to the level of being structures typically regulated under the code.

The sub-workgroup also reviewed the language in the permit exemption section to clarify that the low voltage wiring exemption applies to monitoring and automation systems typically used in homes.

Organizations represented in the sub-workgroup were:

- Virginia Cable Television Association
- Verizon
- Cox Communications
- Virginia Association of Counties
- Virginia Municipal League
- Virginia Building and Code Officials Association
- Fairfax County Building Department
- Stafford County Fire Marshal's Office

Cost Impact: This proposal will not increase cost of construction.

Public Comments (0)

Workgroup Recommendation

Workgroup 1 Recommendation Recommendation: Consensus for Approval

Workgroup 1 Reason: August 23-consensus for approval
Carry over from June 13 meeting to August 23rd meeting.

Board Decision

None

Board Decisions

- Approved**
- Approved with Modifications**
- Carryover**
- Disapproved**
- None**

C-102.3 cdpVA-15

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C-108.2(2) cdpVA-15

Proponent : DHCD State Building Codes Office

DHCD Staff Contact: Vernon Hodge (vernon.hodge@dhcd.virginia.gov)

2012 Virginia Construction Code

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 and equipment that (i) operates at less than 50 volts, (ii) is for network powered broadband communications systems, or (iii) is exempt under Section 102.3(1), except when any such installations are located in a plenum, penetrate fire rated or smoke protected construction or are a component of any of the following:

1.1. Fire alarm system.

1.2. Fire detection system.

1.3. Fire suppression system.

1.4. Smoke control system.

1.5. Fire protection supervisory system.

1.6. Elevator fire safety control system.

1.7. Access or egress control system or delayed egress locking or latching system.

1.8. Fire damper.

1.9. Door control system.

2. One story detached structures used as tool and storage sheds, playhouses or similar uses, provided the building area does not exceed 256 square feet (23.78 m²) and the structures are not classified as a Group F-1 or H occupancy.

3. Detached prefabricated buildings housing the equipment of a publicly regulated utility service, provided the floor area does not exceed 150 square feet (14 m²).

4. Tents or air-supported structures, or both, that cover an area of 900 square feet (84 m²) or less, including within that area all connecting areas or spaces with a common means of egress or entrance, provided such tents or structures have an occupant load

of 50 or less persons.

5. Fences of any height unless required for pedestrian safety as provided for by Section 3306, or used for the barrier for a swimming pool.

6. Concrete or masonry walls, provided such walls do not exceed 6 feet (1829 mm) in height above the finished grade. Ornamental column caps shall not be considered to contribute to the height of the wall and shall be permitted to extend above the 6 feet (1829 mm) height measurement.

7. Retaining walls supporting less than 3 feet (914 mm) of unbalanced fill that are not constructed for the purpose of impounding Class I, II or III-A liquids or supporting a surcharge other than ordinary unbalanced fill.

8. Swimming pools that have a surface area not greater than 150 square feet (13.95 m²), do not exceed 5,000 gallons (19 000 L) and are less than 24 inches (610 mm) deep.

9. Signs under the conditions in Section H101.2 of Appendix H.

10. Replacement of above-ground existing LP-gas containers of the same capacity in the same location and associated regulators when installed by the serving gas supplier.

11. Flagpoles 30 feet (9144 mm) or less in height.

12. Temporary ramps serving dwelling units in Group R-3 and R-5 occupancies where the height of the entrance served by the ramp is no more than 30 inches (762 mm) above grade.

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

14. Ordinary repairs that include the following:

14.1. Replacement of windows and doors with windows and doors of similar operation and opening dimensions that do not require changes to the existing framed opening and that are not required to be fire rated in Group R-2 where serving a single dwelling unit and in Groups R-3, R-4 and R-5.

14.2. Replacement of plumbing fixtures and well pumps in all groups without alteration of the water supply and distribution systems, sanitary drainage systems or vent systems.

14.3. Replacement of general use snap switches, dimmer and control switches, 125 volt-15 or 20 ampere receptacles, luminaires (lighting fixtures) and ceiling (paddle) fans in Group R-2 where serving a single dwelling unit and in Groups R-3, R-4 and R-5.

14.4. Replacement of mechanical appliances provided such equipment is not fueled by gas or oil in Group R-2 where serving a single-family dwelling and in Groups R-3, R-4 and R-5.

14.5. Replacement of an unlimited amount of roof covering or siding in Groups R-3, R-4 or R-5 provided the building or structure is not in an area where the design (3 second gust) wind speed is greater than 100 miles per hour (160 km/hr) and replacement of 100 square feet (9.29 m²) or less of roof covering in all groups and all wind zones.

14.6. Replacement of 100 square feet (9.29 m²) or less of roof decking in Groups R-3, R-4 or R-5 unless the decking to be replaced was required at the time of original construction to be fire-retardant-treated or protected in some other way to form a fire-rated wall termination.

14.7. Installation or replacement of floor finishes in all occupancies.

14.8. Replacement of Class C interior wall or ceiling finishes installed in Groups A, E and I and replacement of all classes of interior wall or ceiling finishes in other groups.

14.9. Installation or replacement of cabinetry or trim.

14.10. Application of paint or wallpaper.

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

15. Crypts, mausoleums and columbaria structures not exceeding 1,500 square feet (139.35 m²) in area if the building or structure is not for occupancy and used solely for the interment of human or animal remains and is not subject to special inspections.

Exceptions:

1. Application for a permit may be required by the building official for the installation of replacement siding, roofing and windows in buildings within a historic district designated by a locality pursuant to Section 15.2-2306 of the Code of Virginia.

2. Application for a permit may be required by the building official for any items exempted in this section which are located in a special flood hazard area.

Reason: This proposal is necessary to give localities flexibility to determine how to address a requirement of the National Flood Insurance Program requiring development in special flood hazard areas to be permitted. While zoning or other permits or methods may be used to document such development, should a locality choose to involve its building permit process, this exemption would remove any conflict in the existing permit exemption provision of the code prohibiting such process.

Cost Impact: The proposal would not increase the cost of construction in most cases.

Public Comments (1)

By **Vernon Hodge**
05-26-2017 14:06:45

DHCD Note: Email from the Virginia Department of Conservation and Recreation in support of proposal is attached.

Attachment: Email - DCR(3).pdf (Next Page)

Workgroup Recommendation

Workgroup 1 Recommendation Recommendation: Consensus for Approval

Workgroup 1 Reason: None

Board Decision

None

Board Decisions

- Approved**
- Approved with Modifications**
- Carryover**
- Disapproved**
- None**

C-108.2(2) cdpVA-15

From: Dowling, David (DCR)
Sent: Friday, May 26, 2017 1:51 PM
To: Rafferty, Elizabeth (DHCD)
Cc: Hodge, Vernon (DHCD); Davis, Cindy (DHCD); Dowling, David (DCR); Watlington, Christine (DCR); Banks, Charley (DCR); Diccico, Gina (DCR); Owen, Kristin (DCR)
Subject: Comment on Regulatory Action - Update the Uniform Statewide Building Code (Action 4526)

Ms. Rafferty

The Department of Conservation and Recreation (DCR) requests consideration of the inclusion of an amendment in the Uniform Statewide Building Code that would address inconsistencies between federal regulations and Virginia regulations. Specifically, 44 CFR 60.3 requires permits for proposed construction and development in the community in certain flood-prone areas. Section 44 CFR 59.1 defines development as “any man-made change to improved or unimproved real estate, including but not limited to buildings or other structures, mining, dredging, filling, grading, paving, excavation or drilling operations or storage of equipment or materials”. The key issue is the exemptions contained in the Uniform Statewide Building Code (13 VAC 5-63-80. Section 108) appear to conflict with federal regulatory requirements. DCR would be glad to work with DHCD and stakeholders to try and remedy these regulatory inconsistencies. Thank you for your consideration of this request.

David C. Dowling
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C-113.7.1(1) cdpVA-15

Proponent : Michael Redifer, Representing City of Newport News
(mredifer@nnva.gov)

2012 Virginia Construction Code

113.7.1 Third-party inspectors.

Each building official charged with the enforcement of the USBC shall have a written policy establishing the minimum acceptable qualifications for third-party inspectors. The policy shall include the format and time frame required for submission of reports, any prequalification or preapproval requirements before conducting a third-party inspection and any other requirements and procedures established by the building official. The policy may include requirements that the inspection of new or existing elevators, escalators, chair lifts, dumbwaiters and similar conveyances be performed by an approved third-party inspector. All costs associated with required third-party inspections shall be the responsibility of the building owner.

Reason: Although it is common practice in a number of localities, the authority to require third-party inspections outside of the Special Inspection provisions of Chapter 17 is not clearly stated nor is the responsibility for cost when this procedure is used. Since 113.1.3 places the duty to inspect on the building official except where provided for in 113.7, the authority to mandate a third-party inspection process for this equipment must be clear.

Cost Impact: None

Public Comments (0)

Workgroup Recommendation

Workgroup 1 Recommendation Recommendation: Consensus for Approval

Workgroup 1 Reason: Consensus for approval to move forward with legal counsel advising about the statutory issue.

Combined workgroup 1, 2, 3, & 4 meeting

Board Decision

None

Board Decisions

- Approved**
- Approved with Modifications**
- Carryover**
- Disapproved**
- None**

C-113.7.1(1) cdpVA-15

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C-115.2 cdpVA-15

Proponent : Ronald Clements, Jr (clementsro@chesterfield.gov)

2012 Virginia Construction Code

115.2 Notice of violation.

The building official shall issue a written notice of violation to the responsible party if any violations of this code or any directives or orders of the building official have not been corrected or complied with in a reasonable time. The notice shall reference the code section or sections upon which the notice is based and direct the ~~discontinuance and abatement~~ correction of the violation or the compliance with such directive or order and specify a reasonable time period within which the corrections or compliance must occur. The notice shall be issued by either delivering a copy to the responsible party by mail to the last known address or delivering the notice in person or by leaving it in the possession of any person in charge of the premises, or by posting the notice in a conspicuous place if the person in charge of the premises cannot be found. The notice of violation shall indicate the right of appeal by referencing the appeals section. When the owner of the building or structure, or the permit holder for the construction in question, or the tenants of such building or structure, are not the responsible party to whom the notice of violation is issued, then a copy of the notice shall also be delivered to such owner, permit holder or tenants.

Note: A notice of unsafe building or structure for structures that become unsafe during the construction process shall be issued in accordance with Section 118.

115.3 Further action when violation not corrected.

If the responsible party has not complied with the notice of violation, the building official ~~shall submit a written request to~~ may initiate legal proceedings by requesting the legal counsel of the locality to institute the appropriate legal proceedings to restrain, correct or abate the violation or to require the removal or termination of the use of the building or structure involved. In cases where the locality so authorizes, the building official may issue or obtain a summons or warrant. Compliance with a notice of violation notwithstanding, the building official may request legal proceedings be instituted for prosecution when a person, firm or corporation is served with three or more notices of violation within one calendar year for failure to obtain a required construction permit prior to commencement of work subject to this code.

Note: See Section 19.2-8 of the Code of Virginia concerning the statute of limitations for building code prosecutions.

2012 Virginia Maintenance Code

104.5.6 Further action when violation not corrected.

If the responsible party has not complied with the notice of violation, the code official ~~shall submit a written request to~~ may initiate legal proceedings by requesting the legal counsel of the locality to institute the appropriate legal proceedings to restrain, correct

or abate the violation or to require the removal or termination of the use of the building or structure involved. In cases where the locality so authorizes, the code official may issue or obtain a summons or warrant.

Reason: VCC 115.2- VCC Section 118.4, SFPC section 111.1 and VMC section 1004.5.4.2 specify that the NOV should include a timeframe to make corrections. Section 115.2 stipulates a reasonable time to correct violations before the NOV issued but the section is silent on timeframes for compliance with the NOV. This change will make all four NOV sections consistent across the codes. The proposed note is a cross reference to the relatively new section 118 for unsafe buildings, which addresses violations concerning unsafe buildings. "or sections" was added because it is routine to use one NOV for multiple violations. "Discontinuance and abatement" were replaced with "correction" to simplify the text.

VCC 115.3, VMC 104.5.6-The current text mandates that the building official must request legal counsel institute action when there is a failure to comply with an NOV. The building official should have the authority to decide if legal action is warranted. The second issue with this provision is that it mandates that the communication with the legal counsel shall be in writing. In practice this is often handled through a conversation. We may call or meet with our attorney to decide on the legal course of action and forego a written request. The mandate that the request be in writing is not in the SFPC.

Cost Impact: There is no cost impact.

Public Comments (0)

Workgroup Recommendation

Workgroup 1 Recommendation Recommendation: Consensus for Approval

Workgroup 1 Reason: Combined workgroup 1, 2, 3, & 4 meeting

Workgroup 2 Recommendation Recommendation: Consensus for Approval

Workgroup 2 Reason: Combined workgroup 1, 2, 3, & 4 meeting

Board Decision

None

Board Decisions

- Approved
- Approved with Modifications
- Carryover
- Disapproved
- None

C-115.2 cdpVA-15

C-119.7 cdpVA-15

Proponent : Richard Witt, Representing Rick Witt (wittr@chesterfield.gov)

2012 Virginia Construction Code

119.7 Hearings and decision.

All hearings before the LBBCA shall be open meetings and the appellant, the appellant's representative, the locality's representative and any person whose interests are affected by the building official's decision in question shall be given an opportunity to be heard. The chairman shall have the power and duty to direct the hearing, rule upon the acceptance of evidence and oversee the record of all proceedings. The LBBCA shall have the power to uphold, reverse or modify the decision of the official by a concurring vote of a majority of those present. Decisions of the LBBCA shall be final if no further appeal is made. The decision of the LBBCA shall be ~~by resolution~~ explained in writing, signed by the chairman and retained as part of the record of the appeal. Copies of the ~~resolution~~ written decision shall be sent to all parties by certified mail. In addition, the ~~resolution~~ written decision shall contain the following wording:

"Any person who was a party to the appeal may appeal to the State Review Board by submitting an application to such Board within 21 calendar days upon receipt by certified mail of this resolution. Application forms are available from the Office of the State Review Board, 600 East Main Street, Richmond, Virginia 23219, (804) 371-7150."

2012 Virginia Maintenance Code

106.7 Hearings and decision.

All hearings before the LBBCA shall be open meetings and the appellant, the appellant's representative, the locality's representative and any person whose interests are affected by the code official's decision in question shall be given an opportunity to be heard. The chairman shall have the power and duty to direct the hearing, rule upon the acceptance of evidence and oversee the record of all proceedings. The LBBCA shall have the power to uphold, reverse or modify the decision of the official by a concurring vote of a majority of those present. Decisions of the LBBCA shall be final if no further appeal is made. The decision of the LBBCA shall be ~~by resolution~~ explained in writing, signed by the chairman and retained as part of the record of the appeal. Copies of the ~~resolution~~ written decision shall be sent to all parties by certified mail. In addition, the ~~resolution~~ written decision shall contain the following wording:

"Any person who was a party to the appeal may appeal to the State Review Board by submitting an application to such Board within 21 calendar days upon receipt by certified mail of ~~this resolution~~ the written decision. Application forms are available from the Office of the State Review Board, 600 East Main Street, Richmond, Virginia 23219, (804) 371-7150."

2012 Virginia Statewide Fire Prevention Code

112.8.1 Resolution.

The BFPCA's decision shall be ~~by resolution~~ explained in writing, signed by the chairman and retained as part of the record by the BFPCA. The following wording shall be part of the ~~resolution~~ written decision: "Any person who was a party to the appeal may

appeal to the State Building Code Technical Review Board (TRB) by submitting an application to the TRB within 21 calendar days upon receipt by certified mail of ~~this resolution~~ the written decision. Application forms are available from the Office of the TRB, 600 East Main Street, Richmond, Virginia 23219, (804) 371-7150." Copies of the ~~resolution~~ written decision shall be furnished to all parties.

112.9.1 Information to be submitted.

Copies of the fire official's decision and ~~the resolution~~ written decision of the BFPCA shall be submitted with the application for appeal. Upon request by the office of the TRB, the BFPCA shall submit a copy of all inspection reports and all pertinent information from the record of the BFPCA.

Reason: This change is intended to clarify that the decision of the LBCCA is not restricted to a formal format of a resolution and that a letter would be sufficient.

Cost Impact: This change may save costs by reducing the amount of administrative time needed to document the decision of the LBCCA

Public Comments (0)

Workgroup Recommendation

Workgroup 1 Recommendation Recommendation: Consensus for Approval

Workgroup 1 Reason: Combined workgroup 1, 2, 3, & 4 meeting

Shaun Pharr asked if Rick would entertain adding, shall be explained in writing.

Rick Witt stated that would be fine.

Ed Rhodes suggested there was a grammatical change on page 16. Should be decision instead of resolution.

Rick Witt said ok.

Board Decision

None

Board Decisions

- Approved**
- Approved with Modifications**
- Carryover**
- Disapproved**
- None**

C-119.7 cdpVA-15

CB-202(2) cdpVA-15

Proponent : Kenney Payne, Representing AIA-VA
(kpayne@moseleyarchitects.com)

2012 Virginia Construction Code

SECTION 202 DEFINITIONS

~~202 CHANGE OF OCCUPANCY.~~

~~A change in the use or occupancy of any building or structure that would place the building or structure in a different division of the same group of occupancies or in a different group of occupancies; or a change in the purpose or level of activity within a building or structure that involves a change in application of the requirements of this code.~~

2012 Virginia Rehabilitation Code

SECTION 202 DEFINITIONS

~~202 CHANGE OF OCCUPANCY.~~

~~A change in the purpose or level of activity within a building that involves a change in application of the requirements of this code.~~

2012 Virginia Statewide Fire Prevention Code

~~102.1.1 Changes~~**Change of occupancy.**

~~No *change of occupancy* shall be made in the use any building or occupancy of any structure that would place the structure in a different division of the same group of occupancies, unless such building or structure is made to comply with the requirements of this code and the USBC as determined by the USBC building official.~~

SECTION 202 DEFINITIONS

[EB] CHANGE OF OCCUPANCY.

Either of the following shall be considered a change of occupancy where the current VCC requires a greater degree of accessibility, structural strength, fire protection, means of egress, ventilation or sanitation than that which is existing in the current building or structure:

1. Any change in the occupancy classification of a building or structure.
2. Any change in the purpose of, or change in the level of activity within, a building or structure.

NOTE: The use and occupancy classification of a building that involves a change or structure shall be determined in application accordance with Chapter 3 of the requirements of this code VCC.

2015 International Building Code

SECTION 202 DEFINITIONS

[A] CHANGE OF OCCUPANCY.

~~A change in the purpose or level of activity within a building that involves a change in application~~

~~See Section 202 of the requirements of this code~~VEBC.

2015 International Existing Building Code

SECTION 202 DEFINITIONS

CHANGE OF OCCUPANCY.

A

Either of the following shall be considered a change of occupancy where the current USBC requires a greater degree of accessibility, structural strength, fire protection, means of egress, ventilation or sanitation than that which is existing in the current building or structure:

1. Any change in the use of the building or a portion~~occupancy classification~~ of a building or structure.

2. Any change in the purpose of occupancy shall include any, or change in the level of occupancy classification~~activity within, any change from one group to another group within a building or structure.~~

NOTE: The use and occupancy classification of a building or any change~~structure shall be determined in use within a group for a specific occupancy classification.~~accordance with Chapter 3 of the VCC.

Reason: As currently written, there were so many different definitions and applications of a change of occupancy, it was very confusing and could possibly be interpreted as having conflicting provisions.

This code change proposal starts with the 2012 VCC 103.3 "definition" (concerning the "greater degree" of the listed six elements) and attempts to provide a consistent definition for a change of occupancy. It also deletes the definition of *change of occupancy* in the VCC/IBC (which are "new" building-related) and provides a "pointer" to the VEBC and SFPC which is where "existing" building-related definitions should be included. So, rather than duplicate definitions that are more VEBC-centric in the VCC, adding a "See" simplifies things and avoids duplicating definitions and having to confirm they say the same thing for each code cycle.

The definition is being duplicated in the SFPC because fire officials typically do not carry around the VCC/IBC or VEBC/IEBC.

The "NOTE" language is similar to that used in 2015 IEBC 302.5.

Cost Impact: None.

Public Comments (0)

Workgroup Recommendation

Workgroup 2 Recommendation Recommendation: Consensus for Approval

Workgroup 2 Reason: Combined workgroup 1, 2, 3, & 4

Robby Dawson noted there may be a question to the verbiage regarding the IBC reference.

Vernon Hodge said we can do either. We can use VCC throughout to pick up all state amendments.

Move forward as consensus with changes to make references to IBC to the VCC and IEBC to the VEBC and add "or any change in use within a group for a specific occupancy classification" to all the definitions.

Workgroup 1 Recommendation Recommendation: Consensus for Approval

Workgroup 1 Reason: Combined workgroup 1, 2, 3, & 4

Robby Dawson noted there may be a question to the verbiage regarding the IBC reference.

Vernon Hodge said we can do either. We can use VCC throughout to pick up all state amendments.

Move forward as consensus with changes to make references to IBC to the VCC and IEBC to the VEBC and add "or any change in use within a group for a specific occupancy classification" to all the definitions.

Board Decision

None

Board Decisions

- Approved
- Approved with Modifications
- Carryover
- Disapproved
- None

CB-202(2) cdpVA-15

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CB-717.6.2.2 cdpVA-15

Proponent : Thomas Clark, Representing VPMIA/VBCOA, PMG Committee (tdclark@pwcgov.org)

2015 International Building Code

717.6.2.2 Equipment shutdown. Where ceiling radiation dampers are listed as static dampers, the HVAC equipment shall be effectively shut down to stop the airflow prior to the damper closing using one one of the following methods.

1. A duct detector installed in the return duct.
2. An area smoke detector interlocked with the HVAC equipment.
3. A listed heat sensor installed in the return duct.

Reason: The fire performance measured by ANSI/UL 263 is based upon the assumption that air movement will be effectively stopped at the start of a fire. A proposal was approved with this language for the International Mechanical Code. This proposal duplicates the language in the International Building Code.

Cost Impact: Cost is based on method of shut down

Public Comments (0)

Workgroup Recommendation

Workgroup 2 Recommendation Recommendation: Consensus for Approval

Workgroup 2 Reason: None

Board Decision

None

Board Decisions

- Approved**
- Approved with Modifications**
- Carryover**
- Disapproved**
- None**

CB-717.6.2.2 cdpVA-15

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CB-905.2 cdpVA-15

Proponent : Christopher Born (cborn@clarknexsen.com)

2012 Virginia Construction Code

Option 1:

[F] 905.2 Installation standard. Standpipe systems shall be installed in accordance with this section and NFPA 14.

~~**Exception:** The residual pressure of 100 psi for 2 1/2 inch hose connection and 65 psi for 1 1/2" hose connection is not required in buildings equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1 or 903.3.1.2 and where the highest floor level is not more than 150 above the lowest level of fire department vehicle access.~~

[F] 905.3.1 Height. Class III standpipe systems shall be installed throughout buildings where the floor level of the highest story is located more than 30 feet (9144 mm) above the lowest level of fire department vehicle access, above the lowest level of fire department vehicle access, or where the floor level of the lowest story is located more than 30 feet (9144 mm) below the highest level of fire department vehicle access.

Exceptions:

1. Class I standpipes are allowed in buildings equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1 or 903.3.1.2.

2. Class I manual wet standpipes are allowed in buildings equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1 or Section 903.3.2 and where the highest floor is located not more than 150 feet above the lowest level of fire department vehicle access.

(renumber remaining exceptions)

Option 2:

[F] 905.2 Installation standard. Standpipe systems shall be installed in accordance with this section and NFPA 14. The system designer shall contact the local fire code official regarding the pumping capabilities and standard operating procedures of the fire department, and the system design shall be based on this information.

~~**Exception:** The residual pressure of 100 psi for 2 1/2 inch hose connection and 65 psi for 1 1/2" hose connection is not required in buildings equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1 or 903.3.1.2 and where the highest floor level is not more than 150 above the lowest level of fire department vehicle access.~~

[F] 905.3.1 Height. Class III standpipe systems shall be installed throughout buildings where the floor level of the highest story is located more than 30 feet (9144 mm) above

the lowest level of fire department vehicle access, above the lowest level of fire department vehicle access, or where the floor level of the lowest story is located more than 30 feet (9144 mm) below the highest level of fire department vehicle access.

Exceptions:

1. Class I standpipes are allowed in buildings equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1 or 903.3.1.2.

2. Class I manual wet standpipes are allowed in buildings equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1 or Section 903.3.2 and where the highest floor is located not more than 150 feet above the lowest level of fire department vehicle access.

(renumber remaining exceptions)

Reason:

Option 1:

When originally written for the 2000 VUSBC, this change was intended to capture the allowance of NFPA 14 that permitted manual wet standpipe systems. However, the exception only mentioned pressure and not volume. Therefore, the VUSBC actually addressed something that was already in part in NFPA 14 (elimination of the minimum residual pressure), it technically required a minimum volume be automatically delivered to the hose valves. In other words, while NFPA 14 allowed elimination of pressure and volume requirements for buildings of up to 75 feet, the VUSBC eliminates the pressure requirement for buildings up to 150 feet while still always requiring that the volume be automatically delivered. This can result in fire pumps being required in some cases when that wasn't the intent.

Additionally, as currently written the exception technically does not require any minimum pressure, even when the system is supplied through the fire department connection. This change will clarify that the system must always be capable of satisfying the hydraulic requirements when supplied through the FDC, and indicates that the fire code official shall be consulted regarding the capabilities and standard operating procedures of the fire department.

This option would incorporate the existing pressure exemption for buildings up to 150 feet and place that in the same section as where the VUSBC otherwise addresses standpipe classification. Therefore, this change would alleviate the need for the exception to 905.2 regarding residual pressure and also eliminates the potential issue with pressure being waived but not volume. Therefore, both of my concerns with the current exception to 905.2 would be addressed. The concern about satisfying system demand through the FDC is addressed because NFPA 14:7.7.1 (at least the 2013 and 2016 editions) requires that the system be designed such that the system demand can be supplied by each fire department connection.

Option 2:

This option is identical to Option 1, except for the added language in 905.2 regarding system design.

Concerning the added language in 905.2, this incorporates my opinion that as the local fire department is the true user of the standpipe system it should be designed based on their tactics, training and equipment. This is admittedly an aspirational goal, but it does mirror discussion from some on the NFPA 14 committee.

Cost Impact: This proposal is not expected to result in cost increases, and in some cases may result in cost savings.

Public Comments (0)

Workgroup Recommendation

Workgroup 2 Recommendation Recommendation: Consensus for Approval

Workgroup 2 Reason: 8/23/17 Consensus for approval using option #1
6/13/17 Steve to reach out to the proponent and clean up and attempt to delete the state ammendment

Board Decision

None

Board Decisions

- Approved
- Approved with Modifications
- Carryover
- Disapproved
- None

CB-905.2 cdpVA-15

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CB-912.3 cdpVA-15

Proponent : James Dawson, Representing Virginia Fire Services Board
(dawsonj@chesterfield.gov)

2012 Virginia Construction Code

[F] 912.3 Access.

Immediate access to fire department connections shall ~~be maintained at all times and provided~~ without obstruction by fences, bushes, trees, walls or any other fixed or moveable object. Access to fire department connections shall be *approved* by the fire chief.

- **Exception:** Fences, where provided with an access gate equipped with a sign complying with the legend requirements of Section 912.4 and a means of emergency operation. The gate and the means of emergency operation shall be *approved* by the fire chief ~~and maintained operational at all times.~~

[F] 912.3.2 Clear space around connections.

A working space of not less than 36 inches (762 mm) in width, 36 inches (914 mm) in depth and 78 inches (1981 mm) in height shall be provided ~~and maintained~~ in front of and to the sides of wall-mounted fire department connections and around the circumference of free-standing fire department connections, except as otherwise required or *approved* by the fire chief.

Reason: This proposal clarifies the section to require the provision of access at time of Certificate of Occupancy and removes maintenance requirements which are not within the scope of the USBC.

Cost Impact: There is no cost impact with this proposal.

Public Comments (1)

By **William Andrews**
05-26-2017 16:30:03

Suggest code include wordage against steep slopes and other barriers difficult for firefighters to easily access and use Fire Department Connection. Some might argue a slope, stream, landscaping topographic feature not an "object", thus not a prohibited obstruction. Areas which often flood over foot deep, soil so soft as to not support person (sink above ankle) among many concerns which code official should be enabled to enforce. Building code should include such issues when approving construction, so less risk firefighters have problems years later accessing fire department connection.

Workgroup Recommendation

Workgroup 2 Recommendation Recommendation: Consensus for Approval

Workgroup 2 Reason: Add the word "be" back in.
Immediate access to fire department connections shall **be** maintained at all times and

Board Decision

None

Board Decisions

- Approved**
- Approved with Modifications**
- Carryover**
- Disapproved**
- None**

CB-912.3 cdpVA-15

CB-1011.16 cdpVA-15

Proponent : Kenney Payne, Representing AIA Virginia
(kpayne@moseleyarchitects.com)

2015 International Building Code

1011.16 Ladders. Permanent ladders shall not serve as a part of the *means of egress* from occupied spaces within a building. Permanent ladders shall be permitted to provide access to the following areas:

1. Spaces frequented only by personnel for maintenance, repair or monitoring of equipment.
2. Nonoccupiable spaces accessed only by catwalks, crawl spaces, freight elevators or very narrow passageways.
3. Raised areas used primarily for purposes of security, life safety or fire safety including, but not limited to, observation galleries, prison guard towers, fire towers or lifeguard stands.
4. Elevated levels in Group U not open to the general public.
5. Nonoccupied roofs that are not required to have *stairway* access in accordance with Section 1011.12.1.

~~6. Ladders shall be constructed in accordance with Section 306.5 of the *International Mechanical Code*.~~

Reason: The deleted #6 is not an "area" (note the end of 1011.16 which says, ". . . to the following areas."). How to construct a ladder is not an "area." If it needed to stay, it should be located within 1011.16. However, requiring such ladders to be constructed per IMC 306.5 creates conflicts with standard ladders used for other locations.

IMC 306.5 only covers ladders to elevated structures 16 feet or more above grade. Does that mean other ladders do not need to comply with IMC? This has, can, and mostly will create varying interpretations of how to apply this section.

If we set aside the limited application of 306.5 and dwell on the "constructed in accordance with" part of 1011.16, then there appears to be multiple conflicts with established standards and practice, including:

- What about roof hatch access ladders?
- What about elevator pit ladders?

Looking at IMC 306.5 and its ladder requirements:

1. The side railing shall extend above the parapet or roof edge not less than 30 inches (762 mm).

Not possible for ladders to roof hatches; presumably not applicable since the hatch is neither a roof edge nor a parapet, but some AHJ's might try to apply it.

2. Ladders shall have rung spacing not to exceed 14 inches (356 mm) on center. The uppermost rung shall be not greater than 24 inches (610 mm) below the upper edge of the roof hatch, roof or parapet, as applicable.
3. Ladders shall have a toe spacing not less than 6 inches (152 mm) deep.

ASME elevator pit ladders 4.5" min. 7" OSHA and ANSI.

4. There shall be not less than 18 inches (457 mm) between rails.

5. Rungs shall have a diameter not less than 0.75-inch (19 mm) and be capable of withstanding a 300-pound (136.1 kg) load.
 6. Ladders over 30 feet (9144 mm) in height shall be provided with offset sections and landings capable of withstanding 100 pounds per square foot (488.2 kg/m²). Landing dimensions shall be not less than 18 inches (457 mm) and not less than the width of the ladder served. A guard rail shall be provided on all open sides of the landing.
 7. Climbing clearance. The distance from the centerline of the rungs to the nearest permanent object on the climbing side of the ladder shall be not less than 30 inches (762 mm) measured perpendicular to the rungs. This distance shall be maintained from the point of ladder access **to the bottom of the roof hatch**. A minimum clear width of 15 inches (381 mm) shall be provided on both sides of the ladder measured from the midpoint of and parallel with the rungs except where cages or wells are installed.
 8. Landing required. The ladder shall be provided with a clear and unobstructed bottom landing area having a minimum dimension of 30 inches (762 mm) by 30 inches (762 mm) centered in front of the ladder.
 9. Ladders shall be protected against corrosion by approved means.
 10. Access to ladders shall be provided at all times.
- Catwalks installed to provide the required access shall be not less than 24 inches (610 mm) wide and shall have railings as required for service platforms.

Everywhere else a "ladder" is referenced in the IBC (except for 2015 IBC 1030.5.2), there are not "construction" requirements. Why not let ladders be constructed to suit the location or done in a way that satisfies a particular standard based on that location (e.g., elevator pits, roof hatches, etc.)?

Cost Impact: None.

Public Comments (0)

Workgroup Recommendation

Workgroup 2 Recommendation Recommendation: Consensus for Approval

Workgroup 2 Reason: None

Board Decision

None

Board Decisions

- Approved**
- Approved with Modifications**
- Carryover**
- Disapproved**
- None**

CB-1011.16 cdpVA-15

CB-1023.5 cdpVA-15

Proponent : Kenney Payne, Representing AIA-VA (kpayne@moseleyarchitects.com); Emory Rodgers (errpp1242@verizon.net)

2015 International Building Code

1023.5 Penetrations. Penetrations into or through *interior exit stairways* and *ramps* are prohibited except for equipment and ductwork necessary for independent ventilation or pressurization, sprinkler piping, standpipes, electrical raceway for fire department communication systems and electrical raceway serving the *interior exit stairway* and *ramp* and terminating at a steel box not exceeding 16 square inches (0.010 m²). Such penetrations shall be protected in accordance with Section 714. There shall not be penetrations or communication openings, whether protected or not, between adjacent *interior exit stairways* and *ramps*.

~~**Exception:** Membrane penetrations shall be permitted on the outside of the *interior exit stairway* and *ramp*. Such penetrations shall be protected in accordance with Section 714.3.2.~~

Exceptions:

1. Membrane penetrations shall be permitted on the outside of the *interior exit stairway* and *ramp*. Such penetrations shall be protected in accordance with Section 714.3.2.

2. For buildings in other than Group H, with no more than two stories above grade plane and are equipped throughout with an approved automatic sprinkler system in accordance with Section 903.3.1.1, structural members, other than columns, which are part of the primary structural frame supporting the roof sheathing, roof slab or roof deck only and structural members which are secondary members supporting the roof sheathing, roof slab or roof deck only, shall be permitted to penetrate an interior exit stairway enclosure or a ramp enclosure. Such penetrations shall be protected in accordance with Section 714.

1024.6 Penetrations. Penetrations into or through an *exit passageway* are prohibited except for equipment and ductwork necessary for independent pressurization, sprinkler piping, standpipes, electrical raceway for fire department communication and electrical raceway serving the *exit passageway* and terminating at a steel box not exceeding 16 square inches (0.010 m²). Such penetrations shall be protected in accordance with Section 714. There shall not be penetrations or communicating openings, whether protected or not, between adjacent *exit passageways*.

~~**Exception:** Membrane penetrations shall be permitted on the outside of the *exit passageway*. Such penetrations shall be protected in accordance with Section~~

Exceptions:

1. Membrane penetrations shall be permitted on the outside of the exit passageway. Such penetrations shall be protected in accordance with Section 714.3.2.
2. For buildings in other than Group H, with no more than two stories above grade plane and are equipped throughout with an approved automatic sprinkler system in accordance with Section 903.3.1.1, structural members, other than columns, which are part of the primary structural frame supporting the roof sheathing, roof slab or roof deck only and structural members which are secondary members supporting the roof sheathing, roof slab or roof deck only, shall be permitted to penetrate an exit passageway enclosure. Such penetrations shall be protected in accordance with Section 714.

Reason: Structural framing is allowed to penetrate other rated assemblies, including rated corridor walls and other fire barriers and rated construction (e.g., those elements governed by Chapter 6) or even penetrate into fire walls. As long as the penetrations are fire-stopped and/or installed and tested as required by Section 714, the level of safety should be equivalent to that of a corridor or shaft that was penetrated by such structure. As currently written, many code officials interpret each stairway must be constructed as a "mini" building with independent structural framing (similar to a fire wall). There is no code requirement for such enclosures to be constructed as independent - only that they be enclosed with fire barriers. Constructing stairways like "mini-buildings" adds unnecessary costs.

This proposal would be consistent with what is allowed under 2015 IBC 713.8 for shaft enclosures: "Structural elements, such as beams or joists, where protected in accordance with Section 714 shall be permitted to penetrate a shaft enclosure."

This proposal is limiting in its scope:

1. Building cannot be Group H.
2. Building cannot exceed two stories above grade plane.
3. Building must be fully sprinkled. Another incentive to provide a sprinkler system!

Similar proposals addressing structural penetrations into stairways have been rejected by many code officials. To paraphrase, their comments have essentially said the occupants would be at greater risk or would be less safe. However, through repeated requests, they have not been able to describe how allowing the structure (other than columns) to penetrate the enclosure of a sprinkled building is less safe - or a 2-story building is less safe - or any building of any height sprinkled or not?

IBC 2015 1019.3 allows for exit access stairways to not be enclosed at all, thus allowing the structure to not be protected at all - for up to FOUR stories in other than Groups B and M and is UNLIMITED for all other Groups except I-2 and I-3!

IBC 2015 1023.5 already allows the following to penetrate the enclosure:

- Ductwork (with a cross section of lighter gauge metal thickness that could be a lot greater than the structure)
- Sprinkler piping
- Standpipes that are usually 4" diameter but could get as large as 6-7" in diameter
- Raceway (which can result in "openings" equivalent to the structure)

So given the above, how does allowing the structure to penetrate make the stairway *less safe* when I can already penetrate with all of the above?

Is it the concern that the structure could fail and therefore could compromise the integrity of the enclosure?

- Would such concern exist in a fully sprinklered building (where the sprinkler system would extinguish the fire before any failure would occur)?
- Would such concern exist in a 2-story building (where people would evacuate way before the structure would fail)?
- Currently, the stairway enclosure can terminate at the underside of the steel deck per 2015 IBC 707.5 (i.e., the steel deck is allowed to span across the enclosure) and most would agree that the deck would fail (given its reduced thickness and cross section) before the primary and secondary structure.
- Oftentimes the stairway enclosure serves as a shear wall where the "building" structure is *connected* to the stairway enclosure (but does not penetrate it).
 - If such structural failure is the concern, then the use of the stairway enclosure as a shear wall would not be allowed because such failure of the "building" structure would compromise the integrity of the stairway enclosure.
- Is the concern that the seal and/or firestopping could fail?
 - If so, then the same concern should be shared for all of the other penetrations that are allowed per 2015 IBC 1023.5.
 - Also, the same concern should be shared for the seal and/or firestopping used at the top of the enclosure wall where it terminates at the roof construction.

While the structure may be able to penetrate the membrane, the rated integrity must still be maintained behind such penetrations, so allowing membrane penetration serves little to no purpose because we would still have to "thicken" the wall or provide "double structure" (walls or columns) at such locations (including their associated expanded foundations and footings).

- For example, say a stair enclosure is made with 8" CMU to achieve a 2-hour rating. Steel joists usually require a minimum of 4" of bearing while steel beams usually require 6"-8". So, we would need a 12" thick CMU wall to maintain the 8" for the rating and allow 4" for the bearing (14" thick if we needed 6" of bearing - 16" thick to allow 8" of bearing) - in essence still requiring a greatly thicker or "double" wall.

To clarify, the structure in this proposal is for the roof structure only - not intermediate elevated floor structure (if that were the case, then through penetration of the structure would conflict with the stair itself - which is why we use *membrane* penetration for elevated slabs).

Finally, a number of the code blogs related to this subject are basically split on how to apply these provisions when it comes to structure. A number say it was never intended to be applied to the structure - the code just didn't want a stairway littered with electrical outlets, devices, and other openings creating a Swiss cheese effect. We share those opinions.

Cost Impact: Clarifying that primary and secondary structural framing can penetrate such enclosures will result in COST SAVINGS because otherwise, the structure within the stairway and its enclosure would need to be independent of each other and constructed almost like a fire wall. Structural engineers have estimated the cost to construct without penetrations in the enclosure range between \$10,000 - \$20,000 per stairway, depending on the complexity, height, loads, and other factors.

Public Comments (1)

By **Emory Rodgers**

02-01-2017 11:29:01

For the sake of having public discussion, I am supporting this code change as reasonable and cost effective by providing another structural option for what are very small buildings in general without impacting structural safety. ERR

Workgroup Recommendation

Workgroup 2 Recommendation Recommendation: Consensus for Approval

Workgroup 2 Reason: Combined workgroup 1, 2, 3, & 4 meeting

Board Decision

None

Board Decisions

- Approved**
- Approved with Modifications**
- Carryover**
- Disapproved**
- None**

CB-1023.5 cdpVA-15

CB-1704.2 cdpVA-15

Proponent : Special Inspections Sub-workgroup (of DHCD's WG Two)

DHCD Staff Contact: Vernon Hodge (vernon.hodge@dhcd.virginia.gov)

2012 Virginia Construction Code

1704.2 Special inspections. Where application is made for construction as described in this section, the owner shall employ one or more special inspectors to provide inspections during construction on the types of work listed under Section 1704. All individuals or agents performing special inspection functions shall operate under the direct supervision of an RDP in responsible charge of special inspection activities, also known as the "special inspector." The special inspector shall ensure that the individuals under their charge are performing only those special inspections or laboratory testing that are consistent with their knowledge, training and certification for the specified inspection or laboratory testing.

Exceptions:

1. ~~The building official shall be permitted to waive special inspections and tests are not required for work of a minor nature or as warranted by conditions in the jurisdiction as approved by the building official.~~

2. Special inspections and tests are not required for:

2.1. One story buildings under 20 feet in height which do not exceed 5000 square feet in building area components unless the design involves the practice of professional engineering or architecture as defined by the laws of this Commonwealth and regulations governing the professional registration and certification of engineers and architects.; or

2.2. Alterations to Group U structures which do not increase loads in accordance with Sections 403.3 and 403.4 of the VEBC.

3. Unless otherwise required by the building official, special inspections and tests are not required for occupancies in Groups R-3, R-4 or R-5 and occupancies in Group U that are accessory to a residential occupancy including, but not limited to, those listed in Section 312.1.

Reason: DHCD initiated a subworkgroup to address the threshold for requiring special inspections since it was discovered that there is nonuniform application of the existing provisions across the state. The subworkgroup members were provided with the history of the Virginia amendments to the special inspection threshold provisions. This consensus proposal readdresses the minor work exception (Exception #1) to allow the local building official to determine whether they have the staffing necessary to perform special inspections or whether special inspections are necessary for a particular project. In addition, the proposal changes the threshold exception (Exception #2) to eliminate the need for determining whether professional design is required for a building or structure as the basis for determining when special inspections are required since that leads to nonuniform application of the provision. Instead, the

subworkgroup members agreed to provide a threshold based on size and height to eliminate confusion. The threshold was based partly on other states' thresholds and on a threshold for smaller projects with materials and construction techniques typically familiar to the local inspector. An additional exception (Item 2.2) was added as the result of a second sub-workgroup meeting where the sub-workgroup members considered concerns from a representative of a billboard company addressing limited alterations to billboards. The sub-workgroup members determined there should not be a special inspection requirement for Group U structures unless structural alterations were involved. The reference to the VEBC is to the structural alteration provisions in the IEBC, which address minor alterations.

The changes are shown to the 2012 Virginia Construction Code text. The editorial changes approved by the Board of Housing and Community Development to correlate the state amendments with the 2015 International Building Code language are not affected by the proposal and it's understood that DHCD staff would correlate both.

Organizations represented in the subworkgroup were:

- Virginia Building and Code Officials Association
- Virginia Association of American Institute of Architects
- Building and Office Managers Association
- Virginia Apartment Managers Association
- Virginia Society of Professional Engineers

Cost Impact: The proposal would in most cases decrease the cost of construction.

Public Comments (0)

Workgroup Recommendation

Workgroup 2 Recommendation Recommendation: Consensus for Approval

Workgroup 2 Reason: None

Board Decision

None

Board Decisions

- Approved**
- Approved with Modifications**
- Carryover**
- Disapproved**
- None**

CB-1704.2 cdpVA-15

CB-2603.5.5 cdpVA-15

Proponent : Kenney Payne, Representing AIA-VA
(kpayne@moseleyarchitects.com)

2012 Virginia Construction Code

2603.5.5 Vertical and lateral fire propagation. Exterior wall assemblies shall be tested in accordance with, and comply with, acceptance criteria of NFPA 285. Where noncombustible materials or combustible materials permitted by Sections 603, 803, 806 or 1406 differ from assembly to assembly or within an assembly, multiple tests shall not be required.

Exception: Exterior wall assemblies are not required to be tested in accordance with, and comply with, acceptance criteria of NFPA 285 where any of the following conditions are met:

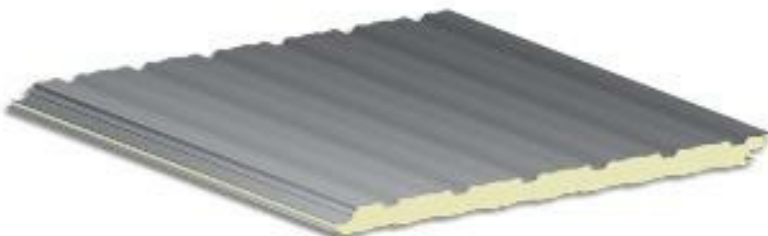
1. One-story buildings ~~complying with Section 2603.4.1.4~~ where the exterior wall covering is noncombustible.
2. Wall assemblies where the foam plastic insulation is covered on each face by a minimum of 1-inch (25 mm) thickness of masonry or concrete complying with either of the following:
 - 2.1 There is no air space between the insulation and the concrete or masonry; or
 - 2.2 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.

Reason:

DHCD Staff Note: This proposal was carried over from the proposed phase and reassigned to WG2. The proposed phase proposal with the workgroup disposition and reasons may be viewed at this link: [Proposed Phase Proposal](#)

Proponent's Reason Statement:

Section 2603.4.1.4 is essentially a "carve out" for a particular type of building (e.g., metal storage buildings) and type of exterior wall construction (where the exterior wall itself is metal-faced panels without thermal barriers). Refer to the images below:





However, the vast majority of one-story buildings throughout the commonwealth is not or would not be constructed that way, thus, **nearly all non-Type V one-story buildings would have to comply** with the NFPA 285 test.

Should one-story buildings with **non-combustible exterior wall coverings** be subjected to the NFPA 285 test?

To what extent has the *foam plastic insulation* in a cavity wall of a 1-story building contributed to the spread of fire, property damage, injuries, or loss of life?

NFPA 285 is a very costly test that could be WAY disproportional to the cost of some one-story buildings. This test is a solution looking for a problem – that most likely does not exist.

However, recognizing that having combustible materials on the EXTERIOR of a building's facade – even for one-story buildings – could potentially contribute to such vertical and lateral propagation, this exception would NOT apply to one-story buildings that have combustible materials as their exterior covering.

Cost Impact: If the NFPA 285 test is required for one-story buildings, this code change would result in potentially **HUGE** cost savings. Full-scale assembly tests cost approximately \$15,000-\$100,000 per assembly per test (variation in cost depends on the type and complexity of the assembly) – and such tests could potentially increase construction schedules by 3-6 months (the average time delay to have an NFPA 285 test conducted).

How many different exterior wall assemblies are there on a typical one-story building? One, two, three or more?

These potential increased costs assume each different assembly would pass the first time. If any assembly fails, the costs and time would increase accordingly until a passing test is achieved. Not only would the **cost of construction increase** if such tests were required on one-story buildings, but those costs would almost certainly be transferred to the consumers.

Public Comments (0)

Workgroup Recommendation

Workgroup 2 Recommendation Recommendation: Consensus for Approval

Workgroup 2 Reason: Combined workgroup 1, 2, 3, & 4 meeting
Consensus for approval with amendments

Board Decision

None

Board Decisions

- Approved**
- Approved with Modifications**
- Carryover**
- Disapproved**
- None**

CB-2603.5.5 cdpVA-15

CB-2603.5.5 cdpVA-15 - PRIOR PROPOSAL

Proponent : Kenney Payne, Representing AIA-VA
(kpayne@moseleyarchitects.com)

2012 Virginia Construction Code

2603.5.5 Vertical and lateral fire propagation. Exterior wall assemblies shall be tested in accordance with, and comply with, acceptance criteria of NFPA 285. Where noncombustible materials or combustible materials permitted by Sections 603, 803, 806 or 1406 differ from assembly to assembly or within an assembly, multiple tests shall not be required.

Exception: Exterior wall assemblies are not required to be tested in accordance with, and comply with, acceptance criteria of NFPA 285 where any of the following conditions are met:

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 complying with either of the following:
 - 2.1 There is no air space between the insulation and the concrete or masonry; or
 - 2.2 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.

Reason: Exception #3 makes Exception #1 (as currently written) obsolete because 2603.4.1.4 already requires the building to be sprinkled. So, if a building is fully sprinkled, one would use Exception #3, not Exception #1. Section 2603.4.1.4 is essentially a "carve out" for a particular type of building (e.g., metal storage buildings) and type of exterior wall construction (where the exterior wall itself is metal-faced panels without thermal barriers). This proposed change would not affect this building type. Refer to the images below:





The question that should be asked is whether one-story buildings should be subjected to the NFPA 285 test at all. The vast majority of one-story buildings throughout the commonwealth are not or would not be constructed per 2603.4.1.4, requiring **every one-story building** (that is not Type V construction) to comply with the NFPA 285 test.

This would include buildings such as: restaurants, Burger Kings, banks, strip shopping centers, spas, salons, Food Lions, car dealerships, big box stores, single-story offices, etc. – basically 95% or more of businesses in Virginia.

Given that the requirement for this test, or some form thereof, has been around since 1988, have all of the existing one-story buildings throughout the commonwealth gone through such tests? Assuming not – to what extent has the *foam plastic insulation* contributed to the spread of fire, or to what extent of property damage, injuries, or loss of life has been attributed to *foam plastic insulation* being in the exterior wall of one-story buildings?

The NFPA 285 test, in part, measures vertical propagation of fire (10'-0" from a window opening) – mostly to determine whether a fire on a lower floor would spread to an upper floor. There generally are no upper floors on single-story buildings.

Does Virginia believe such a test is necessary for all one-story buildings? Is this a solution looking for a problem?

Cost Impact: If the NFPA 285 test is required and enforced for all single-story buildings (other than Type V construction), this code change would result in potentially HUGE COST SAVINGS. Full-scale assembly tests cost approximately \$35-100,000 per assembly per test (variation in cost depends on the type and complexity of the assembly) – and such tests could potentially increase construction schedules by 6 months or more (the average time delay to have an NFPA 285 test conducted).

How many different exterior wall assemblies are there on a typical one-story building? One, two, three, four or more? How many are in the building you are in right now?

These potential increased costs assume each different assembly would pass the first time. If any assembly fails, the costs and time would increase accordingly until a passing test is achieved. Not only would the cost of construction increase if such tests were required on one-story buildings, but those costs would almost certainly be transferred to the consumers.

Workgroup Recommendation

Workgroup 2 Recommendation Recommendation: Consensus for Approval

Workgroup 2 Reason: Reason: Exception #3 makes Exception #1 (as currently written) obsolete because 2603.4.1.4 already requires the building to be sprinkled. So, if a building is fully sprinkled, one would use Exception #3, not Exception #1. Kenney Payne gave an overview of his proposal. He would like to propose that Virginia consider allowing one story buildings to be exempt from this test.

Comments:

Glenn Dean asked that we give Kenney a victory.

Cindy Davis - **Move forward as consensus**

Cindy Davis gave an overview regarding a letter that was sent to Governor McAuliffe. It was in opposition to this, however, we have had no proposal from her.

William Lloyd said they should follow the process.

Board Decision

None

CB-2603.5.5 cdpVA-15

CE-C402.4.3 cdpVA-15

Proponent : Energy Sub-workgroup (of DHCD's Workgroup Two)
 DHCD Staff Contact: Richard Potts (richard.potts@dhcd.virginia.gov)

2015 International Energy Conservation Code

**TABLE C402.4
 BUILDING ENVELOPE FENESTRATION MAXIMUM U-FACTOR AND SHGC REQUIREMENTS**

CLIMATE ZONE	1	2	3	4 EXCEPT MARINE	5 AND MARINE 4	6	7	8								
Vertical fenestration																
U-factor																
Fixed fenestration	0.50	0.50	0.46	0.38	0.38	0.36	0.29	0.29								
Operable fenestration	0.65	0.65	0.60	0.45	0.45	0.43	0.37	0.37								
Entrance doors	1.10	0.83	0.77	0.77	0.77	0.77	0.77	0.77								
SHGC																
SHGC	0.25	0.25	0.25	0.40	0.40	0.40	0.45	0.45								
SHGC																
Orientation ^a	SEW	N	SEW	N	SEW	N	SEW	N	SEW	N	SEW	N	SEW	N	SEW	N
PF	0.25	0.33	0.25	0.33	0.25	0.33	0.40	0.53	0.40	0.53	0.40	0.53	0.45	NR	0.45	NR
0.2 ≤ PF	0.30	0.37	0.30	0.37	0.30	0.37	0.48	0.58	0.48	0.58	0.48	0.58	NR	NR	NR	NR
PF ≥ 0.5	0.40	0.40	0.40	0.40	0.40	0.40	0.64	0.64	0.64	0.64	0.64	0.64	NR	NR	NR	NR
Skylights																
U-factor	0.75	0.65	0.55	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	NR	NR	NR	NR
SHGC	0.35	0.35	0.35	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	NR	NR	NR	NR

NR = No requirement, PF = Projection factor.

a. "N" indicates vertical fenestration oriented within 45 degrees of true north. "SEW" indicates orientations other than "N." For buildings in the southern hemisphere, reverse south and north. Buildings located at less than 23.5 degrees latitude shall use SEW for all orientations.

C402.4.3 Maximum U-factor and SHGC. The maximum U-factor and solar heat gain coefficient (SHGC) for fenestration shall be as specified in Table C402.4.

The window projection factor shall be determined in accordance with Equation 4-5.

$PF = A/B$ (Equation 4-5)

where:

PF = Projection factor (decimal).

A = Distance measured horizontally from the furthest continuous extremity of any overhang, eave or permanently attached shading device to the vertical surface of the glazing.

B = Distance measured vertically from the bottom of the glazing to the underside of the overhang, eave or permanently attached shading device.

Where different windows or glass doors have different PF values, they shall each be evaluated separately.

Where the fenestration projection factor for a specific vertical fenestration product is greater than or equal to 0.2, the required maximum SHGC from Table C402.4 shall be adjusted by multiplying the required maximum SHGC by the multiplier specified in Table

C402.4.3 corresponding with the orientation of the fenestration product and the projection factor.

TABLE C402.4.3 SHGC ADJUSTMENT MULTIPLIERS		
PROJECTION FACTOR	ORIENTED WITHIN 45 DEGREES OF TRUE NORTH	ALL OTHER ORIENTATIONS
$0.2 \leq PF < 0.5$	1.1	1.2
$PF \leq 0.5$	1.2	1.6

Reason:

DHCD Staff Note: This proposal was carried over from the proposed phase and reassigned to WG2. The proposed phase proposal with the workgroup disposition and reasons may be viewed at this link: [Proposed Phase Proposal](#)

Proponent's Reason Statement:

The purpose of this proposed code change is to maintain the calculation of projection factor and the simple SHGC requirement that is currently being enforced in Virginia. **The result of this proposal will be to maintain exactly the same fenestration SHGC and trade-off ability permitted in the current Virginia commercial energy code, or "business as usual" on commercial fenestration SHGC.**

Without this proposal, the next edition of Virginia's energy code would be *less efficient* than the current edition, since it would allow higher SHGCs than what the current code allows, *even where there is no overhang at all*. There is no justifiable reason why fenestration SHGC should be less efficient going forward – in fact, SHGC has a substantial impact on overall energy efficiency in Virginia, particularly in commercial buildings.

This proposal will maintain the simplicity and efficiency of the current Virginia energy code carrying forward identical fenestration SHGC requirements into the next edition.

Cost Impact: This proposal will not increase the cost of construction.

Workgroup Recommendation

Workgroup 2 Recommendation Recommendation: Consensus for Approval

Workgroup 2 Reason: Combined workgroup meeting 1, 2, 3, & 4

Board Decision

None

Board Decisions

- Approved**
- Approved with Modifications**
- Carryover**
- Disapproved**
- None**

CE-C402.4.3 cdpVA-15

CE-C402.4.3 cdpVA-15 - PRIOR PROPOSAL

Proponent : Eric Lacey, Representing Responsible Energy Codes Alliance (eric@reca-codes.com)

2015 International Energy Conservation Code

**TABLE C402.4
BUILDING ENVELOPE FENESTRATION MAXIMUM U-FACTOR AND SHGC REQUIREMENTS**

CLIMATE ZONE	1	2	3	4 EXCEPT MARINE	5 AND MARINE 4	6	7	8								
Vertical fenestration																
U-factor																
Fixed fenestration	0.50	0.50	0.46	0.38	0.38	0.36	0.29	0.29								
Operable fenestration	0.65	0.65	0.60	0.45	0.45	0.43	0.37	0.37								
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SHGC																
SHGC	0.25	0.25	0.25	0.40	0.40	0.40	0.45	0.45								
SHGC																
Orientation ^a	SEW	N	SEW	N	SEW	N	SEW	N	SEW	N	SEW	N	SEW	N	SEW	N
PF	0.25	0.33	0.25	0.33	0.25	0.33	0.40	0.53	0.40	0.53	0.40	0.53	0.45	NR	0.45	NR
0.2 ≤ PF	0.30	0.37	0.30	0.37	0.30	0.37	0.48	0.58	0.48	0.58	0.48	0.58	NR	NR	NR	NR
PF ≥ 0.5	0.40	0.40	0.40	0.40	0.40	0.40	0.64	0.64	0.64	0.64	0.64	0.64	NR	NR	NR	NR
Skylights																
U-factor	0.75	0.65	0.55	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	NR	NR	NR	NR
SHGC	0.35	0.35	0.35	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	NR	NR	NR	NR

NR = No requirement, PF = Projection factor.

a. "N" indicates vertical fenestration oriented within 45 degrees of true north. "SEW" indicates orientations other than "N." For buildings in the southern hemisphere, reverse south and north. Buildings located at less than 23.5 degrees latitude shall use SEW for all orientations.

C402.4.3 Maximum U-factor and SHGC. The maximum U-factor and solar heat gain coefficient (SHGC) for fenestration shall be as specified in Table C402.4.

The window projection factor shall be determined in accordance with Equation 4-5.

$$PF = A/B \quad (\text{Equation 4-5})$$

where:

PF = Projection factor (decimal).

A = Distance measured horizontally from the furthest continuous extremity of any overhang, eave or permanently attached shading device to the vertical surface of the glazing.

B = Distance measured vertically from the bottom of the glazing to the underside of the overhang, eave or permanently attached shading device.

Where different windows or glass doors have different PF values, they shall each be evaluated separately.

Where the fenestration projection factor for a specific vertical fenestration product is greater than or equal to 0.2, the required maximum SHGC from Table C402.4 shall be adjusted by multiplying the required maximum SHGC by the multiplier specified in Table C402.4.3 corresponding with the orientation of the fenestration product and the projection factor.

TABLE C402.4.3

SHGC ADJUSTMENT MULTIPLIERS

PROJECTION FACTOR	ORIENTED WITHIN 45 DEGREES OF TRUE NORTH	ALL OTHER ORIENTATIONS
$0.2 \leq PF < 0.5$	1.1	1.2
$PF \leq 0.5$	1.2	1.6

Reason: The purpose of this proposed code change is to maintain the calculation of projection factor and the simple SHGC requirement that is currently being enforced in Virginia. **The result of this proposal will be to maintain exactly the same fenestration SHGC and trade-off ability permitted in the current Virginia commercial energy code, or "business as usual" on commercial fenestration SHGC.**

Without this proposal, the next edition of Virginia's energy code would be *less efficient* than the current edition, since it would allow higher SHGCs than what the current code allows, *even where there is no overhang at all*. There is no justifiable reason why fenestration SHGC should be less efficient going forward – in fact, SHGC has a substantial impact on overall energy efficiency in Virginia, particularly in commercial buildings.

This proposal will maintain the simplicity and efficiency of the current Virginia energy code carrying forward identical fenestration SHGC requirements into the next edition.

Cost Impact: This proposal will not increase the cost of construction.

Workgroup Recommendation

Workgroup 2 Recommendation Recommendation: Non-Consensus Final

Workgroup 2 Reason: None

Board Decision

None

CE-C402.4.3 cdpVA-15

CE-C403.2.6.3 cdpVA-15

Proponent : Energy Sub-workgroup (of DHCD's Workgroup Two)

DHCD Staff Contact: Richard Potts (richard.potts@dhcd.virginia.gov)

2015 International Energy Conservation Code

(Commercial Provisions)

C403.2.6.3 Dwelling unit mechanical ventilation. Mechanical ventilation shall be provided for dwelling units in accordance with the International Mechanical Code.

2015 International Mechanical Code

401.2 Ventilation required. Every occupied space shall be ventilated by natural means in accordance with Section 402 or by mechanical means in accordance with Section 403. ~~Where the air infiltration rate in a Group R dwelling unit is less than 5 air changes per hour when tested with a blower door at a pressure of 0.2 inch water column (50 Pa) in accordance with Section R402.4.1.2 of the *International Energy Conservation Code*, the dwelling unit~~ units shall be ventilated by mechanical means in accordance with Section 403. Ambulatory care facilities and Group I-2 occupancies shall be ventilated by mechanical means in accordance with Section 407.

**TABLE 403.3.1.1
MINIMUM VENTILATION RATES**

OCCUPANCY CLASSIFICATION	OCCUPANT DENSITY #/1000 FT ² a	PEOPLE OUTDOOR AIRFLOW RATE IN BREATHING ZONE, R_p CFM/PERSON	AREA OUTDOOR AIRFLOW RATE IN BREATHING ZONE, R_a CFM/FT ² a	EXHAUST AIRFLOW RATE CFM/FT ² a
Hotels, motels, resorts and dormitories				
Bathrooms/toilet—private ^g	--	—	—	25/50 ^f
Bedroom/living room	10	5	0.06	—

Conference/meeting	50	5	0.06	—
Dormitory sleeping areas	20	5	0.06	—
Gambling casinos	120	7.5	0.18	—
Lobbies/prefunction	30	7.5	0.06	—
Multipurpose assembly	120	5	0.06	—
Offices				
Conference rooms	50	5	0.06	—
Main entry lobbies	10	5	0.06	—
Office spaces	5	5	0.06	—
Reception areas	30	5	0.06	—
Telephone/data entry	60	5	0.06	—
Private dwellings, single and multiple				
Garages, common for multiple units ^b	—	—	—	0.75
Kitchens ^b	—	—	—	25/100 ^f
Living areas ^c	Based upon number of bedrooms. First bedroom, 2; each	0.35 ACH but not less than <u>152</u> cfm/person	—	—

	additional bedroom, 1			
Toilet rooms and bathrooms ^g	—	—	—	25/50 ^f
Public spaces				
Corridors	—	—	0.06	—
Courtrooms	70	5	0.06	—
Elevator car	—	—	—	1.0
Legislative chambers	50	5	0.06	—
Libraries	10	5	0.12	—
Museums (children's)	40	7.5	0.12	—
Museums/galleries	40	7.5	0.06	—
Places of religious worship	120	5	0.06	—
Shower room (per shower head) ^g	—	—	—	50/20 ^f
Smoking lounges ^b	70	60	—	—
Toilet rooms — public ^g	—	—	—	50/70 ^e
Retail stores, sales floors and showroom floors				
Dressing rooms	—	—	—	0.25

Mall common areas	40	7.5	0.06	—
Sales	15	7.5	0.12	—
Shipping and receiving	—	—	0.12	—
Smoking lounges ^b	70	60	—	—
Storage rooms	—	—	0.12	—
Warehouses (see storage)	—	—	—	—

For SI: 1 cubic foot per minute = 0.0004719 m³/s, 1 ton = 908 kg, 1 cubic foot per minute per square foot = 0.00508 m³/(s • m²), °C = [(°F)-32]/1.8, 1 square foot = 0.0929 m².

a. Based upon *net occupiable floor area*.

b. Mechanical exhaust required and the recirculation of air from such spaces is prohibited. Recirculation of air that is contained completely within such spaces shall not be prohibited (see Section 403.2.1, Item 3).

c. Spaces unheated or maintained below 50°F are not covered by these requirements unless the occupancy is continuous.

d. Ventilation systems in enclosed parking garages shall comply with Section 404.

e. Rates are per water closet or urinal. The higher rate shall be provided where the exhaust system is designed to operate intermittently. The lower rate shall be permitted only where the exhaust system is designed to operate continuously while occupied.

f. Rates are per room unless otherwise indicated. The higher rate shall be provided where the exhaust system is designed to operate intermittently. The lower rate shall be permitted only where the exhaust system is designed to operate continuously while occupied.

g. Mechanical exhaust is required and recirculation from such spaces is prohibited except that recirculation shall be permitted where the resulting supply airstream consists of not more than 10 percent air recirculated from these spaces. Recirculation of air that is contained completely within such spaces shall not be prohibited (see Section 403.2.1, Items 2 and 4).

h. For nail salons, each manicure and pedicure station shall be provided with a *source capture system* capable of exhausting not less than 50 cfm per station. Exhaust inlets shall be located in accordance with Section 502.20. Where one or more required source capture systems operate continuously during occupancy, the exhaust rate from such systems shall be permitted to be applied to the exhaust flow rate required by Table 403.3.1.1 for the nail salon.

Reason: Section C402.5 mandates air sealing for all buildings, setting a target of 0.4 cfm/ft at 75 Pa. This leakage target can be confirmed through blower door testing or through other methods. When applied to an individual dwelling unit, the IECC's target leakage rate corresponds to about

0.6 ACH50, which is a fifth of the leakage rate permitted for dwelling units covered under the residential chapter.*

When the residential chapter of the IECC adopted air tightness requirements in 2012, it also mandated that mechanical ventilation to be provided (R403.6). The rationale in adopting such a requirement was that the IECC should not set air tightness targets without also ensuring that minimum acceptable indoor air quality is provided. This proposal closes a gap in the code by ensuring that tight dwelling units built under the commercial chapter of the IECC are also provided with mechanical ventilation to deliver minimum acceptable indoor air quality.**

*Assumes the typical dwelling unit has 8 ft ceilings, 30 ft of exterior wall, 1000 ft² of conditioned floor area, and a pressure exponent, n , of 0.65.

**The IMC currently has a requirement for mechanical ventilation of dwelling units in commercial buildings. However, the requirement is only triggered IF a blower door test is conducted at 50 Pa and the total leakage of the dwelling unit is 5 ACH50 or less. Because this metric is different from the blower door test referenced by IECC C402.5, and because no blower door test is required by IECC C402.5, there is no effective requirement in either the IMC or IECC for mechanical ventilation of air sealed dwelling units in commercial buildings. Like the residential chapter, the IECC's commercial chapter should take responsibility to provide direction to the IMC as to when mechanical ventilation is required.

Cost Impact: This proposal requires mechanical ventilation for Group-R dwelling units but reduces the air flow rate required based on Virginia stakeholder concerns for managing humidity introduced with outdoor air. Under this proposal, a typical 2-bedroom, 800 sqft high-rise dwelling unit would require 36 cfm, which is lower than the current requirement for mechanical ventilation of the same high-rise dwelling unit in Virginia's current code (i.e., 45 cfm) and slightly higher than the requirement for the same unit in a low-rise multifamily building (i.e., 31 cfm). There is nothing prohibiting the use of a code-mandated bathroom ventilation fan to provide the required outdoor air, provided the designer can show that the system meets the IMC's balancing requirements (Section 403.3.1.5). Additionally, Newport has submitted two proposals to approve combined intake/exhaust terminations used for supplying ventilation air and exhausting living space air from dwelling units. See proposals CTM-401.4 cdpVA-15 and CR-R303.5.1 cdpVA-15 for more information. If approved, specification of these combined intake/exhaust terminations can reduce penetrations and costs associated with ventilation systems, while improving building aesthetics. If an incremental cost is incurred, the costs associated with a code-minimum compliant system are very small when compared to the estimated \$300 billion annual cost of negative health effects from poor residential indoor air quality.^{1,2,3,4,5}

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2. Turner WJN, Logue JM, and Wray CP. 2012. Commissioning Residential Ventilation Systems: A Combined Assessment of Energy and Air Quality Potential Values.
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4. Lvovsky K, Huges G, Maddison D, Ostro B, and Pearce D. 2000. Environmental costs of fossil fuels: a rapid assessment method with application to six cities. Washington, D.C.: The World Bank Environment Department.
5. Highfill T and Bernstein E. 2014. Using Disability Adjusted Life Years to Value the Treatment of Thirty Chronic Conditions in the U.S. from 1987-2010. U.S. Department of Commerce Bureau of Economic Analysis WP 2014-9.

Public Comments (0)

Workgroup Recommendation

Workgroup 2 Recommendation Recommendation: Consensus for Approval

Workgroup 2 Reason: Combined workgroup meeting 1, 2, 3, & 4

Workgroup 4 Recommendation Recommendation: Consensus for Approval

Workgroup 4 Reason: Combined workgroup meeting 1, 2, 3, & 4

Board Decision

None

Board Decisions

- Approved**
- Approved with Modifications**
- Carryover**
- Disapproved**
- None**

CE-C403.2.6.3 cdpVA-15

CE-R401.2 cdpVA-15

Proponent : Energy Sub-workgroup (of DHCD's Workgroup Two)
DHCD Staff Contact: Richard Potts (richard.potts@dhcd.virginia.gov)

2015 International Energy Conservation Code

R401.2 Compliance. Projects shall comply with all provisions of Chapter 4 labeled "Mandatory" and one of the following:

1. Sections R401 through R404.
2. Section R405 ~~and the provisions of Sections R401 through R404 labeled "Mandatory."~~
3. ~~An energy rating index (ERI) approach in Section R406.~~
4. The most recent version of REScheck, keyed to the 2015 IECC.

Note: See REScheck compliance guidance issued by the DHCD, available at the Department's website.

2015 International Residential Code

N1101.13 (R401.2) Compliance. Projects shall comply with all provisions of Chapter 11 labeled "Mandatory" and one of the following:

1. Sections N1101.14 through N1104.
2. Section N1105 ~~and the provisions of Sections R401 through R404 labeled "Mandatory."~~
3. ~~An energy rating index (ERI) approach in Section N1106.~~
4. The most recent version of REScheck, keyed to the 2015 IECC.

Note: See REScheck compliance guidance issued by the DHCD, available at the Department's website.

Reason: This proposal helps clarify the four compliance options that should be available to builders under Virginia's version of the 2015 IRC/IECC. It does not change any of the requirements in the base code.

In the past, REScheck has been a very popular compliance option for Virginia builders, along with the prescriptive and performance paths. The 2015 IECC also adds a new compliance option, the Energy Rating Index, in Section R406. These four compliance options, with varying degrees of complexity and flexibility, should be clearly spelled out at the beginning of Chapter 4.

The proposal above makes the following three changes to the 2015 IECC:

- It clarifies that the mandatory items apply to all compliance options, including REScheck and the ERI. This is not a new requirement, but this proposal makes it much more straightforward by cleaning up the language in the section.
- It removes ambiguous language regarding the Energy Rating Index approach, and simply requires compliance with Section R406. Again, this does not change the requirement, but it makes the language consistent across all compliance options.
- It specifically calls out the most recent version of REScheck as a compliance option.

Changes incorporated into the Draft 2015 Uniform Code so far would make Virginia's energy code *less efficient* than the 2015 IECC, and consequently, incompatible with REScheck. While we would prefer a full adoption of the 2015 IECC in Virginia, we strongly recommend at least referencing the most recent version of REScheck as a compliance option. U.S. DOE no longer creates state-specific versions of REScheck where the state's code is less stringent than the model code, and it is in the process of phasing out older versions of its software. See U.S. Department of Energy, *Guidance Surrounding Department of Energy Support of Building Energy Code Compliance Software*, 79 Fed. Reg. 15112 (Mar. 18, 2014). We support giving builders a reasonable amount of flexibility to comply with the code, and we believe REScheck is a well-designed program for that purpose. However, we do not think it would be appropriate to add that level of flexibility on top of an already weakened energy code. The simplest fix, and the one that would provide flexibility while also maintaining consistency with national compliance programs is to adopt REScheck (as published on the U.S. DOE webpage) as a compliance path. For all these reasons, we recommend including the specific reference to REScheck in Section R401.2 as presented above.

Cost Impact: This proposal will likely reduce costs for builders and homeowners to the extent that builders use the 2015 IECC version of REScheck to find the most cost-effective means of complying with the code. Without making the Uniform Code consistent with the 2015 IECC (and thus consistent with REScheck) or directly referencing REScheck as a compliance option, it is not clear that builders would be able to use this effective, free software tool to comply with the energy code.

Public Comments (0)

Workgroup Recommendation

Workgroup 2 Recommendation Recommendation: Consensus for Approval

Workgroup 2 Reason: Combined workgroup meeting 1, 2, 3, & 4

Workgroup 3 Recommendation Recommendation: Consensus for Approval

Workgroup 3 Reason: Combined workgroup meeting 1, 2, 3, & 4

Board Decision

None

Board Decisions

- Approved**
- Approved with Modifications**
- Carryover**
- Disapproved**
- None**

CE-R401.2 cdpVA-15

CE-R403.3.3 cdpVA-15

Proponent : Energy Sub-workgroup (of DHCD's Workgroup Two)

DHCD Staff Contact: Richard Potts (richard.potts@dhcd.virginia.gov)

2012 Virginia Construction Code

113.7 Approved inspection agencies. The building official may accept reports of inspections and tests from individuals or inspection agencies approved in accordance with the building official's written policy required by Section 113.7.1. The individual or inspection agency shall meet the qualifications and reliability requirements established by the written policy. Under circumstances where the building official is unable to make the inspection or test required by Section 113.3 or 113.4 within two working days of a request or an agreed upon date or if authorized for other circumstances in the building official's written policy, the building official shall accept reports for review. The building official shall approve the report from such approved individuals or agencies unless there is cause to reject it. Failure to approve a report shall be in writing within two working days of receiving it stating the reason for the rejection. Reports of inspections conducted by approved third-party inspectors or agencies shall be in writing, shall indicate if compliance with the applicable provisions of the USBC have been met and shall be certified by the individual inspector or by the responsible officer when the report is from an agency.

Exception: The licensed mechanical contractor installing the mechanical system shall be permitted to perform duct tests required by Section R403.3.3 of the International Energy Conservation Code or Section N1103.3.3 of the International Residential Code. The contractor shall have been trained on the equipment used to perform the test.

Note: Photographs, videotapes or other sources of pertinent data or information may be considered as constituting such reports and tests.

2015 International Energy Conservation Code

Delete the Virginia amendments to Sections R403.2.2, R403.2.2.1 and R403.2.2.2 of the International Energy Conservation Code (IECC) (and corresponding sections of the International Residential Code (IRC)) and use the 2015 IECC/IRC language for duct testing with the following change:

R403.3.3/N1103.3.3 Duct testing (Mandatory). Ducts shall be pressure tested to determine air leakage by one of the following methods:

1. Rough-in test: Total leakage shall be measured with a pressure differential of 0.1 inch w.g. (25 Pa) across the system, including the manufacturer's air handler enclosure if installed at the time of the test. All registers shall be taped or otherwise sealed during the test.
2. Postconstruction test: Total leakage shall be measured with a pressure differential of 0.1 inch w.g. (25 Pa) across the entire system, including the manufacturer's air handler enclosure. Registers shall be taped or otherwise sealed during the test.

- **Exception:** A duct air leakage test shall not be required where the ducts and air handlers are located entirely within the building thermal envelope.

A written report of the results of the test shall be signed by the party conducting the test and provided to the *code official*. The licensed mechanical contractor installing the mechanical system shall be permitted to perform the duct testing. The contractor shall have been trained on the equipment used to perform the test.

Change Table R406.4 of the IECC (and the corresponding table in the IRC) as follows:

**TABLE R406.4
MAXIMUM ENERGY RATING INDEX^a**

CLIMATE ZONE	ENERGY RATING INDEX
1	52
2	52
3	51
4	54 <u>62</u>
5	55
6	54
7	53
8	53

a. When on-site renewable energy is included for compliance using the ERI analysis per Section R406.4, the building shall meet the mandatory requirements of Section R406.2 and the building thermal envelope shall be greater than or equal to levels of efficiency and solar heat gain coefficient in Table R402.1.2, with a ceiling R-value of 49 and a wood frame wall R-value of 20 or 13+5, or Table R402.1.4, with a ceiling U-factor of 0.026 and a frame wall U-factor 0.060.

Reason: This proposal is submitted as a consensus proposal from the sub-workgroup on energy of Workgroup 2 of the Department of Housing and Community Development's workgroups for the development of the 2015 edition of the Virginia Construction Code.

The purpose of the proposal is to incentivize the use of the Energy Rating Index (ERI) provisions of the 2015 IECC with the added allowance from the ICC code development process for the 2018 IECC which permits on-site renewable energy to be included in the ERI calculations and raises the energy rating index score by eight points (from 54 to 62) to encourage the use of the ERI method. Tradeoffs agreed to by the sub-workgroup members for the use of enhanced ERI method were the deletion of the visual inspection option for duct testing for all buildings regardless of the compliance path chosen, with the clarification that the licensed mechanical contractor installing the mechanical system may perform the duct testing, and that the backstop for thermal performance when renewables are included would be the 2015 IECC levels. Without

the use of renewables, the backstop is the 2009 IECC levels (as set out in Section R406.2 of the 2015 IECC).

Cost Impact: This proposal will likely decrease the cost of construction in most cases.

Public Comments (0)

Workgroup Recommendation

Workgroup 2 Recommendation Recommendation: Consensus for Approval

Workgroup 2 Reason: None

Board Decision

None

Board Decisions

- Approved**
- Approved with Modifications**
- Carryover**
- Disapproved**
- None**

CE-R403.3.3 cdpVA-15

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CR-R308.4.5 cdpVA-15

Proponent : J Robert Allen (all56@henrico.us)

2015 International Residential Code

R308.4.5 Glazing and wet surfaces. Glazing in walls, enclosures or fences containing or facing hot tubs, spas, whirlpools, saunas, steam rooms, bathtubs, showers and indoor or outdoor swimming pools ~~where shall be considered a hazardous location if located less than 60 inches (1524 mm) measured horizontally, in a straight line, from the water's edge and the bottom exposed edge of the glazing is less than 60 inches (1524 mm) measured vertically above any standing or walking surface shall be considered to be a hazardous location.~~ This shall apply to single glazing and each pane in multiple glazing.

Exception: ~~Glazing that is more than 60 inches (1524 mm), measured horizontally and in a straight line, from the water's edge of a bathtub, hot tub, spa, whirlpool or swimming pool or from the edge of a shower, sauna or steam room.~~

Reason: This revision eliminates the exception by inverting the condition stated in the exception and including it in the general requirement. The result is the same; however, this would help clarify a requirement that users sometimes find confusing.

Cost Impact: No change in the cost of construction or enforcement is anticipated.

Public Comments (0)

Workgroup Recommendation

Workgroup 3 Recommendation Recommendation: Consensus for Approval

Workgroup 3 Reason: Combined workgroup meeting 1, 2, 3, and 4

Board Decision

None

Board Decisions

- Approved
- Approved with Modifications
- Carryover
- Disapproved
- None

CR-R308.4.5 cdpVA-15

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CR-R404.1.9.2 cdpVA-15

Proponent : Charles Bajnai, Representing Chesterfield County and the VBCOA IRC committee (bajnaic@chesterfield.gov,)

2015 International Residential Code

~~**R404.1.9.2 Masonry piers supporting floor girders.** Masonry piers supporting wood girders sized in accordance with Tables R602.7(1) and R602.7(2) shall be permitted in accordance with this section. Piers supporting girders for interior bearing walls shall have a minimum nominal dimension of 12 inches (305 mm) and a maximum height of 10 feet (3048 mm) from top of footing to bottom of sill plate or girder. Piers supporting girders for exterior bearing walls shall have a minimum nominal dimension of 12 inches (305 mm) and a maximum height of 4 feet (1220 mm) from top of footing to bottom of sill plate or girder. Girders and sill plates shall be anchored to the pier or footing in accordance with Section R403.1.6 or Figure R404.1.5(1). Floor girder bearing shall be in accordance with Section R502.6.~~

Reason: The requirement that all interior girder lines have to be constructed of 12" x 12" x12" cmu was submitted by the NAHB approved in the 2012 IRC. See Gary Ehrlich's proposal and reason statement [attached](#).

The original proposal is [attached](#). After discussing the text with Steve Skalko (who in turn talked with the original author, Gary Ehrlich), we concluded that Section R404.1.9.2 would be better off if it were deleted in its entirety. In this section, the term 'minimum nominal *dimension*' applied to cmu is confusing, as cmu is usually specified in width x length x thickness (example 8x16x8 cmu).

The requirement that piers have to be constructed with a 12" minimum nominal dimension would imply that all cmu had to be at least 12 x 12 x12. This was not the original intention and in fact may be unachievable since cmu is not usually produced in 12" thick units.

My original code change was to address this with optional cmu sizes and height limits. But after Steve and I discussed this, it appears that the best course of action is to request that the whole section be deleted. R404.1.9.2 offers nothing that isn't covered in R404.1.9, and eliminates the confusion of a 12" *dimension*.

Cost Impact: This might save the contractors a few dollars if they opt to use 8x16 cmu instead of the required 12x12 cmu.

Public Comments (1)

By **Richard Potts**
08-21-2017 09:14:59

Attachment #1

Attached email for Stephen Skalko in support of proposal.

Attachment: Stephen Skalko Support.pdf

Workgroup Recommendation

Workgroup 3 Recommendation Recommendation: Consensus for Approval

Workgroup 3 Reason: 8/23/17 Consensus for approval
6/13/17 carry over to August

Board Decision

None

Board Decisions

- Approved**
- Approved with Modifications**
- Carryover**
- Disapproved**
- None**

CR-R404.1.9.2 cdpVA-15

**TABLE R301.2(1)
CLIMATIC AND GEOGRAPHIC DESIGN CRITERIA**

GROUND SNOW LOAD	WIND DESIGN				SEISMIC DESIGN CATEGORY ^d	SUBJECT TO DAMAGE FROM			WINTER DESIGN TEMP ^e	ICE BARRIER UNDERLAYMENT REQUIRED ^h	FLOOD HAZARDS ^g	AIR FREEZING INDEX ⁱ	MEAN ANNUAL TEMP ^j
	Speed ^d (mph)	Topographic effects ^k	Special wind region ^l	Wind-borne debris zone ^m		Weathering ^a	Frost line depth ^b	Termite ^c					

For SI: 1 pound per square foot = 0.0479 kPa, 1 mile per hour = 0.447 m/s.

- a. Weathering may require a higher strength concrete or *grade* of masonry than necessary to satisfy the structural requirements of this code. The weathering column shall be filled in with the weathering index, "negligible," "moderate" or "severe" for concrete as determined from Figure R301.2(3). The *grade* of masonry units shall be determined from ASTM C 34, C 55, C 62, C 73, C 90, C 129, C 145, C 216 or C 652.
- b. The frost line depth may require deeper footings than indicated in Figure R403.1(1). The *jurisdiction* shall fill in the frost line depth column with the minimum depth of footing below finish *grade*.
- c. The *jurisdiction* shall fill in this part of the table to indicate the need for protection depending on whether there has been a history of local subterranean termite damage.
- d. The *jurisdiction* shall fill in this part of the table with the wind speed from the basic wind speed map [Figure R301.2(4)A]. Wind exposure category shall be determined on a site-specific basis in accordance with Section R301.2.1.4.
- e. The outdoor design dry-bulb temperature shall be selected from the columns of 97¹/₂-percent values for winter from Appendix D of the *International Plumbing Code*. Deviations from the Appendix D temperatures shall be permitted to reflect local climates or local weather experience as determined by the *building official*.
- f. The *jurisdiction* shall fill in this part of the table with the seismic design category determined from Section R301.2.2.1.
- g. The *jurisdiction* shall fill in this part of the table with (a) the date of the *jurisdiction's* entry into the National Flood Insurance Program (date of adoption of the first code or ordinance for management of flood hazard areas), (b) the date(s) of the Flood Insurance Study and (c) the panel numbers and dates of the currently effective FIRMs and FBFMs or other flood hazard map adopted by the authority having *jurisdiction*, as amended.
- h. In accordance with Sections R905.1.2, R905.4.3.1, R905.5.3.1, R905.6.3.1, R905.7.3.1 and R905.8.3.1, where there has been a history of local damage from the effects of ice damming, the *jurisdiction* shall fill in this part of the table with "YES." Otherwise, the *jurisdiction* shall fill in this part of the table with "NO."
- i. The *jurisdiction* shall fill in this part of the table with the 100-year return period air freezing index (BF-days) from Figure R403.3(2) or from the 100-year (99 percent) value on the National Climatic Data Center data table "Air Freezing Index-USA Method (Base 32°F)."
- j. The *jurisdiction* shall fill in this part of the table with the mean annual temperature from the National Climatic Data Center data table "Air Freezing Index-USA Method (Base 32°F)."
- k. In accordance with Section R301.2.1.5, where there is local historical data documenting structural damage to buildings due to topographic wind speed-up effects, the *jurisdiction* shall fill in this part of the table with "YES." Otherwise, the *jurisdiction* shall indicate "NO" in this part of the table.
- l. In accordance with Figure R301.2(4)A, where there is local historical data documenting unusual wind conditions, the *jurisdiction* shall fill in this part of the table with "YES" and identify any specific requirements. Otherwise, the *jurisdiction* shall indicate "NO" in this part of the table.
- m. In accordance with Section R301.2.1.2.1, the *jurisdiction* shall indicate the wind-borne debris wind zone(s). Otherwise, the *jurisdiction* shall indicate "NO" in this part of the table.

CR-R404.1.9.2 cdpVA-15 - PRIOR PROPOSAL

Proponent : Charles Bajnai, Representing Chesterfield County and the VBCOA IRC committee (bajnaic@chesterfield.gov,)

2015 International Residential Code

R404.1.9.2 Masonry piers supporting floor girders. Masonry piers supporting wood girders sized in accordance with Tables R602.7(1) and R602.7(2) shall be permitted in accordance with this section. Piers supporting girders for interior bearing walls shall be solid or be filled solid with grout or concrete and have a minimum nominal dimension-thickness of 12 inches (305 mm) and with a maximum height of 10 feet (3048 mm) or a minimum nominal thickness of 8 inches with a maximum height of 6'-8" measured from top of footing to bottom of sill plate or girder. Piers supporting girders for exterior bearing walls shall have a minimum nominal dimension of 12 inches (305 mm) and a maximum height of 4 feet (1220 mm) from top of footing to bottom of sill plate or girder. Girders and sill plates shall be anchored to the pier or footing in accordance with Section R403.1.6 or Figure R404.1.5(1). Floor girder bearing shall be in accordance with Section R502.6.

Reason: The requirement that all interior girder lines have to be constructed of 12" x 12" x12" cmu was submitted by the NAHB approved in the 2012 IRC. See Gary Ehrlich's proposal and reason statement [attached](#).

Gary's proposal does not consider smaller cmu sizes for shorter piers - which are typical in many crawl spaces.

Section R404.1.9 allows isolated, solidly filled masonry piers to be constructed with a nominal height of 10 x the nominal "thickness".

Section R404.1.9.2 changes the verbiage slightly and says that the piers for interior girder lines are required to *have a minimum nominal dimension of 12"* (that means a minimum of 12"x12"x12" cmu) and a maximum height of 10 feet (i.e. 10x nominal thickness). The text offers nothing for shorter piers which are typical in most houses.

This proposal is intended to allow for 8 x 16 x 8" tall cmu to have a height of 80 inches (i.e. 10x the nominal thickness).

Cost Impact: This might save the contractors a few dollars if they opt to use 8x16 cmu instead of the required 12x12 cmu.

Workgroup Recommendation

Workgroup 3 Recommendation Recommendation: Pending

Workgroup 3 Reason: 6/13/17 carry over to August

Board Decision

None

From: Stephen Skalko [mailto:svskalko@svskalko-pe.com]
Sent: Monday, August 21, 2017 7:32 AM
To: Hodge, Vernon (DHCD)
Cc: 'Bajnai, Charles'
Subject: RE: VA code change re: 404.1.9.2
Importance: High

Vernon,

Hopefully I am not too late to get this information recorded in the record on deletion of Section R404.1.9.2 from the International Residential Code for Virginia.

I support this change for the following reasons.

- Prior to the 2012 edition of the International Residential Code, Section R606.6 in the 2009 edition gave the code user the guidance on using isolated masonry piers for one and two family dwelling construction. The provisions could be used for masonry piers in crawl spaces as well as above grade piers. These same masonry pier provisions are consistent with the recommendations in the technical documents published by the National Concrete Masonry Association (See attached TEK 5-3A, page 3).
- Code change RB80-09/10, submitted by NAHB, attempted to clarify the IRC by repeating the language from R606.6 into Chapter 4. NAHB apparently felt guidance was needed in the foundation chapter because that Chapter was silent on the topic of masonry piers (See reason statement). As a former code official, and later while working with the Portland Cement Association, it has never been a problem for me thinking R606.6 could not be used for the foundation provisions. However, repeating the pier requirements from Chapter 6 in Chapter 4 by introducing Section R404.1.9 was a helpful addition to the IRC.
- Unfortunately, code change RB80-09/10 also introduced a new Section R404.1.9.2, which in my opinion, made the IRC less clear on the use of masonry piers. From reading the reasoning statement it appears NAHB was trying to put provisions in to allow “pier and beam” foundations (See highlighted language in Reason Statement). Since that foundation type would have no exterior foundation walls to

resist lateral loads I believe the intent was to have the 12X12X12 masonry piers provide lateral resistance.

- The unintended consequence of adding Section R404.1.9.2 was to suggest that this section must be used for any masonry piers supporting girders in accordance with Tables R502.5(1) and R502.5(2). That is simply not the case. The previous Section R606.6 for isolated masonry piers in crawl space foundations has been used for some time in conjunction with these girder tables (and their previous versions in the residential codes). I am not aware of any issues that have ever been brought up in the code arena that these provisions were lacking.
- Thus Section R404.1.9 is suitable for determining the requirements of masonry piers used in conjunction with the girder tables in the IRC. Section R404.1.9.2, though technically suitable, is not necessary.

My schedule prevents me from being present at the Working Group meeting on August 23rd. Let me know if there are any questions I can answer or additional information I can provide on this matter.

Steve

Stephen V. Skalko, P.E. & Associates, LLC

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CR-R602.10.9 cdpVA-15

Proponent : J Robert Allen (all56@henrico.us)

2015 International Residential Code

R602.10.9 Braced wall panel support. *Braced wall panel* support shall be provided as follows:

1. Cantilevered floor joists complying with Section R502.3.3 shall be permitted to support *braced wall panels*.
2. Raised floor system post or pier foundations supporting *braced wall panels* shall be designed in accordance with accepted engineering practice.
3. Masonry stem walls with a length of 48 inches (1219 mm) or less supporting *braced wall panels* shall be reinforced in accordance with Figure R602.10.9. Masonry stem walls with a length greater than 48 inches (1219 mm) supporting *braced wall panels* shall be constructed in accordance with Section R403.1 Methods ABW and PFH shall not be permitted to attach to masonry stem walls.
4. Concrete stem walls with a length of 48 inches (1219 mm) or less, greater than 12 inches (305 mm) tall and less than 6 inches (152 mm) thick shall have reinforcement sized and located in accordance with Figure R602.10.9.

Exception: For masonry stem walls, an approved post-installed adhesive anchoring system shall be permitted as an alternative to the Optional Stem Wall Reinforcement in Figure R602.10.9. A minimum of two anchors shall be installed as indicated in Figure R602.10.9. Anchors shall be located not more than 4 inches (102 mm) from each end of the stem wall. Anchors shall be installed into the concrete footing as follows:

1. 5/8 inch (16 mm) threaded rod using a 3/4 inch (19 mm) diameter drilled hole with a minimum embedment of 6 inches (152 mm).
2. Number 4 size reinforcing bar using a 5/8 inch (16 mm) diameter drilled hole with a minimum embedment of 4-1/2 inches (114 mm).

A minimum footing thickness of 8 inches (203 mm) is required and the minimum distance from each anchor to the edge of the footing shall be 3-3/4 inches (95 mm). The anchoring adhesive and anchors shall be installed in accordance with the manufacturer's instructions and have a minimum tensile capacity of 5,000 lbs. (22 kN). The bond beam reinforcement and attachment of braced wall panels to the stem wall shall be as shown in Figure R602.10.9.

Reason: This exception was added to the 2009 Virginia Residential Code as a compliance alternative to the stem wall reinforcement requirements of the International Residential Code. For unknown reasons, this exception was not included in the 2012 VRC. It appears that there were no proposals submitted to specifically delete the exception.

Adding this exception back into the VRC provides a simplified prescribed method for installing stem wall reinforcement for masonry walls compared to the methods in R602.10.9 and Fig.

R602.10.9. The stem wall reinforcing details that are in the code would require that the required reinforcing materials be in place before the concrete house footings are poured. This exception allows threaded rods to be installed after the footings have been poured using engineered epoxy anchoring systems marketed by manufacturers such as Hilti, and Simpson Strong-Tie.

Without the exception, the Building Official could still approve this method as a compliance alternative (i.e., Modification). Including the exception makes it clear that such anchoring systems are acceptable.

Cost Impact: While the epoxy anchoring materials may cost more than the ordinary rebar that it replaces, the simplified installation would most likely result reduced labor costs.

Workgroup Recommendation

Workgroup 3 Recommendation Recommendation: Consensus for Approval

Workgroup 3 Reason: Combined workgroup meeting 1, 2, 3, and 4

Board Decision

None

Board Decisions

- Approved**
- Approved with Modifications**
- Carryover**
- Disapproved**
- None**

CR-R602.10.9 cdpVA-15

CTP-1106.2 cdpVA-15

Proponent : Chett Reynolds, Representing VPMIA (Creynolds2@pwcgov.org); Thomas Clark, Representing VPMIA/VBCOA PMG Committe (tdclark@pwcgov.org)

2015 International Plumbing Code

1106.2 Size of storm drain piping Vertical conductors and leaders. Vertical and horizontal *storm drain* piping conductors and leaders shall be sized based on the flow rate through the roof drain. The flow rate in *storm drain* piping shall not exceed that specified in Table 1106.2 for the maximum projected roof area, in accordance with Table 1106.2(1) and 1106.2(2).

**TABLE 1106.2
STORM DRAIN PIPE SIZING**

PIPE SIZE (inches)	CAPACITY (gpm)				
	VERTICAL DRAIN	SLOPE OF HORIZONTAL DRAIN			
		¹ / ₁₆ inch per foot	¹ / ₈ inch per foot	¹ / ₄ inch per foot	¹ / ₂ inch per foot
2	34	45	22	34	44
3	87	39	55	79	111
4	180	81	115	163	231
5	311	117	165	234	331
6	538	243	344	487	689
8	1,117	505	714	1,010	1,429
10	2,050	927	1,311	1,855	2,623
12	3,272	1,480	2,093	2,960	4,187
15	5,543	2,508	3,546	5,016	7,093

For SI: 1 inch = 25.4 mm, 1 gallon per minute = 3.785 L/m.

**TABLE 1106.2(1)
SIZE OF CIRCULAR VERTICAL CONDUCTORS AND LEADERS**

DIAMETER OF LEADER (inches) ^a	HORIZONTALLY PROJECTED ROOF AREA (square feet)											
	Rainfall rate (inches per hour)											
	1	2	3	4	5	6	7	8	9	10	11	12
2	2.880	1.440	960	720	575	480	410	360	320	290	260	240
3	8.800	4.400	2.930	2.200	1.760	1.470	1.260	1.100	980	880	800	730
4	18.400	9.200	6.130	4.600	3.680	3.070	2.630	2.300	2.045	1.840	1.675	1.530
5	34.600	17.300	11.530	8.650	6.920	5.765	4.945	4.325	3.845	3.460	3.145	2.880
6	54.000	27.000	17.995	13.500	10.800	9.000	7.715	6.750	6.000	5.400	4.910	4.500
8	116.000	58.000	38.660	29.000	23.200	19.315	16.570	14.500	12.890	11.600	10.545	9.600

For SI: 1 inch = 25.4 mm, 1 square foot = 0.0929 m².

a. Sizes indicated are the diameter of circular piping. This table is applicable to piping of other shapes, provided the cross-sectional shape fully encloses a circle of the diameter indicated in this table. For rectangular leaders, see Table 1106.2(2). Interpolation is permitted for pipe sizes that fall between those listed in this table.

**TABLE 1106.2(2)
SIZE OF RECTANGULAR VERTICAL CONDUCTORS AND LEADERS**

DIMENSIONS OF COMMON LEADER SIZES width x length	HORIZONTALLY PROJECTED ROOF AREA (square feet)											
	Rainfall rate (inches per hour)											
	1	2	3	4	5	6	7	8	9	10	11	12

(inches) ^{a, b}	1	2	3	4	5	6	7	8	9	10	11	12
1 ³ / ₄ × 2 ¹ / ₂	3.410	1.700	1.130	850	680	560	480	420	370	340	310	280
2 × 3	5.540	2.770	1.840	1.380	1.100	920	790	690	610	550	500	460
2 ³ / ₄ × 4 ¹ / ₄	12.830	6.410	4.270	3.200	2.560	2.130	1.830	1.600	1.420	1.280	1.160	1.060
3 × 4	13.210	6.600	4.400	3.300	2.640	2.200	1.880	1.650	1.460	1.320	1.200	1.100
3 ¹ / ₂ × 4	15.900	7.950	5.300	3.970	3.180	2.650	2.270	1.980	1.760	1.590	1.440	1.320
3 ¹ / ₂ × 5	21.310	10.650	7.100	5.320	4.260	3.550	3.040	2.660	2.360	2.130	1.930	1.770
3 ³ / ₄ × 4 ³ / ₄	21.960	10.980	7.320	5.490	4.390	3.660	3.130	2.740	2.440	2.190	1.990	1.830
3 ³ / ₄ × 5 ¹ / ₄	25.520	12.760	8.500	6.380	5.100	4.250	3.640	3.190	2.830	2.550	2.320	2.120
3 ¹ / ₂ × 6	27.790	13.890	9.260	6.940	5.550	4.630	3.970	3.470	3.080	2.770	2.520	2.310
4 × 6	32.980	16.490	10.990	8.240	6.590	5.490	4.710	4.120	3.660	3.290	2.990	2.740
5 ¹ / ₂ × 5 ¹ / ₂	44.300	22.150	14.760	11.070	8.860	7.380	6.320	5.530	4.920	4.430	4.020	3.690
7 ¹ / ₂ × 7 ¹ / ₂	100.500	50.250	33.500	25.120	20.100	16.750	14.350	12.560	11.160	10.050	9.130	8.370

For SI: 1 inch = 25.4 mm, 1 square foot = 0.0929 m².

a. Sizes indicated are nominal width x length of the opening for rectangular piping.

b. For shapes not included in this table, Equation 11-1 shall be used to determine the equivalent circular diameter, D_e , of rectangular piping for use in interpolation using the data from Table 1106.2(1).

$$D_e = [\text{width} \times \text{length}]^{1/2} \text{ (Equation 11-1)}$$

where:

D_e = equivalent circular diameter and D_e , width and length are in inches.

1106.3 Vertical leader sizing Building storm drains and sewers. Vertical leaders shall be sized based on the flow rate from horizontal gutters or the maximum flow rate through roof drains. The flow rate through vertical leaders shall not exceed that specified in Table 1106.3. The size of the building storm drain, building storm sewer and their horizontal branches having a slope of one-half unit or less vertical in 12 units horizontal (4-percent slope) shall be based on the maximum projected roof area in accordance with Table 1106.3. The slope of horizontal branches shall be not less than one-eighth unit vertical in 12 units horizontal (1-percent slope) unless otherwise approved.

**TABLE 1106.3
VERTICAL LEADER SIZING**

SIZE OF LEADER (inches)	CAPACITY (gpm)
2	30
2 × 2	30
4 ¹ / ₂ × 2 ¹ / ₂	30
2 ¹ / ₂	54
2 ¹ / ₂ × 2 ¹ / ₂	54
3	92
2 × 4	92
2 ¹ / ₂ × 3	92
4	192

3 × 4 ¹ / ₄	492
3 ¹ / ₂ × 4	492
5	360
4 × 5	360
4 ¹ / ₂ × 4 ¹ / ₂	360
6	563
5 × 6	563
5 ¹ / ₂ × 5 ¹ / ₂	563
8	4208
6 × 8	4208

For SI: 1 inch = 25.4 mm, 1 gallon per minute = 3.785 L/m.

TABLE 1106.3
SIZE OF HORIZONTAL STORM DRAINAGE PIPING

SIZE OF HORIZONTAL PIPING (inches)	HORIZONTALLY PROJECTED ROOF AREA (square feet)					
	Rainfall rate (inches per hour)					
	1	2	3	4	5	6
<u>1</u> / ₈ unit vertical in 12 units horizontal (1-percent slope)						
<u>3</u>	<u>3,288</u>	<u>1,644</u>	<u>1,096</u>	<u>822</u>	<u>657</u>	<u>548</u>
<u>4</u>	<u>7,520</u>	<u>3,760</u>	<u>2,506</u>	<u>1,800</u>	<u>1,504</u>	<u>1,253</u>
<u>5</u>	<u>13,360</u>	<u>6,680</u>	<u>4,453</u>	<u>3,340</u>	<u>2,672</u>	<u>2,227</u>
<u>6</u>	<u>21,400</u>	<u>10,700</u>	<u>7,133</u>	<u>5,350</u>	<u>4,280</u>	<u>3,566</u>
<u>8</u>	<u>46,000</u>	<u>23,000</u>	<u>15,330</u>	<u>11,500</u>	<u>9,200</u>	<u>7,600</u>
<u>10</u>	<u>82,800</u>	<u>41,400</u>	<u>27,600</u>	<u>20,700</u>	<u>16,580</u>	<u>13,800</u>
<u>12</u>	<u>133,200</u>	<u>66,600</u>	<u>44,400</u>	<u>33,300</u>	<u>26,650</u>	<u>22,200</u>
<u>15</u>	<u>218,000</u>	<u>109,000</u>	<u>72,800</u>	<u>59,500</u>	<u>47,600</u>	<u>39,650</u>
<u>1</u> / ₄ unit vertical in 12 units horizontal (2-percent slope)						
<u>3</u>	<u>4,640</u>	<u>2,320</u>	<u>1,546</u>	<u>1,160</u>	<u>928</u>	<u>773</u>
<u>4</u>	<u>10,600</u>	<u>5,300</u>	<u>3,533</u>	<u>2,650</u>	<u>2,120</u>	<u>1,766</u>
<u>5</u>	<u>18,880</u>	<u>9,440</u>	<u>6,293</u>	<u>4,720</u>	<u>3,776</u>	<u>3,146</u>
<u>6</u>	<u>30,200</u>	<u>15,100</u>	<u>10,066</u>	<u>7,550</u>	<u>6,040</u>	<u>5,033</u>
<u>8</u>	<u>65,200</u>	<u>32,600</u>	<u>21,733</u>	<u>16,300</u>	<u>13,040</u>	<u>10,866</u>
<u>10</u>	<u>116,800</u>	<u>58,400</u>	<u>38,950</u>	<u>29,200</u>	<u>23,350</u>	<u>19,450</u>
<u>12</u>	<u>188,000</u>	<u>94,000</u>	<u>62,600</u>	<u>47,000</u>	<u>37,600</u>	<u>31,350</u>
<u>15</u>	<u>336,000</u>	<u>168,000</u>	<u>112,000</u>	<u>84,000</u>	<u>67,250</u>	<u>56,000</u>
<u>1</u> / ₂ unit vertical in 12 units horizontal (4-percent slope)						
<u>3</u>	<u>6,576</u>	<u>3,288</u>	<u>2,295</u>	<u>1,644</u>	<u>1,310</u>	<u>1,096</u>
<u>4</u>	<u>15,040</u>	<u>7,520</u>	<u>5,010</u>	<u>3,760</u>	<u>3,010</u>	<u>2,500</u>
<u>5</u>	<u>26,720</u>	<u>13,360</u>	<u>8,900</u>	<u>6,680</u>	<u>5,320</u>	<u>4,450</u>
<u>6</u>	<u>42,800</u>	<u>21,400</u>	<u>13,700</u>	<u>10,700</u>	<u>8,580</u>	<u>7,140</u>
<u>8</u>	<u>92,000</u>	<u>46,000</u>	<u>30,650</u>	<u>23,000</u>	<u>18,400</u>	<u>15,320</u>
<u>10</u>	<u>171,600</u>	<u>85,800</u>	<u>55,200</u>	<u>41,400</u>	<u>33,150</u>	<u>27,600</u>
<u>12</u>	<u>266,400</u>	<u>133,200</u>	<u>88,800</u>	<u>66,600</u>	<u>53,200</u>	<u>44,400</u>
<u>15</u>	<u>476,000</u>	<u>238,000</u>	<u>158,800</u>	<u>119,000</u>	<u>95,300</u>	<u>79,250</u>

For SI: 1 inch = 25.4 mm, 1 square foot = 0.0929 m².

1106.6 Size of roof gutters. Horizontal The size of semicircular gutters shall be sized based on the flow rate from the maximum projected roof surface. The flow rate in horizontal gutters shall not exceed that specified area in accordance with Table 1106.6.

**TABLE 1106.6
HORIZONTAL GUTTER SIZING**

GUTTER DIMENSIONS^a (inches)	SLOPE (inch per foot)	CAPACITY (gpm)
1 ¹ / ₂ × 2 ¹ / ₂	1 ¹ / ₄	26
1 ¹ / ₂ × 2 ¹ / ₂	1 ¹ / ₂	40
4	1 ¹ / ₈	39
2 ¹ / ₄ × 3	1 ¹ / ₄	55
2 ¹ / ₄ × 3	1 ¹ / ₂	87
5	1 ¹ / ₈	74
4 × 2 ¹ / ₂	1 ¹ / ₄	106
3 × 3 ¹ / ₂	1 ¹ / ₂	156
6	1 ¹ / ₈	110
3 × 5	1 ¹ / ₄	157
3 × 5	1 ¹ / ₂	225
8	1 ¹ / ₁₆	172
8	1 ¹ / ₈	247
4 ¹ / ₂ × 6	1 ¹ / ₄	348
4 ¹ / ₂ × 6	1 ¹ / ₂	494
10	1 ¹ / ₁₆	331
10	1 ¹ / ₈	472
5 × 8	1 ¹ / ₄	651
4 × 10	1 ¹ / ₂	1055

For SI: 1 inch = 25.4 mm, 1 foot = 304.8 mm, 1 gallon per minute = 3.785 L/m, 1 inch per foot = 83.3 mm/m.

a. Dimensions are width by depth for rectangular shapes. Single dimensions are diameters of a semicircle.

**TABLE 1106.6
SIZE OF SEMICIRCULAR ROOF GUTTERS**

DIAMETER OF GUTTERS (inches)	HORIZONTALLY PROJECTED ROOF AREA (square feet)					
	Rainfall rate (inches per hour)					
	1	2	3	4	5	6
<u>1</u> / ₁₆ unit vertical in 12 units horizontal (0.5-percent slope)						
3	680	340	226	170	136	113
4	1,440	720	480	360	288	240
5	2,500	1,250	834	625	500	416
6	3,840	1,920	1,280	960	768	640
7	5,520	2,760	1,840	1,380	1,100	918
8	7,960	3,980	2,655	1,990	1,590	1,325
10	14,400	7,200	4,800	3,600	2,880	2,400
<u>1</u> / ₈ unit vertical 12 units horizontal (1-percent slope)						
3	960	480	320	240	192	160
4	2,040	1,020	681	510	408	340
5	3,520	1,760	1,172	880	704	587

<u>6</u>	<u>5.440</u>	<u>2.720</u>	<u>1.815</u>	<u>1.360</u>	<u>1.085</u>	<u>905</u>
<u>7</u>	<u>7.800</u>	<u>3.900</u>	<u>2.600</u>	<u>1.950</u>	<u>1.560</u>	<u>1.300</u>
<u>8</u>	<u>11.200</u>	<u>5.600</u>	<u>3.740</u>	<u>2.800</u>	<u>2.240</u>	<u>1.870</u>
<u>10</u>	<u>20.400</u>	<u>10.200</u>	<u>6.800</u>	<u>5.100</u>	<u>4.080</u>	<u>3.400</u>
<u>1/4 unit vertical in 12 units horizontal (2-percent slope)</u>						
<u>3</u>	<u>1.360</u>	<u>680</u>	<u>454</u>	<u>340</u>	<u>272</u>	<u>226</u>
<u>4</u>	<u>2.880</u>	<u>1.440</u>	<u>960</u>	<u>720</u>	<u>576</u>	<u>480</u>
<u>5</u>	<u>5.000</u>	<u>2.500</u>	<u>1.668</u>	<u>1.250</u>	<u>1.000</u>	<u>834</u>
<u>6</u>	<u>7.680</u>	<u>3.840</u>	<u>2.560</u>	<u>1.920</u>	<u>1.536</u>	<u>1.280</u>
<u>7</u>	<u>11.040</u>	<u>5.520</u>	<u>3.860</u>	<u>2.760</u>	<u>2.205</u>	<u>1.840</u>
<u>8</u>	<u>15.920</u>	<u>7.960</u>	<u>5.310</u>	<u>3.980</u>	<u>3.180</u>	<u>2.655</u>
<u>10</u>	<u>28.800</u>	<u>14.400</u>	<u>9.600</u>	<u>7.200</u>	<u>5.750</u>	<u>4.800</u>
<u>1/2 unit vertical in 12 units horizontal (4-percent slope)</u>						
<u>3</u>	<u>1.920</u>	<u>960</u>	<u>640</u>	<u>480</u>	<u>384</u>	<u>320</u>
<u>4</u>	<u>4.080</u>	<u>2.040</u>	<u>1.360</u>	<u>1.020</u>	<u>816</u>	<u>680</u>
<u>5</u>	<u>7.080</u>	<u>3.540</u>	<u>2.360</u>	<u>1.770</u>	<u>1.415</u>	<u>1.180</u>
<u>6</u>	<u>11.080</u>	<u>5.540</u>	<u>3.695</u>	<u>2.770</u>	<u>2.220</u>	<u>1.850</u>
<u>7</u>	<u>15.600</u>	<u>7.800</u>	<u>5.200</u>	<u>3.900</u>	<u>3.120</u>	<u>2.600</u>
<u>8</u>	<u>22.400</u>	<u>11.200</u>	<u>7.460</u>	<u>5.600</u>	<u>4.480</u>	<u>3.730</u>
<u>10</u>	<u>40.000</u>	<u>20.000</u>	<u>13.330</u>	<u>10.000</u>	<u>8.000</u>	<u>6.660</u>

For SI: 1 inch = 25.4 mm, 1 square foot = 0.0929 m².

Reason: Roof drain manufacturers are behind on producing flow rates.

Cost Impact: Zero cost impact.

Workgroup Recommendation

Workgroup 4 Recommendation Recommendation: Consensus for Approval

Workgroup 4 Reason: None

Board Decision

None

Board Decisions

- Approved**
- Approved with Modifications**
- Carryover**
- Disapproved**
- None**

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CTS-305.2.9 cdpVA-15

Proponent : Ronald Clements, Jr, Representing VBCOA Board of Directors (clementsro@chesterfield.gov)

2015 International Swimming Pool and Spa Code

305.2.9 ~~Clear~~Equipment clear zone. ~~There shall be a clear zone of not less than 36 inches (914 mm) between the exterior of the barrier and any permanent structures or~~ Equipment, including pool equipment such as pumps, filters and heaters that can shall not be used to climb installed within 36" (914 mm) of the exterior of the barrier when located on the same property.

Reason: The requirement for a clear zone adjacent to a pool barrier prohibits placement of fences and barriers on or within 3 feet of a property line per TRB ruling 1/2017. This created a statewide concern that existing fences within 3 feet of a property line cannot be used as pool barriers nor can new barriers be placed on a property line. The 2015 ICC language was revised to only require the clear zone between the barrier and any permanent structures or equipment, while the 2012 language required a clear zone all the way around the outside of the barrier. The 2015 text was an improvement but as interpreted through the TRB ruling still prohibits instances where an existing structure or piece of equipment on a neighbors property could prohibit use or installation of a fence adjacent to a neighbor's structure or piece of equipment within 3 feet. This code change makes it clear that the restriction is limited to the property on which the pool is located. This code change also removes structures from the limitation as most structures are not climbable and can be used as the barrier per section 305.4. The provision is now a limitation on equipment such as pool pumps and heat pumps that are most likely to be used to climb the barrier and does not attempt to regulate the neighboring property.

Cost Impact: This proposal will not increase the cost of construction.

Public Comments (1)

By **David Bridges**
03-18-2017 11:37:39

While I understand the "what if's" discussed at length, simply deleting this section is not the right answer. As shown in the picture attached, deleting this section would allow this real violation to exist. The barrier shown is compliant, the clear zone is not. The clear zone is a part of the pool, and is the responsibility of the pool owner to maintain. While we might offer suggestions, we as Code Officials do not specify "how" to fix a violation. That is up to the pool owner. There will always be situations that are tough to fix, but deleting this section does far more harm than good and the consequences deadly.

Attachment: clear zone violation.jpg

Workgroup Recommendation

Workgroup 2 Recommendation Recommendation: Consensus for Approval

Workgroup 2 Reason: 8/23/17 Combined workgroup meeting 1, 2, 3, and 4-Consensus for approval

6/13/17 Combined workgroup meeting 1, 2, 3, and 4--pending

4/11/17 Combined workgroup meeting 1, 2, 3, and 4--pending

Workgroup 3 Recommendation Recommendation: Consensus for Approval

Workgroup 3 Reason: 8/23/17 Combined workgroup meeting 1, 2, 3, and 4-Consensus for approval

6/13/17 Combined workgroup meeting 1, 2, 3, and 4--pending

4/11/17 Combined workgroup meeting 1, 2, 3, and 4--pending

Workgroup 4 Recommendation Recommendation: Consensus for Approval

Workgroup 4 Reason: 8/23/17 Combined workgroup meeting 1, 2, 3, and 4-Consensus for approval

6/13/17 Combined workgroup meeting 1, 2, 3, and 4--pending

4/11/17 Combined workgroup meeting 1, 2, 3, and 4--pending

Board Decision

None

Board Decisions

- Approved**
- Approved with Modifications**
- Carryover**
- Disapproved**
- None**

CTS-305.2.9 cdpVA-15

F-1030.1 cdpVA-15

Proponent : Andrew Milliken, Representing Stafford County Fire Marshall's Office (amiliken@staffordcountyva.gov)

2015 International Building Code

1030.1 General. In addition to the *means of egress* required by this chapter, provisions shall be made for *emergency escape and rescue openings* in Group R-2 occupancies in accordance with Tables 1006.3.2(1) and 1006.3.2(2) ~~and~~, Group R-3 and R-4 occupancies. *Basements* and sleeping rooms below the fourth story above *grade plane* shall have at least one exterior *emergency escape and rescue opening* in accordance with this section. Where *basements* contain one or more sleeping rooms, *emergency escape and rescue openings* shall be required in each sleeping room, but shall not be required in adjoining areas of the *basement*. Such openings shall open directly into a *public way* or to a *yard* or *court* that opens to a *public way*.

- **Exceptions:**

1. *Basements* with a ceiling height of less than 80 inches (2032 mm) shall not be required to have *emergency escape and rescue openings*.
2. *Emergency escape and rescue openings* are not required from *basements* or sleeping rooms that have an *exit door* or *exit access door* that opens directly into a *public way* or to a *yard*, *court* or exterior exit balcony that opens to a *public way*.
3. *Basements* without *habitable spaces* and having not more than 200 square feet (18.6 m²) in floor area shall not be required to have *emergency escape and rescue openings*.

2015 International Fire Code

[BE] 1030.1 General. In addition to the *means of egress* required by this chapter, provisions shall be made for *emergency escape and rescue openings* in Group R-2 occupancies in accordance with Tables 1006.3.2(1) and 1006.3.2(2) ~~and~~, Group R-3 and R-4 occupancies. *Basements* and sleeping rooms below the fourth story above *grade plane* shall have at least one exterior *emergency escape and rescue opening* in accordance with this section. Where *basements* contain one or more sleeping rooms, *emergency escape and rescue openings* shall be required in each sleeping room, but shall not be required in adjoining areas of the *basement*. Such openings shall open directly into a *public way* or to a *yard* or *court* that opens to a *public way*.

- **Exceptions:**

1. *Basements* with a ceiling height of less than 80 inches (2032 mm) shall not be required to have *emergency escape and rescue openings*.
2. *Emergency escape and rescue openings* are not required from *basements* or sleeping rooms that have an *exit door* or *exit access door* that opens directly into a *public way* or to a *yard*, *court* or exterior exit balcony that opens to a *public way*.
3. *Basements* without *habitable spaces* and having not more than 200

square feet (18.6 m²) in floor area shall not be required to have *emergency escape and rescue openings*.

Reason: The intent of this proposal is to clarify that the requirements of emergency escape and rescue openings apply to R-4 occupancies. Section 310.6 of the 2012 Virginia Construction Code and 2015 International Building Code indicate that, "group R-4 occupancies shall meet the requirements for construction as defined for Group R-3, except as otherwise provided for in this code." Furthermore, section 403.9.3.6 of the 2012 Virginia Statewide Fire Prevention Code and 403.10.3.6 of the 2015 International Fire Code indicate that group R-4 occupancies shall include emergency escape and rescue windows as part of building evacuation procedures. This proposal does not add any new requirements but rather simply clarifies that emergency escape openings are essential for effective evacuation from and are required for R-4 occupancies. It also helps to provide continuity between Virginia Construction Code requirements for egress and Fire Prevention Code requirements for evacuation.

Cost Impact: This proposal does not impact cost as it is only editorial and does not add any new requirements.

Public Comments (0)

Workgroup Recommendation

Workgroup 2 Recommendation Recommendation: Consensus for Approval

Workgroup 2 Reason: Combined workgroup meeting 1, 2, 3, and 4

Board Decision

None

Board Decisions

- Approved
- Approved with Modifications
- Carryover
- Disapproved
- None

F-1030.1 cdpVA-15

C-103.3 cdpVA-15

Proponent : William Andrews (william.andrews@richmondgov.com)

2012 Virginia Construction Code

103.3 Change of occupancy.

~~No change~~A change in the existing use or occupancy classification of a building or structure or portion thereof shall not be made, until the building official has issued a certificate of occupancy shall be made in any structure when the current USBC requires therefor as provided herein. When a greater degree of accessibility, structural strength, fire protection, means of egress, ventilation or sanitation. When such a greater degree of safety is required, the owner or the owner's agent shall comply with the following:

1. When involving Group I-2 or I-3, written application shall be made to the local building department for a new certificate of occupancy and the new certificate of occupancy shall be obtained prior to the new use of the structure. When impractical to achieve compliance with this code for the new occupancy classification, the building official shall consider modifications upon application and as provided for in Section 106.3. In addition, the applicable accessibility provisions of Section 1012.8 of Part II of the *Virginia Uniform Statewide Building Code*, also known as the "*Virginia Rehabilitation Code*," or the "VRC" shall be met.
 - **Exception:** This section shall not be construed to permit noncompliance with any applicable flood load or flood-resistant construction requirements of this code.
2. In other than Group I-2 or I-3, the provisions of the VRC for change of occupancy shall be met.

Reason:

DHCD Staff Note: This proposal was carried over from the proposed phase and reassigned to WG1. The proposed phase proposal with the workgroup disposition and reasons may be viewed at this link: [Proposed Phase Proposal](#)

Proponent's Reason Statement:

Seek change for 2015 USBC, to wording from IBC, to require new Certificate of Occupancy from building official when occupancy use changes, instead of only requiring permit or new Certificate of Occupancy when needs greater safety feature. Changing use should have record of building official approval.

Example: changing from restaurant (assembly use) to a duplex (residential) may seem new use needs lesser safety, yet without permit and inspection, no assurance smoke detectors properly provided. Decades after undocumented changes, would be "grandfathered" if revert to prior use, despite maybe having removed some safety features unrequired during lower level use.

Building maintenance and fire code official apply codes based on Certificate of Occupancy, so when use changes yet no new Certificate of Occupancy, challenges on applying their codes.

Suggest similar changes to Virginia Maintenance and Fire Prevention codes.

Cost Impact: No construction cost, merely cost of permit process to get new Certificate of Occupancy when use changes.

Public Comments (0)

Workgroup Recommendation

Workgroup 1 Recommendation Recommendation: Consensus for Disapproval

Workgroup 1 Reason: Combined workgroup 1, 2, 3, & 4 meeting

Board Decision

None

Board Decisions

- Approved**
- Approved with Modifications**
- Carryover**
- Disapproved**
- None**

C-103.3 cdpVA-15

C-103.3(1) cdpVA-15 - PRIOR PROPOSAL

Proponent : William Andrews (william.andrews@richmondgov.com)

2012 Virginia Construction Code

103.3 Change of occupancy.

~~No change~~A change in the existing use or occupancy classification of a building or structure or portion thereof shall not be made, until the building official has issued a certificate of occupancy shall be made in any structure when the current USBC requires therefor as provided herein. When a greater degree of accessibility, structural strength, fire protection, means of egress, ventilation or sanitation. When such a greater degree of safety is required, the owner or the owner's agent shall comply with the following:

1. When involving Group I-2 or I-3, written application shall be made to the local building department for a new certificate of occupancy and the new certificate of occupancy shall be obtained prior to the new use of the structure. When impractical to achieve compliance with this code for the new occupancy classification, the building official shall consider modifications upon application and as provided for in Section [106.3](#). In addition, the applicable accessibility provisions of Section 1012.8 of Part II of the *Virginia Uniform Statewide Building Code*, also known as the "*Virginia Rehabilitation Code*," or the "VRC" shall be met.
 - **Exception:** This section shall not be construed to permit noncompliance with any applicable flood load or flood-resistant construction requirements of this code.
2. In other than Group I-2 or I-3, the provisions of the VRC for change of occupancy shall be met.

Reason: Seek change for 2015 USBC, to wording from IBC, to require new Certificate of Occupancy from building official when occupancy use changes, instead of only requiring permit or new Certificate of Occupancy when needs greater safety feature. Changing use should have record of building official approval.

Example: changing from restaurant (assembly use) to a duplex (residential) may seem new use needs lesser safety, yet without permit and inspection, no assurance smoke detectors properly provided. Decades after undocumented changes, would be "grandfathered" if revert to prior use, despite maybe having removed some safety features unrequired during lower level use.

Building maintenance and fire code official apply codes based on Certificate of Occupancy, so when use changes yet no new Certificate of Occupancy, challenges on applying their codes.

Suggest similar changes to Virginia Maintenance and Fire Prevention codes.

Cost Impact: No construction cost, merely cost of permit process to get new Certificate of Occupancy when use changes.

Workgroup Recommendation

Workgroup 1 Recommendation Recommendation: Non-Consensus Final

Workgroup 1 Reason: 1st meeting:VBCOA will have a code change for this, Mr. Andrews - Once something is submitted what is the process for adding collaborative language?
Vernon Hodge - If the proposal is going to be a joint proposal then even after it is submitted staff can add or just get an email saying I have been approved to be a co-proponent on this proposal so we can add that too. This way it shows that this has multiple proponents.

Henry Rosenbaum - We do run into this problem on the fire side

Cindy Davis - So it sounds like to me like you are all going to work together and we are not going to do anything with this now we will just carry this forward until the other one comes forward and see where it goes.

July 7th:

William Andrews stated he is working with VBCOA on this change of occupancy, Rick Witt stated he had concerns about how it is written, Robert Adkins stated he didn't agree with this.

Richard Potts stated this proposal will Move forward as non-consensus.

Board Decision

None

C-103.3(1) cdpVA-15

C-113.7.1(2) cdpVA-15

Proponent : Michael Redifer (mredifer@nnva.gov)

2012 Virginia Construction Code

113.7.1 Third-party inspectors.

Each building official charged with the enforcement of the USBC shall have a written policy establishing the minimum acceptable qualifications for third-party inspectors. The policy shall include the format and time frame required for submission of reports, any prequalification or preapproval requirements before conducting a third-party inspection and any other requirements and procedures established by the building official. The policy may include requirements that any inspection be performed by an approved third-party inspector. All costs associated with required third-party inspections shall be the responsibility of the building owner.

Reason: Proposal C-113.7.1(1) cdpVA-15 has advanced through Workgroup 1 with concensus for approval. The original proposal provides the building official with the ability to establish mandatory third-party inspections but limits the authority to elevators, escalators, chairlifts, dumbwaiters and similar conveyances. Considering that some local building officials may be faced with resource restrictions, this revision is brought forth to allow for the third-party approach for all inspections.

Cost Impact: None

Public Comments (0)

Workgroup Recommendation

Workgroup 1 Recommendation Recommendation: Consensus for Disapproval

Workgroup 1 Reason: 8/23/17 Consensus for disapproval
6/13/17 Carry over to next WG meeting

Board Decision

None

Board Decisions

- Approved
- Approved with Modifications
- Carryover
- Disapproved
- None

C-113.7.1(2) cdpVA-15

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CB-202(1) cdpVA-15

Proponent : Shahriar Amiri, Representing Arlington County, Virginia
(samiri@arlingtonva.us)

2012 Virginia Construction Code

Definition DWELLING UNIT. A single unit providing complete independent living facilities for one or more persons, including permanent provisions for living, sleeping, eating, cooking and sanitation. For the purpose of this code, an Accessory dwelling unit shall be considered as part of the main dwelling unit.

Accessory Dwelling Unit: An independent living, sleeping, cooking and sanitation facility confined within a single dwelling unit which comprises no more than 1/3 of the gross floor area of the dwelling and which has internal communication with the rest of the dwelling.

Justification: with the rise of housing and real estate prices and the need for elderly to be able to age in place, it becomes necessary for some households to create independent living facility for elder parents or as a source of income for rental purposes. This change is not intended to replace the requirements established for two-dwelling units which is characteristically different than an accessory dwelling unit. The intent of this section is to use part of dwelling such as a finished basement and be able to use it for elderly or as a rental living arrangement.

Add new standard(s) as follows: 2012 Virginia Construction Code; Definition

Reason: Justification: with the rise of housing and real estate prices and the need for elderly to be able to age in place, it becomes necessary for some households to create independent living facility for elder parents or as a source of income for rental purposes. This change is not intended to replace the requirements established for two-dwelling units which is characteristically different than an accessory dwelling unit. The intent of this section is to use part of dwelling such as a finished basement and be able to use it for elderly or as a rental living arrangement.

Cost Impact: None

Cost Impact: None

Public Comments (0)

Workgroup Recommendation

Workgroup 1 Recommendation Recommendation: Consensus for Disapproval

Workgroup 1 Reason: None

Board Decision

None

Board Decisions

- Approved**
- Approved with Modifications**
- Carryover**
- Disapproved**
- None**

CB-202(1) cdpVA-15

CB-915.1.1(1) cdpVA-15

Proponent : Kenney Payne, Representing AIA Virginia
(kpayne@moseleyarchitects.com)

2012 Virginia Construction Code

915.1.1 Installation.

The building owner shall install coaxial radiating cable, such or equivalent system, as coaxial cable or equivalent designed to meet the required building coverage. The radiating cable shall be installed in ~~dedicated conduits, raceways, plenums, attics, or roofs, compatible for these specific installations as well as other applicable provisions of this code~~ accordance with the manufacturer's instructions. The locality shall be responsible for the installation of any additional communication equipment required for the operation of the system.

2012 Virginia Statewide Fire Prevention Code

510.2 Additional in-building emergency communications installations.

If it is determined by the locality that increased amplification of their emergency communication system is needed, the building owner shall allow the locality access as well as provide appropriate space within the building to install and maintain necessary additional communication equipment by the locality. If the building owner denies the locality access or appropriate space, or both, the building owner shall be responsible for the installation and maintenance of these additional systems other than radio amplification or repeater equipment which shall remain the responsibility of the locality.

Reason:

VCC Section 915.1.1 (modified to 916.1.1 Installation in the "Proposed Regulations"). Radiating cable is a coaxial cable. Also, radiating cable does not work in metallic conduit so installing such cable in dedicated conduit does not work. Radiating coaxial cable is essentially a radiating wire antenna in a conduit (the coax shield) with specific sized holes through the shield that only let certain radio frequencies in and out. Putting the radiating cable inside a conduit stops this from happening. By requiring installation to be in accordance with the manufacturer's instructions should result in an installation that actually works.

SFPC Section 510. It describes that the locality has to install and maintain necessary additional communication equipment. This is in accordance with the federal regulations of the Federal Communications Commission (FCC). However, the final sentence needs to be clarified that this does not apply to radio amplification or repeater equipment. Under federal FCC regulations, it is illegal for anyone to install and maintain such equipment on licensed frequencies other than the license holder, who are typically the locality or police/fire service.

Cost Impact: None.

Workgroup Recommendation

Workgroup 2 Recommendation Recommendation: Consensus for Disapproval

Workgroup 2 Reason: Combined workgroups 1, 2, 3, & 4

Board Decision

None

Board Decisions

- Approved**
- Approved with Modifications**
- Carryover**
- Disapproved**
- None**

CB-915.1.1(1) cdpVA-15

CR-R202 cdpVA-15

Proponent : Ross Shearer (rsshearer@cox.net)

2012 Virginia Residential Code

SECTION R202 DEFINITIONS

LEAST POSSIBLE COST. The provisions of the Building Code shall provide for the cost avoidance of energy to heat, cool, and light residential buildings that is consistent with or better than the standards of energy conservation recognized in the International Energy and Conservation Code.

Reason: There is evidence of confusion over the language of the code where it provides that buildings "should be permitted to be constructed...at the least possible cost". The aim of "least possible cost" is inclusive of the costs of a building's use by its owner or tenants. The biggest use cost is a building's energy cost. To permit to least cost on energy requirements, the process must incorporate energy conserving designs that are cost effective.

The requirements of §36-99 provide that the provisions of the Building Code shall protect the welfare of the residents of the Commonwealth. It provides further that building to the least possible cost should be consistent with recognized standards for energy conservation which includes a building's requirements and costs for heating, cooling, lighting and humidity control. Also, §36-99B requires the Board have "due regard" for generally accepted standards as recommended by nationally recognized organizations, including the International Code Council (ICC). The International Energy and Conservation Code (IECC) is a product of the ICC.

Everyone benefits when fewer resources are required for consumption. The IECC's recommendations for 2012 and 2015 would provide an increased level of protection for residents by saving energy costs for homeowners and tenants, while lowering pollution associated with production and use of electricity and natural gas. The full adoption of the IECC's recommended energy conservation code conforms to the stated requirements in §36-99 to protect the health, safety and welfare of residents of the Commonwealth. In this regard, the University of North Carolina's Center for Community Capital disclosed in 2013 that the higher the efficiency of the house, the lower the mortgage default rate. For example, the study found that Energy Star rated houses experienced a one-third lower mortgage default rate and that the default rate tracked lower with increasing efficiency. The observed correlation of energy efficiency and reduced chance of mortgage default proves that a strong residential energy efficiency code is stabilizing for families and neighborhoods and a weak one is not.

Buildings intended to last 75 or more years should be designed to take into account pertinent scientific knowledge known when they are designed and built. In this regard, the USBC should incorporate all the cost effective energy provisions recommended by the IECC as the "least...cost" minimum provisions for ensuring owners and tenants are not unduly burdened in the future by high carbon taxes realized by a world made desperate by sea level rise, severe weather events and ever rising political instability.

There is approximately a 97% consensus rate among climate scientists that global warming is human caused, but the public understanding of this high consensus has been deliberately confused in the media. Most Virginians accept the science and want the U.S. to remain in the Paris Climate Accord. There is a considerable library of research about the public's perception of climate change and its connection to fossil fuels that is available at George Mason University's Center for Climate Change Communication.

Cost Impact: Permitting to "least possible cost" includes avoiding the unnecessary costs of using a residential building to heating, cool, light and maintain a comfortable level of humidity. According to research by the US Dept of Energy, the IECC recommended energy code for 2012

alone would reduce energy use by over 27%, save Virginians buying or living in new houses \$388 annually on average, a rate of return that would pay off its additional construction costs within 7 years. This rate of return closely matches the long-term performance of U.S. stock markets. Homebuyers and tenants should not be denied the investment opportunity to recoup savings like these tomorrow, opportunities that could have been made available yesterday. If the IECC's recommended energy code for 2012 and 2015 were adopted fully the VA USBC would strengthen its alignment with the requirement of §36-99 to protect the welfare of residents and neighborhoods since there is a strong correlation between rising energy efficiency and reduced risk of mortgage defaults with their associated disruptions for families and neighborhoods.

Public Comments (0)

Workgroup Recommendation

Workgroup 1 Recommendation Recommendation: Consensus for Disapproval

Workgroup 1 Reason: None

Board Decision

None

Board Decisions

- Approved**
- Approved with Modifications**
- Carryover**
- Disapproved**
- None**

CR-R202 cdpVA-15

CR-R303.5.1 cdpVA-15

Proponent : Mike Moore, Representing Broan-
(mmoore@newportventures.net)

2015 International Residential Code

R303.5.1 Intake openings. Mechanical and gravity outdoor air intake openings shall be located not less than 10 feet (3048 mm) from any hazardous or noxious contaminant, such as vents, chimneys, plumbing vents, streets, alleys, parking lots and loading docks.

For the purpose of this section, the exhaust from *dwelling* unit toilet rooms, bathrooms and kitchens shall not be considered as hazardous or noxious.

Exceptions:

1. The 10-foot (3048 mm) separation is not required where the intake opening is located 3 feet (914 mm) or greater below the contaminant source.
2. Vents and chimneys serving fuel-burning appliances shall be terminated in accordance with the applicable provisions of Chapters 18 and 24.
3. Clothes dryer exhaust ducts shall be terminated in accordance with Section M1502.3.
4. Combined intake/exhaust terminations shall be permitted where used to separate intake air from *living space* exhaust air of an individual dwelling unit, provided that the exhaust air concentration within the intake air does not exceed 10 percent, as demonstrated by testing conducted or witnessed and reported by an approved agency or laboratory.

M1506.3 Exhaust openings. Air exhaust openings shall terminate not less than 3 feet (914 mm) from property lines; 3 feet (914 mm) from operable and nonoperable openings into the building and 10 feet (3048 mm) from mechanical air intakes except where the opening is located 3 feet (914 mm) above the air intake or where the intake and *living space* exhaust openings are a combined intake/exhaust termination that complies with Section R303.5.1. Openings shall comply with Sections R303.5.2 and R303.6.

Reason: Combined intake and exhaust terminations are regularly installed with heating and energy recovery ventilators (H/ERVs) used for dwelling units. Their use reduces building penetrations, labor, and associated system costs. By reducing the number of penetrations, air leakage can also be reduced, resulting in space conditioning energy savings. Further, the durability of the structure can be improved through reducing entry pathways for bulk water.

Manufacturer tests have demonstrated that minimum cross-contamination of airflow results from these terminations. The 10% cross contamination metric is based on language in ASHRAE 62.2 that approves combined intake/exhaust terminations that are self-verified by manufacturers to meet this specification; language in ASHRAE 62.1 that limits cross contamination of exhaust and supply streams to 10% for "air with moderate contaminant concentration, mild sensory-irritation

intensity, or mildly offensive odors"; and language in IMC, Section 514.4, permitting up to 10% of cross-leakage between air streams.

By adding a requirement for performance verification by an approved agency or laboratory in this proposal, we build in 3rd-party oversight to ensure that the terminations meet this minimum 10% cross contamination under test conditions. The Home Ventilating Institute has plans to develop a test protocol for this purpose as well as a listing of compliant units. Virginia's approval of this amendment is expected to spur the development of this testing protocol and the delivery of more affordable and architecturally flexible ventilation systems to market. In the interim, this language would establish the minimum acceptable performance of these terminations as well as permit approved laboratories to establish testing protocol by which these terminations can be evaluated.

Cost Impact: Where selected by builders for installation, combined intake and exhaust terminations can reduce installation costs of ventilation systems.

Public Comments (0)

Workgroup Recommendation

Workgroup 3 Recommendation Recommendation: Consensus for Disapproval

Workgroup 3 Reason: 8/23/17 Consensus for disapproval
6/13/17 Carry over until August 23rd meeting

Board Decision

None

Board Decisions

- Approved**
- Approved with Modifications**
- Carryover**
- Disapproved**
- None**

CR-R303.5.1 cdpVA-15

CTE-725 cdpVA-15

Proponent : Kurt Clemente (kclemente@clarknexsen.com)

2015 International Building Code

SECTION 27 Safety restrictions for use of emerging High-Power-Over-Ethernet technologies

2701.1.1 Changes to NFPA 70. The following change shall be made to NFPA 70:

1. Change Section 725.139 to read:

725.139 Installation of Conductors of Different Circuits in the Same Cable, Enclosure, Cable Tray, Raceway, or Cable Routing Assembly.

(A) Two or More Class 2 Circuits. Conductors of two or more Class 2 circuits shall be permitted within the same cable, enclosure, raceway, or cable routing assembly. Where conductors transmit power and data, ampacity calculations shall be performed based on conductor gauge, insulation temperature rating, and ambient temperature to ensure suitable operation. These calculations shall be documented and made available to those authorized to design, install, inspect, maintain, and operate the system.

(B) Two or More Class 3 Circuits. Conductors of two or more Class 3 circuits shall be permitted within the same cable, enclosure, raceway, or cable routing assembly. Where conductors transmit power and data, ampacity calculations shall be performed based on conductor gauge, insulation temperature rating, and ambient temperature to ensure suitable operation. These calculations shall be documented and made available to those authorized to design, install, inspect, maintain, and operate the system.

(C) Class 2 Circuits with Class 3 Circuits. Conductors of one or more Class 2 circuits shall be permitted within the same cable, enclosure, raceway, or cable routing assembly with conductors of Class 3 circuits, provided that the insulation of the Class 2 circuit conductors in the cable, enclosure, required for Class 3 circuits. Where conductors transmit power and data, ampacity calculations shall be performed based on conductor gauge, insulation temperature rating, and ambient temperature to ensure suitable operation. These calculations shall be documented and made available to those authorized to design, install, inspect, maintain, and operate the system.

(D) Class 2 and Class 3 Circuits with Communications Circuits.

(1) Classified as Communications Circuits. Class 2 and Class 3 circuit conductors shall be permitted in the same cable with communications circuits, in which case the Class 2 and Class 3 circuits shall be classified as communications circuits and shall be installed in accordance with the requirements of Article 800. The cables shall be listed as communications cables. Where conductors transmit power and data, ampacity calculations shall be performed based on conductor gauge, insulation temperature rating, and ambient temperature to ensure suitable operation. These calculations shall be documented and made available to those authorized to design, install, inspect, maintain, and operate the system.

(2) Composite Cables. Cables constructed of individually listed Class 2, Class 3, and communications cables under a common jacket shall be permitted to be classified as communications cables. The fire resistance rating of the composite cable shall be determined by the performance of the composite cable. Where

conductors transmit power and data, ampacity calculations shall be performed based on conductor guage, insulation temperature rating, and ambient temperature to ensure suitable operation. These calculations shall be documented and made available to those authorized to design, install, inspect, maintain, and operate the system.

Reason: Power-over-ethernet technologies have advanced in capability, exceeding the safety parameters of the National Electrical Code for Class 2 and Class 3 power-limited circuits. While power-limited, the five-fold increase in power transmission capability of power-over-ethernet combined with permitted practices of Class 2 and Class 3 cable bundling in construction may result in conductor heating exceeding the ratings of telecommunications cable insulation. Typical telecommunications cable installation practice can bundle 50, 100, or 200 cables in various ambient temperatures including conditioned, unconditioned, and exterior (attic) locations. Legislative controls for power-over-ethernet applications for bundled telecommunications cables is necessary for safety.

Cost Impact: Additional shop drawing preparation and consideration will be required for installation of power-over-ethernet technologies where bundling of multiple telecommunications cables is used.

Public Comments (0)

Workgroup Recommendation

Workgroup 4 Recommendation Recommendation: Consensus for Disapproval

Workgroup 4 Reason: None

Board Decision

None

Board Decisions

- Approved**
- Approved with Modifications**
- Carryover**
- Disapproved**
- None**

CTE-725 cdpVA-15

C-105.2.1 cdpVA-15

Proponent : Debra McMahon (debra.mcmahon@fairfaxcounty.gov)

2012 Virginia Construction Code

105.2.1 Qualifications of technical assistants.

A technical assistant shall have at least three years of experience and general knowledge in at least one of the following areas: building construction; building construction conceptual/administrative processes; building, fire or housing inspections; plumbing, electrical or mechanical trades; or fire protection, elevator or property maintenance work. Any combination of education and experience that would confer equivalent knowledge and ability shall be deemed to satisfy this requirement. The locality may establish additional qualification requirements.

105.2.2 Certification of technical assistants.

A technical assistant shall be certified in the appropriate subject area within 18 months after becoming a technical assistant. When required by local policy to have two or more certifications, a technical assistant shall obtain the additional certifications within three years from the date of such requirement.

Exceptions:

1. A technical assistant in place prior to March 1, 1988, shall not be required to meet the certification requirements in this section while continuing to serve in the same capacity in the same locality.

2. A permit technician in place prior to (insert date of effective 2015 code), shall not be required to meet the certification requirements in this section while continuing to serve in the same capacity in the same locality.

TECHNICAL ASSISTANT.

Any person employed by or under an extended contract to a local building department or local enforcing agency for enforcing the USBC, including but not limited to inspectors and plans reviewers and permit technicians. For the purpose of this definition, an extended contract shall be a contract with an aggregate term of 18 months or longer.

Reason: Qualifications are defined in Section 105.2.1. To qualify as a technical assistant, three years of experience and general knowledge must be obtained in the areas described. Obtaining such knowledge is subject to each locality's practices and can be obtained through experience and/or training prior to government employment, during government employment, or a combination of both.

A change is being proposed to Section 105.2.1 that would allow individuals who primarily enforce the requirements of the USBC Chapter 1 through building construction conceptual/administrative processes to obtain the necessary qualifications to become technical assistants.

The current language in Section 105.2.2 remains unchanged with an additional exception added specifically for permit technicians.

The certification matrix provided by DHCD identifies categories and training requirements that can certify technical assistants to the building official. These categories include inspectors, plan reviewers and permit technicians. For consistency with this matrix, a change is being proposed to the definition of "Technical Assistant" in USBC Chapter 2 to add "permit technicians".

Cost Impact: None

Public Comments (4)

By **Vernon Hodge**
08-24-2017 15:49:07

Public commentor requesting staff to submit comment on his behalf. Comment may be viewed [here](#).

By **Richard Potts**
08-22-2017 08:46:48

DHCD Staff Note: The attached file was an attempt to revise the language of this proposal to reach consensus.

Attachment: Redifer-8-18-17.pdf

By **Richard Potts**
08-22-2017 08:19:44

DHCD Staff Note: The attached file was submitted as a proposal meant to replace the August 14, 2017 public comment for this proposal.

Attachment: Witt-8-21-17.pdf

By **Vernon Hodge**
08-14-2017 14:06:54

DHCD Staff Note: The attached file was submitted as a proposal after the deadline and the proponent requested staff to attach it to this proposal as a public comment.

Attachment: Document - Witt.pdf

Workgroup Recommendation

Workgroup 1 Recommendation Recommendation: Non-Consensus Final

Workgroup 1 Reason: 8/23/17 Non Consensus

6/13/17 Combined workgroup meeting 1, 2, 3, & 4 Carry over to next WG meeting

4/11/17 Combined workgroup meeting 1, 2, 3, & 4 Carry over to next WG meeting

Board Decision

None

Board Decisions

- Approved**
- Approved with Modifications**
- Carryover**

- Disapproved**
- None**

From: [Hodge, Vernon \(DHCD\)](mailto:Hodge.Vernon@dhcd.virginia.gov)
To: [Hodge, Vernon \(DHCD\)](mailto:Hodge.Vernon@dhcd.virginia.gov)
Subject: RE: Proposed Code Change
Date: Thursday, August 24, 2017 3:45:46 PM

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

From: Tomberlin, Guy [<mailto:Guy.Tomberlin@fairfaxcounty.gov>]
Sent: Wednesday, August 23, 2017 9:54 AM
To: Davis, Cindy (DHCD)
Subject: Re: Proposed Code Change

Hope I'm not too late with my response. Yes, please enter this into the board packet. It has some commentary that does not pertain to their review and a few grammatical errors but I believe the message is accurate.

Guy Tomberlin, Chief
Residential Branch, BD-LDS<x-apple-data-detectors://1/1>
12055 Government Center Pkwy<x-apple-data-detectors://1/1>., Suite 307 Fairfax VA , 22035 703-324-1611<tel:703-324-1611> Sent from iPhone please excuse any errors

On Aug 22, 2017, at 1:49 PM, Davis, Cindy (DHCD)
<Cindy.Davis@dhcd.virginia.gov<<mailto:Cindy.Davis@dhcd.virginia.gov>>> wrote:

Hi Guy. Since you will not be able to attend, do you want staff to enter this as a public comment?
Cindy

From: Tomberlin, Guy [<mailto:Guy.Tomberlin@fairfaxcounty.gov>]
Sent: Tuesday, August 22, 2017 1:11 PM
To: Redifer, Michael D.; Emory Rodgers
Cc: Paula Fristoe; Grace, Richard; Pete Mensinger; emays@pwcgov.org<<mailto:emays@pwcgov.org>>; Eutsey, Michael J.; Gregg Fields; Richard Bartell; Sean Farrell; Foley, Brian; Cheri B. Hainer; jheinline@christiansburg.org<<mailto:jheinline@christiansburg.org>>; sborders@gcva.us<<mailto:sborders@gcva.us>>; pajohnson@pwcgov.org<<mailto:pajohnson@pwcgov.org>>; Slate, Rodger; Witt, Rick; Davis, Cindy (DHCD); Gregory Revels; Julie C Walton; David Beahm; McMahon, Debra K.; Moss, Jimmy
Subject: RE: Proposed Code Change

Rick and all, it was pointed out to me Friday by a permit tech committee member from another locality that your proposal removed the qualifications section as they submitted in Section 105.2.1. I thought you had simply replaced the proposed language in this section with the new wording but you actually changed an entirely different section, 105.2. While I agree with your intent to allow the BO discretion to determine who is a tech assistant and who is administrative we will still have the qualification Section 105.2.1 to contend with. As you proposed, without including any changes to Section 105.2.1, a permit tech would clearly be a technical assistant. However, technical assistants are required to have "at least three years of experience and general knowledge in at least one of the following areas: building construction, building, fire or housing inspections; plumbing, electrical or mechanical trades; or fire protection, elevator or property maintenance work. Any combination of education and experience that would confer equivalent knowledge and ability shall be deemed to satisfy this requirement. The locality may establish additional qualification requirements." Obviously, this creates huge challenges for potential permit tech staff. This is why the permit tech committee proposed the following change: 105.2.1 Qualifications of technical assistants.

A technical assistant shall have at least three years of experience and general knowledge in at least one of the following areas: building construction; building construction conceptual/administrative processes; building, fire or housing inspections; plumbing, electrical or mechanical trades; or fire protection, elevator or property maintenance work. Any combination of education and experience that would confer equivalent knowledge and ability shall be deemed to satisfy this requirement. The locality may establish additional qualification requirements.

I do still support your change however this omission needs to be corrected. I am not a fan of the term “conceptual” but understand why it was selected. This will give the BO total flexibility to figure out what path the potential staff person is best suited. My suggestion would be to include the above change to Section 105.2.1 (maybe with some other adjective?) and marry it with your proposal.

It looks as though I will not be able to make the workgroup meeting so there you have my technical comments and recommendations.

I feel compelled to clarify 2 other items that have been raised. First is the motives why some oppose this proposal and the intent it represents. The concept of this proposal was actually put forward years ago by the original permit tech committee or ad hoc as they were working overtime with DHCD to create the module. It was co-chaired by a lady from Blacksburg and another from Staunton (I apologize but their names escape me). They are the real proponents. I need to point this out because comments have been expressed that maybe somehow permit issuance occurs differently in NOVA and this proposal might not work everywhere just because it seems to fit NOVA. I assure you, even though we issued almost 60,000 permits last year, with 13 full time permit techs, we do it exactly as required by the usbc and no different than any other locality in the Commonwealth. Just last year, I obtained permits in the jurisdiction I reside, less than 50 miles from Fairfax, we have a total population of about 15,000 and issue a couple hundred permits a year. The permit application process was identical to Fairfax. I filled out the application which looked almost exactly the same, I talked with the permit tech who explained the local regs I needed to be aware of (mostly zoning laws), the building official reviewed my plans and then I received my required inspections from the inspector. Even though they may have a total of 3-4 employees in the building dept, it wasn't any different than where I happen to work. The very fact that more rural localities put together this original proposal and you have seen staunch Region I support should clearly tell everyone that this is not a NOVA thing. In fact as Eric Mays said in the last BOD meeting this will drastically change our business, “but I'm sure we will figure it out” just like all the other localities.

Secondly, if you go back and review the committee responsibilities document, which I actually help create (it has grown quite a bit since then) you will see there is no requirement that all committees that have chapter 1 proposals submitted to the admin committee. Nor does it say the admin committee has the final say on all chapter one proposals. As a former committee chair, I challenged the board of directors around 1997 when they were stepping in and voting on proposals that the PMG committees were working on. The VBCOA organization operates “by committee” and we stand behind the work they do. It is disingenuous when distractions are thrown in the faces of hard working committees in the name of mentorship and “just one thing.” Killing proposals because of wordsmithing is a long tradition people use when they don't want something to pass. I don't believe any of us can look at very many code sections and say it is perfectly worded and fits each and every scenario we encounter. No code section is perfect and even if it is, it probably won't be in a few years. This proposal is no different. We will never agree on a laundry list of duties because we have all already seen that agreement appears to not be possible on this topic. Apparently this isn't specifically worded exactly like 2 or 3 administrative committee members would like to see, hopefully they will submit their own ideas as proposals for the board to consider, but it is my opinion that opposition specifically coming from the administrative committee is inappropriate. I am not thrilled with the term “conceptual” (in fact I really hope it gets modified) but I acknowledge why it was included. It allows you to count experience for a potential candidate that you want to fill the permit tech position while at the same time it will exclude the experience if the candidate wants to take the administrative path, which quite frankly appeases Mikes comments about duties. Killing a proposal over “wordsmithing” that serves such a useful value to all 1000+ vbcoa members (-those 3) is not consistent to how we have gotten to the level of accomplishment we currently enjoy. This proposal is good for all the building departments across the commonwealth, and the industry we represent across the nation. Some of the alternate proposals and comments exchanged earlier do absolutely nothing but endorse the “keep doing it your own way” concept which happens to be inconsistent with the uniformity concept the usbc and this proposal is trying to accomplish. Besides the Board for Housing can edit as they see fit on the floor.

Guy Tomberlin, Chief
Residential Branch, BD-LDS
12055 Government Center Pkwy., Suite 307 Fairfax VA, 22035
703-324-1611
<image003.jpg><image004.png>

105.2, 105.2.2, 202 - PUBLIC COMMENT

Proponent : Michael Redifer (mredifer@nnva.gov)

2012 Virginia Construction Code

105.2 Technical assistants.

The building official, subject to any limitations imposed by the locality, shall be permitted to utilize technical assistants to assist the building official in the enforcement of the USBC. DHCD shall be notified by the building official within 60 days of the employment of, contracting with or termination of all technical assistants.

Note: Technical assistants are subject to sanctions in accordance with the VCS.

105.2.2 Certification of technical assistants.

A technical assistant shall be certified in the appropriate subject area within 18 months after becoming a technical assistant. When required by local policy to have two or more certifications, a technical assistant shall obtain the additional certifications within three years from the date of such requirement.

- **Exceptions:**
- ~~Exception: 1.~~ A technical assistant in place prior to March 1, 1988, shall not be required to meet the certification requirements in this section while continuing to serve in the same capacity in the same locality.
- 2. Any person serving as a permit technician prior to (insert effective date of code) shall not be required to meet the certification requirements in this section while continuing to serve in the same capacity in the same locality.

SECTION 202 DEFINITIONS

TECHNICAL ASSISTANT.

Any person employed by or under an extended contract to a local building department or local enforcing agency for enforcing the USBC, including but not limited to inspectors, permit technicians and plans reviewers. Individuals whose primary duties are administrative functions as determined by the building official shall not be considered technical assistants. For the purpose of this definition, an extended contract shall be a contract with an aggregate term of 18 months or longer.

Workgroup Recommendation

None

Board Decision

None

105.2, 105.2.2, 202 - PUBLIC COMMENT

Proponent : Richard Witt (wittr@chesterfield.gov)

2012 Virginia Construction Code

105.2 Technical assistants.

The building official, subject to any limitations imposed by the locality, shall be permitted to utilize technical assistants to assist the building official in the enforcement of the USBC. DHCD shall be notified by the building official within 60 days of the employment of, contracting with or termination of all technical assistants.

Individuals whose primary duties are administrative functions as determined by the building official shall not be considered technical assistants..

Note: Technical assistants are subject to sanctions in accordance with the VCS.

105.2.2 Certification of technical assistants.

A technical assistant shall be certified in the appropriate subject area within 18 months after becoming a technical assistant. When required by local policy to have two or more certifications, a technical assistant shall obtain the additional certifications within three years from the date of such requirement.

- **Exception:**
- ~~Exception: 1.~~ A technical assistant in place prior to March 1, 1988, shall not be required to meet the certification requirements in this section while continuing to serve in the same capacity in the same locality-
- 2. Any person with the position title or serving as a permit technician in place prior to (insert effective date of the code) shall not be required to meet the certification requirements in this section while continuing to serve in the same capacity in the same locality.

SECTION 202 DEFINITIONS

TECHNICAL ASSISTANT.

Any person employed by or under an extended contract to a local building department or local enforcing agency for enforcing the USBC, including but not limited to inspectors, permit technicians and plans reviewers. ~~For~~ Individuals whose primary duties are administrative functions as determined by the building official shall not be considered technical assistants. For the purpose of this definition, an extended contract shall be a contract with an aggregate term of 18 months or longer.

Add new standard(s) as follows: no standards involved

Reason: This code change is a public comment to the code change submitted by Ms. Debra McMahon concerning certification of permit technicians and attempts to resolve unintended consequences identified by a number of Building Officials. This change clarifies that staff whose main duties are administrative in nature as determined by the building official are not subject to mandatory certification. It also allows the building official to determine the responsibilities and duties of the localities "permit technicians" and therefore those that will be subject to mandatory certification. Additionally, it provides an exemption from certification as provided for those

curently employed as a permit technician or serving in that capacity

Cost Impact: The original change had a significant cost impact dependent on your localities size, budget etc. This change will reduce that impact. Some costs associated with this change are \$199.00 per each time you take the exam, the cost of attending continuing education as the code academy will not be only answer, staffing potentially, etc.

Workgroup Recommendation

None

Board Decision

None

C-106.4 cdpVA-15

Proponent : William Andrews (william.andrews@richmondgov.com)

2012 Virginia Construction Code

106.4 Building official to inform fire official of change to fire department connection. The building official shall inform the local fire official when issuing a permit which involves installing, changing specifications, moving, disabling, or removing a fire department connection.

Reason: The building official is responsible for issuing permits which involve changes to fire protection systems, including fire department connections. Firefighters use fire department connections to use standpipe and sprinkler systems as fighting fires in buildings so equipped. Firefighters need to be informed where a new fire department connection is being installed, when an existing one is being moved, disabled, removed, or changed in its specifications (such as thread or coupling size). Beyond relying on contractor or building owner to inform fire official when action approved by the building official, best for building official to inform fire official when approving changing affecting fire department connection. Section 103.8 requires building official to inform fire official when approving installation of non-required fire protection system; thus building code should also require similar notification about changes to required fire department connections. Firefighters should not be surprised when responding to a fire and learn fire department connection not obvious on new building, not where one was, unable to connect hose, or pump into one yet results in flooding basement or not help fight fire because pipes inside were disconnected as approved by permit from building official. Fire department connections on new building may not be effective until sprinkler or standpipe system completed. Existing sprinklered building under severe renovation often have sprinkler pipes removed, thus fire department connection ineffective until new or renovated system completed. Beyond communication and relationship issues within certain localities, state building code should put duty on building official (including for state buildings) to inform local fire official when building official approves permit affecting a fire department connection.

Cost Impact: No cost, merely building official informing local fire official.

Workgroup Recommendation

Workgroup 1 Recommendation Recommendation: Non-Consensus Final

Workgroup 1 Reason: Combined workgroup 1, 2, 3, & 4 meeting

Workgroup 2 Recommendation Recommendation: Non-Consensus Final

Workgroup 2 Reason: Combined workgroup 1, 2, 3, & 4 meeting

Board Decision

None

Board Decisions

- Approved**
- Approved with Modifications**
- Carryover**
- Disapproved**

None

C-106.4 cdpVA-15

C-108.1 cdpVA-15

Proponent : DHCD on behalf of Virginia Senator Bill DeSteph

DHCD Staff Contact: Vernon Hodge (Vernon.Hodge@DHCD.virginia.gov)

2012 Virginia Construction Code

108.1 When applications are required. Application for a permit shall be made to the building official and a permit shall be obtained prior to the commencement of any of the following activities, except that applications for emergency construction, alterations or equipment replacement shall be submitted by the end of the first working day that follows the day such work commences. In addition, the building official may authorize work to commence pending the receipt of an application or the issuance of a permit.

1. Construction or demolition of a building or structure. Installations or alterations involving (i) the removal or addition of any wall, partition or portion thereof, (ii) any structural component, (iii) supplemental floor support systems in Group R-5 occupancies, (iv) the repair or replacement of any required component of a fire or smoke rated assembly, ~~(iv)~~(v) the alteration of any required means of egress system, ~~(v)~~(vi) water supply and distribution system, sanitary drainage system or vent system, ~~(vi)~~(vii) electric wiring, ~~(vii)~~(viii) fire protection system, mechanical systems, or fuel supply systems, or ~~(viii)~~(ix) any equipment regulated by the USBC.
2. For change of occupancy, application for a permit shall be made when a new certificate of occupancy is required under Section 103.3.
3. Movement of a lot line that increases the hazard to or decreases the level of safety of an existing building or structure in comparison to the building code under which such building or structure was constructed.
4. Removal or disturbing of any asbestos containing materials during the construction or demolition of a building or structure, including additions.

Reason: DHCD received a request from a state senator to consider an amendment to the code to remove uncertainty concerning whether permits are required for supplemental floor support systems in Group R-5 occupancies. Installers were being told by some localities that permits were required and by other localities that permits were not required. This proposal would establish that permits are required. The correspondence from the state senator is [attached](#).

Cost Impact: The proposal would not increase the cost of construction in those localities already requiring permits, but would slightly increase the cost of construction in those localities that are not requiring permits.

Workgroup Recommendation

Workgroup 1 Recommendation Recommendation: Non-Consensus Final

Workgroup 1 Reason: None

Board Decision

None

Board Decisions

- Approved**
- Approved with Modifications**
- Carryover**
- Disapproved**
- None**

C-108.1 cdpVA-15

SENATE OF VIRGINIA

BILL DeSTEPH
8TH SENATORIAL DISTRICT
PART OF THE CITY OF VIRGINIA BEACH
588 CENTRAL DRIVE
VIRGINIA BEACH, VIRGINIA 23454
(757) 321-8180



COMMITTEE ASSIGNMENTS:
GENERAL LAWS AND TECHNOLOGY
LOCAL GOVERNMENT
PRIVILEGES AND ELECTIONS
REHABILITATION AND SOCIAL SERVICES
TRANSPORTATION

August 3, 2017

Mr. William Shelton
Director
Virginia Department of Housing and Community Development
Main Street Centre
600 East Main Street
Suite 300
Richmond, VA 23219

Dear Director Shelton:

I write to you today to respectfully request that a proposal be considered at the August 23rd code workgroup meeting.

Background:

Supplemental support systems installed in houses to address the problem of either bouncy floors or installed to provide additional support above and beyond what the building code requires: The installation of these supplemental supports does not follow the normal building permit process obtained for new construction. These supplemental supports are installed after construction and the permit exceptions in the current building code do not make it clear whether building permits are needed for such installations. Furthermore, some localities across Virginia require a permit for supplemental support systems and other localities do not.

I request staff draft a proposal outlining the conditions under which a building permit would be required for the installation of such supplemental support systems. This proposal would address when permits are required so that all localities across Virginia would have uniform guidance in making such determinations.

Your consideration of this request is greatly appreciated.

Warm regards,

A handwritten signature in blue ink that reads "Bill DeSteph".

Bill DeSteph

Cc: Cindy Davis

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C-108.2(1) cdpVA-15

Proponent : Charles Bajnai, Representing self (bajnaic@chesterfield.gov, and Richard Bartell of Hanover County)

2012 Virginia Construction Code

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 and equipment that (i) operates at less than 50 volts, (ii) is for network powered broadband communications systems, or (iii) is exempt under Section 102.3(1), except when any such installations are located in a plenum, penetrate fire rated or smoke protected construction or are a component of any of the following:
 - 1.1. Fire alarm system.
 - 1.2. Fire detection system.
 - 1.3. Fire suppression system.
 - 1.4. Smoke control system.
 - 1.5. Fire protection supervisory system.
 - 1.6. Elevator fire safety control system.
 - 1.7. Access or egress control system or delayed egress locking or latching system.
 - 1.8. Fire damper.
 - 1.9. Door control system.
2. One story detached structures used as tool and storage sheds, playhouses or similar uses, provided the building area does not exceed 256 square feet (23.78 m²) and the structures are not classified as a Group F-1 or H occupancy.
3. Detached prefabricated buildings housing the equipment of a publicly regulated utility service, provided the floor area does not exceed 150 square feet (14 m²).
4. Tents or air-supported structures, or both, that cover an area of 900 square feet (84 m²) or less, including within that area all connecting areas or spaces with a common means of egress or entrance, provided such tents or structures have an occupant load of 50 or less persons.
5. Fences of any height unless required for pedestrian safety as provided for by Section 3306, or used for the barrier for a swimming pool.
6. Concrete or masonry walls, provided such walls do not exceed 6 feet (1829 mm) in height above the finished grade. Ornamental column caps shall not be considered to contribute to the height of the wall and shall be permitted to extend above the 6 feet (1829 mm) height measurement.
7. Retaining walls supporting less than 3 feet (914 mm) of unbalanced fill that are not constructed for the purpose of impounding Class I, II or III-A liquids or supporting a surcharge other than ordinary unbalanced fill.

8. Swimming pools that have a surface area not greater than 150 square feet (13.95 m²), do not exceed 5,000 gallons (19 000 L) and are less than 24 inches (610 mm) deep.
9. Signs under the conditions in Section H101.2-of Appendix H.
10. Replacement of above-ground existing LP-gas containers of the same capacity in the same location and associated regulators when installed by the serving gas supplier.
11. Flagpoles 30 feet (9144 mm) or less in height.
12. Temporary ramps serving dwelling units in Group R-3 and R-5 occupancies where the height of the entrance served by the ramp is no more than 30 inches (762 mm) above grade.
13. Construction work deemed by the building official to be minor and ordinary and which does not adversely affect public health or general safety.
14. Ordinary repairs that include the following:
 - 14.1. Replacement of windows and doors with windows and doors of similar operation and opening dimensions that do not require changes to the existing framed opening and that are not required to be fire rated in Group R-2 where serving a single dwelling unit and in Groups R-3, R-4 and R-5.
 - 14.2. Replacement of plumbing fixtures and well pumps in all groups without alteration of the water supply and distribution systems, sanitary drainage systems or vent systems.
 - 14.3. Replacement of general use snap switches, dimmer and control switches, 125 volt-15 or 20 ampere receptacles, luminaires (lighting fixtures) and ceiling (paddle) fans in Group R-2 where serving a single dwelling unit and in Groups R-3, R-4 and R-5.
 - 14.4. Replacement of mechanical appliances provided such equipment is not fueled by gas or oil in Group R-2 where serving a single-family dwelling and in Groups R-3, R-4 and R-5.
 - 14.5. Replacement of an unlimited amount of roof covering or siding in Groups R-3, R-4 or R-5 provided the building or structure is not in an area where the design (3 second gust) wind speed is greater than 100 miles per hour (160 km/hr) and replacement of 100 square feet (9.29 m²) or less of roof covering in all groups and all wind zones.
 - 14.6. Replacement of a maximum of ~~100~~256 square feet (9.29 m²) of roof decking in Groups R-3, R-4 or R-5 unless the decking to be replaced was required at the time of original construction to be fire-retardant-treated or protected in some other way to form a fire-rated wall termination.
 - 14.7. Installation or replacement of floor finishes in all occupancies.
 - 14.8. Replacement of Class C interior wall or ceiling finishes installed in Groups A, E and I and replacement of all classes of interior wall or ceiling finishes in other groups.
 - 14.9. Installation or replacement of cabinetry or trim.
 - 14.10. Application of paint or wallpaper.
 - 14.11. Other repair work deemed by the building official to be minor and ordinary which does not adversely affect public health or general safety.
15. Crypts, mausoleums and columbaria structures not exceeding 1,500 square

feet (139.35 m²) in area if the building or structure is not for occupancy and used solely for the interment of human or animal remains and is not subject to special inspections.

- **Exception:** Application for a permit may be required by the building official for the installation of replacement siding, roofing and windows in buildings within a historic district designated by a locality pursuant to Section 15.2-2306 of the Code of Virginia.

Reason: Section 108.2 item #14.6 currently stipulates that replacing more than 100 square feet of roof decking would require a building permit.

This proposal changes the limit to 256 square feet before a building permit is required.

The reasons this code change are important:

1. For most reroof jobs, the contractor does not know how much roof decking he will have to replace until the shingles are removed. At that point, if it is more than the current 3 panels (96 sqft), he would have to stop the job, and apply for a building permit. 256 square feet (8 roofing panels) seems more reasonable!
2. I have had just one contractor call the permit issue on himself in 15 years. No one pays attention to this and neither should the code. Is it really a function of life safety?
3. There is no reasonable justification for choosing 256 square feet, but if you do not need a permit for sheds less than 256 square feet of roof (projection), why would you need a permit to replace roof decking of less than that. If the Board thinks that a higher allowance would make sense, I would support that too.
4. When the inspector goes out to the site, what is he/she inspecting anyway? He/she will never go up on the roof...so the inspection has to be done from the inside of the house??? This does not make a whole lot of sense and might even appear to be code-overkill.

Cost Impact: Assuming that anyone would actually get a permit, this code change would reduce the cost for reroofing on many houses where 8 or less sheets of roof decking need to be replaced.

Public Comments (1)

By **James Dawson**
06-13-2017 10:12:45

In the April Workgroup Meeting, I voiced opposition to this change. In subsequent discussions with the proponent, I no longer have opposition of the change, and from the perspective of the fire official, I have no further position to this change.//JRD

Workgroup Recommendation

Workgroup 1 Recommendation: Non-Consensus Final

Workgroup 1 Reason: Combined workgroup 1, 2, 3, & 4 meeting

Board Decision

None

Board Decisions

- Approved**
- Approved with Modifications**
- Carryover**
- Disapproved**
- None**

C-108.2(1) cdpVA-15

C-108.2(3) cdpVA-15

Proponent : Benjamin Goss, Representing Infinity Roofing & Siding, Inc
(bengoss@infinityroofer.com)

2012 Virginia Residential Code

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 and equipment that (i) operates at less than 50 volts, (ii) is for network powered broadband communications systems, or (iii) is exempt under Section 102.3(1), except when any such installations are located in a plenum, penetrate fire rated or smoke protected construction or are a component of any of the following:
 - 1.1. Fire alarm system.
 - 1.2. Fire detection system.
 - 1.3. Fire suppression system.
 - 1.4. Smoke control system.
 - 1.5. Fire protection supervisory system.
 - 1.6. Elevator fire safety control system.
 - 1.7. Access or egress control system or delayed egress locking or latching system.
 - 1.8. Fire damper.
 - 1.9. Door control system.
2. One story detached structures used as tool and storage sheds, playhouses or similar uses, provided the building area does not exceed 256 square feet (23.78 m²) and the structures are not classified as a Group F-1 or H occupancy.
3. Detached prefabricated buildings housing the equipment of a publicly regulated utility service, provided the floor area does not exceed 150 square feet (14 m²).
4. Tents or air-supported structures, or both, that cover an area of 900 square feet (84 m²) or less, including within that area all connecting areas or spaces with a common means of egress or entrance, provided such tents or structures have an occupant load of 50 or less persons.
5. Fences of any height unless required for pedestrian safety as provided for by Section 3306, or used for the barrier for a swimming pool.
6. Concrete or masonry walls, provided such walls do not exceed 6 feet (1829 mm) in height above the finished grade. Ornamental column caps shall not be considered to contribute to the height of the wall and shall be permitted to extend above the 6 feet (1829 mm) height measurement.
7. Retaining walls supporting less than 3 feet (914 mm) of unbalanced fill that are not constructed for the purpose of impounding Class I, II or III-A liquids or supporting a surcharge other than ordinary unbalanced fill.

8. Swimming pools that have a surface area not greater than 150 square feet (13.95 m²), do not exceed 5,000 gallons (19 000 L) and are less than 24 inches (610 mm) deep.
9. Signs under the conditions in Section H101.2 of Appendix H.
10. Replacement of above-ground existing LP-gas containers of the same capacity in the same location and associated regulators when installed by the serving gas supplier.
11. Flagpoles 30 feet (9144 mm) or less in height.
12. Temporary ramps serving dwelling units in Group R-3 and R-5 occupancies where the height of the entrance served by the ramp is no more than 30 inches (762 mm) above grade.
13. Construction work deemed by the building official to be minor and ordinary and which does not adversely affect public health or general safety.
14. Ordinary repairs that include the following:
 - 14.1. Replacement of windows and doors with windows and doors of similar operation and opening dimensions that do not require changes to the existing framed opening and that are not required to be fire rated in Group R-2 where serving a single dwelling unit and in Groups R-3, R-4 and R-5.
 - 14.2. Replacement of plumbing fixtures and well pumps in all groups without alteration of the water supply and distribution systems, sanitary drainage systems or vent systems.
 - 14.3. Replacement of general use snap switches, dimmer and control switches, 125 volt-15 or 20 ampere receptacles, luminaires (lighting fixtures) and ceiling (paddle) fans in Group R-2 where serving a single dwelling unit and in Groups R-3, R-4 and R-5.
 - 14.4. Replacement of mechanical appliances provided such equipment is not fueled by gas or oil in Group R-2 where serving a single-family dwelling and in Groups R-3, R-4 and R-5.
 - 14.5. ~~Other repair work deemed by the building official to be minor and ordinary which does not adversely affect public health~~Replacement of 352 square feet or general safety less, of roof covering or siding, in Groups R-1, R-2, R-3, R-4 or R-5 in all wind zones.
 - 14.6. Replacement of 100 square feet (9.29 m²) or less of roof decking in Groups R-3, R-4 or R-5 unless the decking to be replaced was required at the time of original construction to be fire-retardant-treated or protected in some other way to form a fire-rated wall termination.
 - 14.7. Installation or replacement of floor finishes in all occupancies.
 - 14.8. Replacement of Class C interior wall or ceiling finishes installed in Groups A, E and I and replacement of all classes of interior wall or ceiling finishes in other groups.
 - 14.9. Installation or replacement of cabinetry or trim.
 - 14.10. Application of paint or wallpaper.
 - 14.11. ~~Replacement of an unlimited amount of roof covering or siding in Groups R-3, R-4 or R-5 provided~~Other repair work deemed by the building or structure official to be minor and ordinary which does not in an area where the design (3 second gust) wind speed is greater than 100 miles per hour (160 km/hr) and

~~replacement of 100 square feet (9.29 m²) adversely affect public health or less of roof covering in all groups and all wind zones general safety.~~

15. Crypts, mausoleums, and columbaria structures not exceeding 1,500 square feet (139.35 m²) in area if the building or structure is not for occupancy and used solely for the interment of human or animal remains and is not subject to special inspections.
 - **Exception:** Application for a permit may be required by the building official for the installation of replacement siding, roofing and windows in buildings within a historic district designated by a locality pursuant to Section 15.2-2306 of the Code of Virginia.

Add new standard(s) as follows: Links to articles that discuss unpermitted work.

While roofs are not permit required here in Virginia, the lack of permitting results in some of the same issues for property owners.

<https://www.angieslist.com/articles/not-permitted-when-remodels-dont-meet-code.htm>

<http://www.maxrealestateexposure.com/the-importance-of-getting-permits-for-additions-and-improvements/>

Reason: INTENT:

Require permits for re-roofing which includes the removal and replacement of roof coverings, but does not include sheathing (roof diaphragm). We feel that the permit requirement will help reduce poor quality work that seems to be rampant. As well, we believe this represents an inherent danger to public welfare. This is also intended to harmonize a similar change being recommended for 108.2.14.6 regarding roof decking/sheathing. Further, implementation of a broader permit requirement will contribute to better workmanship that meets building code and promotes higher levels of professionalism.

NEED:

1. The Commonwealth of Virginia requires licensure for home improvement professionals including C, B and A level contractors with associated limits as to the contract size. Unpermitted roof & siding work means that accountability to the building code to the primary weather protection of building envelopes is weak at best. Inspect what you expect. Trust but verify.
2. There are a variety of ways for inspection personnel to be given access to information regarding the installation of a roof in process. With the increasing improvements in technology, there is no need for building departments to forgo hundreds of thousands, if not millions of dollars, that is could be collected against tens of thousands of roof replacements completed each year. The importance of needing permits and inspections will become evident when the next catastrophic hurricane blows through, because a lot of structures that don't meet the building code will be severely damaged.
3. I understand that there may be reticence on the part of some building officials regarding the complexity, risk and difficulty involved in completing roof inspections. I humbly suggest that many jurisdictions across the USA have solved these challenges in a variety of creative ways including, but not limited to: photo documentation, collection of receipts for items such as proper disposal in C&D landfills, retention of 3rd party inspectors at the cost of the permittee, as well as final inspections.
4. Permits provide an accountability mechanism that are somewhat contemporary to the roof installation, rather than a property changing hands leaving new property owners without recourse. The discovery of deferred maintenance that is the direct result of poor workmanship is an unnecessary drain. Quality contractors should not object to the

requirement of collection

Cost Impact:

1. \$0.00 to New Construction – this only applies to Re-Roofs.
2. Cost is dependent upon jurisdiction.

Workgroup Recommendation

Workgroup 1 Recommendation Recommendation: Non-Consensus Final

Workgroup 1 Reason: None

Board Decision

None

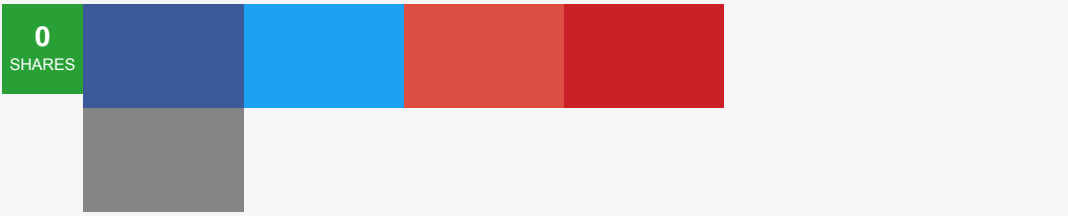
Board Decisions

- Approved**
- Approved with Modifications**
- Carryover**
- Disapproved**
- None**

C-108.2(3) cdpVA-15

House <input type="checkbox"/>	Auto <input type="checkbox"/>	Health <input type="checkbox"/>	Pets <input type="checkbox"/>	Services <input type="checkbox"/>
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Not Permitted: When Remodels Don't Meet Code



Jan. 29, 2016
 By Michael Schroeder
 @MikeSchroeder
 rIN

Previous homeowners did work without permits that doesn't meet code. Now you have to fix the mess.

Video: Why You Should Fix Code Violations

Local Offers

Richmond, Va (Change)



\$55 Custom Kitchen and Bath Design

Commonwealth Renovations

Popular



What Is a Federal-Style Home?



Home Building: Where to Spend, Where to Save



Types of Pool Seating



What Is a Queen Anne House?

Answers

? How do you tell a

Michael Schroeder, former senior writer, covered health care and other consumer

Now



Reading the writing on the wall of his garage, John Digrado opted to replace two outlets — one charred — and update his electrical system after a near miss last summer at his La Crescenta, California, home.

“It was a little scary,” he says of the incident in which wires heated up, shorted out and caused a small electrical fire in a junction box, burning a sprinkler timer and an appliance cord as well. “The plug itself caught on fire,” Digrado says, thankful it didn’t cause a larger electrical fire. “We had an entire section of the house without power. The whole circuit went out.”

The problem? Unbeknownst to Digrado at the time, some of the wiring didn’t meet

The pitfalls of not pulling a permit

Homeowners encounter all kinds of hazards and hassles when contract work isn’t properly permitted, or a home doesn’t meet current building code.

Not Permitted: When Remodels Don’t Meet Code

Home Work: Do I Need a Permit for That?

Permit Required? Common Problems That Occur When It’s Not Pulled

Buying a Home? How to Keep Past Renovations Done without a Permit from Costing You

contractor that they didn’t get the job?

[Read 46 Answers](#)

? Should I tell a contractor what my budget is?

[Read 22 Answers](#)

? Cost to dig out and construct a 1100sft basement under a existing home on a crawl w 3 beds 3 window wells an bath

[Read 5 Answers](#)

? Is it standard to put 50% down on a major remodelling job?

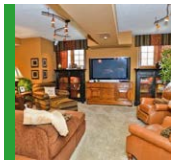
[Read 8 Answers](#)

code, he says. He hired [Anavar Electric](#) in La Cañada Flintridge, California, to remedy that, making the system safer and improving function, for \$300.

Homeowners encounter all kinds of hazards and expensive hassles when DIYers or contractors perform work that a building inspector should vet, without a permit, and when the inner workings of homes no longer meet current code. Experts say outdated or poorly installed electrical systems risk fire; poorly installed baths and showers not properly permitted and inspected can leak, causing costly water damage; and other problems may occur when work doesn't code.

Fortunately, with due diligence, highly rated service providers say homeowners can protect themselves by fixing problems that exist, bringing a home back to code, or in some cases, preventing headaches from unpermitted work in the first place.

Related Article



Do I Really Need a Building Permit?

Dear Angie: We're planning a bathroom remodel. How important is it to have a building permit? – Michael S., Oakton, Virginia

Contract work: Do your due diligence

"A lot of people blow it off," says Craig Lester, who owns [Lester Inspection Services](#) in Topeka, Kansas, but he advises homeowners to insist on proper permitting and follow-up inspections for work done on the home.

"Most contractors will get one if they know they need one. If they're going to change the structure of the house, they'll know that needs to be done," says Lester, such as adding a sunroom. But more minor jobs involving electrical, plumbing and mechanical changes to a home — and oftentimes work behind walls that's invisible to the casual observer — requires a permit. "It depends on the area of the country you live in, how strict the code enforcement is," Lester says.

Not sure if that job you're DIYing requires a permit, or want to

double-check for a contracted job? “Call the city. They will tell you,” Lester says. Namely, your city — or county, if you live outside city limits — department of code enforcement. Or go online. “Most cities have a website that you can go to that lists everything that’s required.”

Standard rules of hiring apply, too. Make sure to get multiple bids and closely evaluate any service provider before you hire, including ensuring contractors have insurance coverage and proper training. Check out previous work as well.

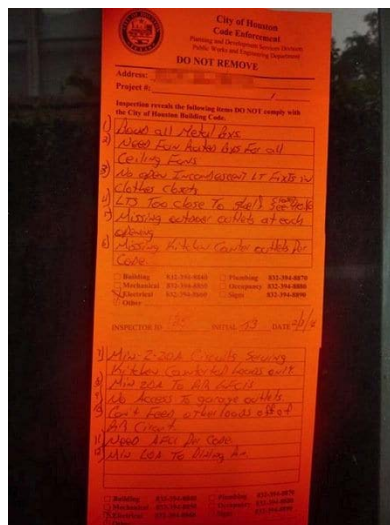
Related Article



Who Pays If Contractors Don't Pull Permits?

Dear Angie: Can we get a building permit after a room addition was built by a contractor? We had a room added to our mobile home but the construction firm did not get a building permit. Can we get the firm to get a permit retroactively? What should we do? – K.J. S., Trenton, South Carolina

“Unless you’re installing to code, you’re out of compliance and you’re potentially putting that homeowner or structure at risk,” says Thayer Long, chief executive officer for Independent Electrical Contractors, a national trade association. “Electrical can hurt people ... knowing the code is absolutely critical.” For electricians, that means keeping abreast of changes to the National Electrical Code, which Long and others describe as the Bible for electrical code. Every



Contractors failing to pull permits to meet residential code requirements could lead to violations, which happened to this homeowner after an electrical rewiring job. (Photo courtesy of Angie's List member Ron L. of Houston)

three years, the National Fire Protection Association updates the NEC.

“Electrical that’s not junctioned right, that’s not installed properly, that’s probably our biggest issue,” says Lon Libsack, owner of [Shower & Bath Connection](#) in Tempe, Arizona. Remodels turn up surprise pre-existing issues that may affect the health of an abode — and could affect homeowner health and safety as well. But that’s not the only kind of previous work Libsack’s company discovers doing renovation work for homeowners, that doesn’t meet building code, and quality and safety standards.

“We come across a lot of jobs [in houses] that have been flipped,” Libsack says, such as improperly installed showers. “They have puddles in the shower that don’t drain right ... leaking outside the shower and they can’t find out where it’s leaking from.” In such cases, renovation work will include sometimes-costly revisions to first correct pre-existing issues, such as ripping out a shower or updating outdated electrical. “The correction of existing issues can be a hard way to start off a remodeling project,” he adds, noting that those most often involve electrical, mechanical or plumbing.

“*The correction of existing issues can be a hard way to start off a remodeling project.*” —Lon Libsack, owner of [Shower & Bath Connection](#)

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New home: Inspect closely before moving

If you’re buying or building a home, [insist on a thorough inspection](#) before finalizing the purchase or moving in, and secure paperwork on previous renovations.

“The seller must provide full disclosure when selling a home. This should include all documents related to any home

improvements that require a permit,” Lester says. “Always ask what remodeling has been done, what contractor did the work, and what permits were pulled.”

Related Article



Buying a Home? Avoid Unpermitted Renovations

Before you make an offer on your dream home, check to make sure all renovations are permitted.

Proper permitting, accompanied by an inspection at the time a contractor or homeowner completes work, provides third-party proof that it's done correctly, says Efram Perry, president of [Dream Home Remodeling](#) in Woodland Hills, California. In the Los Angeles area, he says a permit may cost between \$300 and \$400 for a \$5,000 residential remodel, but fees vary based on many factors, such as the size of the job. Though cost may incentivize some to duck required permits, Perry says the added quality assurance makes it worthwhile. On the other end of the transaction, he thinks it behooves sellers to have work permits in order, too.

“As a homeowner, you want to make sure whatever work was done in your house was done properly,” he says. Without proper permits, when a homeowner goes to sell, Perry says, he or she may end up on the hook for an illegal addition or other contract work not up to snuff. “In a way, he’s liable. It becomes the homeowner’s responsibility,” he says. Whenever having work done, he reiterates: “I think they should pull the permit.”

Editor's note: This is an updated version of an article originally posted May 16, 2014

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C-109.7 cdpVA-15

Proponent : Brian McGraw, Representing State Fire Marshal's Office
(brian.mcgraw@vdfp.virginia.gov)

2012 Virginia Construction Code

109.7 As-Built Drawings Upon final approval, as-built drawings that accurately reflect what has actually been built and approved shall be prepared by the permittee and submitted to the building official for review. The building official shall confirm that the submitted as-built drawings reflect actual approved conditions. Once validated, the owner shall provide complete sets of as-built drawings to the building official and the fire official in a format acceptable to those officials. A complete set of as-built drawings shall also be placed on the premises and shall be maintained on the premises for the life of the building. These as-built drawings shall be updated or added to to reflect any additions, alterations, or renovations that occur in the building.

Reason: Conducting inspections of existing buildings to determine compliance with the provisions of the Statewide Fire Prevention Code and the Property Maintenance Code often require knowing what specific Building Code the building was constructed under as well as any modifications that were approved. Such information is often not available on site. Building Department records may not be kept indefinitely. By requiring approved as-built drawings to be maintained on the premises, a Fire Prevention Inspector or Property Maintenance Inspector has an accurate standard against which to assess the condition of the building and compliance with applicable code requirements. This requirement reduces or eliminates the "guesswork" associated with determining what was "approved" at the time of construction or renovation. This will greatly enhance an inspectors capability to accurately assess the existence and scope of violations when faced with time sensitive situations such as responding to an after-hours complaint. The current process of removing "unenforceable provisions" from the Fire Code also removes metrics that the Fire Prevention Inspector can use as a starting point for assessing compliance. The Rehabilitation Code allows for work to be performed and systems to be installed in portions of buildings rather than throughout. Maintaining up to date, accurate as-built drawings on the premises allows an inspector to readily identify what has actually been approved.

Cost Impact: Many construction contracts require the preparation and delivery of as-built drawings at the completion of a project. As such, the added cost would be that associated with printing three additional sets of drawings. With current technology, the opportunity exists for the required drawings to be submitted to the Building and Fire Officials electronically. The set required on-site could also potentially be provided in an electronic version.

Public Comments (1)

By **Brian McGraw**
08-21-2017 17:45:22

Based on feedback received after the Work Group meeting, the submitted proposes the following changes to the proposal:

Change Section Numbering from 109.7 to 109.5.1 and change the section to read as follows:

109.5.1 Record Documents. Subsequent to a Certificate of Occupancy being issued, the owner shall provide one set of "Approved" construction documents to be kept at the building site or other location acceptable to the fire code official and shall be made

available to the fire code official upon request. Documents shall be updated, or additional record documents provided, to record any changes, modifications or other components that differ from the "Approved" construction documents including, but not limited to, additions, alterations, permitted repairs, or a change of occupancy.

Workgroup Recommendation

Workgroup 1 Recommendation Recommendation: Non-Consensus Final

Workgroup 1 Reason: 8/23/17 Non Consensus
6/13/17 Carry over to next WG meeting.

Board Decision

None

Board Decisions

- Approved**
- Approved with Modifications**
- Carryover**
- Disapproved**
- None**

C-109.7 cdpVA-15

C-116.4 cdpVA-15

Proponent : Andrew Milliken (amilliken@staffordcountyva.gov)

2012 Virginia Construction Code

116.4 Issuance of certificate for pre-USBC buildings or other existing structures.

When a building or structure was constructed prior to being subject to the initial edition of the USBC and/or the local building department does not have a certificate of occupancy for the building or structure, the fire official, owner or owner's agent may submit a written request for a certificate to be created. The building official, after receipt of the request, shall issue a certificate provided a determination is made that there are no current violations of the VMC or the *Virginia Statewide Fire Prevention Code* (13VAC5-51) and the occupancy classification of the building or structure has not changed. Such buildings and structures shall not be prevented from continued use.

- **Exception:** When no certificate exists, but the local building department has records indicating that a certificate did exist, then the building official may either verify in writing that a certificate did exist or issue a certificate based upon the records.

Reason: The purpose of this proposal is to assist Building Officials and Fire Officials with issuing certificates of occupancy for existing buildings where no record of such documents are available. Since the Fire Prevention Code edit is highlighting the fact that buildings are to be maintained to the Code at which the building was constructed, it is absolutely critical that owners, occupants, Fire Officials and Building Officials have an accurate and valid occupancy permit for every existing building. This proposal builds on existing language in place for Pre-USBC buildings and expands it to include situations where not record or a copy of an occupancy permit is available.

Cost Impact: None.

Public Comments (1)

By **William Andrews**

06-19-2017 15:14:02

Should improve process to get Certificate of Occupancy on older buildings lacking such; especially where no official for building maintenance code. Potential tenant, fire official, and building official needs record of prior approvals. Judge or attorney may say fire official can't successfully prosecute violation of unapproved use unless record of approved use.

Workgroup Recommendation

Workgroup 1 Recommendation Recommendation: Non-Consensus Final

Workgroup 1 Reason: 8/23/17 Non Consensus
6/13/17 Carry over to next WG meeting

Board Decision

None

Board Decisions

- Approved**
- Approved with Modifications**
- Carryover**
- Disapproved**
- None**

C-116.4 cdpVA-15

CB-903.2.4 cdpVA-15

Proponent : Emory Rodgers (errpp1242@verizon.net)

2015 International Building Code

[F] 903.2.4 Group F-1. An *automatic sprinkler system* shall be provided throughout all buildings containing a Group F-1 occupancy where one of the following conditions exists:

1. A Group F-1 *fire area* exceeds 12,000 square feet (1115 m²).
2. A Group F-1 *fire area* is located more than three stories above *grade plane*.
3. The combined area of all Group F-1 *fire areas* on all floors, including any mezzanines, exceeds 24,000 square feet (2230 m²).
4. A Group F-1 occupancy used for the manufacture of upholstered furniture or mattresses exceeds 2,500 square feet (232 m²).

[F] 903.2.9 Group S-1. An *automatic sprinkler system* shall be provided throughout all buildings containing a Group S-1 occupancy where one of the following conditions exists:

1. A Group S-1 *fire area* exceeds 12,000 square feet (1115 m²).
2. A Group S-1 *fire area* is located more than three stories above *grade plane*.
3. The combined area of all Group S-1 *fire areas* on all floors, including any mezzanines, exceeds 24,000 square feet (2230 m²).
4. A Group S-1 *fire area* used for the storage of commercial motor vehicles where the *fire area* exceeds 5,000 square feet (464 m²).
5. A Group S-1 occupancy used for the storage of upholstered furniture or mattresses exceeds 2,500 square feet (232 m²).

2015 International Existing Building Code

~~**904.1.3 Upholstered furniture or mattresses.** Work areas shall be provided with an automatic sprinkler system in accordance with the *International Building Code* where any of the following conditions exist:~~

- ~~1. A Group F-1 occupancy used for the manufacture of upholstered furniture or mattresses exceeds 2,500 square feet (232 m²).~~
- ~~2. A Group M occupancy used for the display and sale of upholstered furniture or mattresses exceeds 5,000 square feet (464 m²).~~
- ~~3. A Group S-1 occupancy used for the storage of upholstered furniture or mattresses exceeds 2,500 square feet (232 m²).~~

Reason:

For VCC Change: This proposal is to correlate with the Virginia amendment in the 2012 VCC for Group M. Fire driving this change was in improperly built building without separation and permits. If remains penalizes owners of factories built to code. Va fire data not supports.

For IEBC/VEBC Change: Virginia has already deleted the Group M sprinkler threshold for upholstered furniture and mattresses, so this language correlates the VCC and the VEBC. For Group S and F, if the VCC proposal is recommended for approval, then the VEBC should match.

Cost Impact: cost decrease significantly

Public Comments (1)

By **James Dawson**

03-06-2017 14:16:04

Mr. Rodgers' supporting statement for this proposal is flawed. He presumes the same level of risk of fire in the mercantile occupancy as the factory and storage settings where these hazardous fuel loads are present. This is clearly not the case considering the work that takes place in the factory setting compared to the mercantile occupancy. Since the F-1 and S-1 use groups are very different in their use and fuel load, there is no need to "correlate" them with the requirements for a mercantile use.

The original ICC proposal (submitted and approved in 2009) notes, "the hazard presented by the upholstered furniture in the mercantile occupancy is **greater in an F-1 occupancy** where the furniture is being manufactured and in S-1 occupancy **where the fuel load contribution of the upholstered furniture is greater** than in the mercantile group." (emphasis added)

The original F60-09/10 code change was approved as modified by the ICC Committee to "provide a reasonable threshold that would not penalize occupancies". This threshold was based in existing code requirements and not something that was arbitrary.

See copies of the ICC hearing proposal and Public Hearing Results.

Additionally, there is no supporting documentation to support the statement that "Va fire data not supports [SIC]". The fire risk and threat were clearly demonstrated in the development of this model code requirement or it would not have been approved, and to ignore the national data invites disaster here in Virginia with a code that does not meet the national standard of the ICC model code.

I contend that the ICC Committee got this correct by adding the threshold that is reasonable and provides for the safety of the occupants and public. To eliminate these provisions weakens the code to a less than national standard, and this proposal should be denied.

Workgroup Recommendation

Workgroup 2 Recommendation Recommendation: Non-Consensus Final

Workgroup 2 Reason: 8/23/17 Non Consensus

6/13/17 Combined workgroup meeting 1, 2, 3, & 4 Carry over until next WG meeting

4/11/17 Combined workgroup meeting 1, 2, 3, & 4

Rick Witt stated he agreed with Art Berkley regarding self-storage being an issue. I don't know if they have 2500 sq. ft. of furniture or mattresses. I think we should carry this over to find a better way to say it. Carry over to next workgroup and tweak the language

Board Decision

None

Board Decisions

- Approved**
- Approved with Modifications**
- Carryover**
- Disapproved**
- None**

CB-903.2.4 cdpVA-15

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CB-903.3.5.1.1 cdpVA-15

Proponent : Emory Rodgers (errpp1242@verizon.net); Shaun Pharr, Representing BOMA and AOBA (SPharr@aoba-metro.org)

2015 International Building Code

903.3.5.1.1 Limited area sprinkler systems. Limited area sprinkler systems serving fewer than 20 sprinklers on any single connection are permitted to be connected to the domestic service where a wet automatic standpipe is not available. Limited area sprinkler systems connected to domestic water supplies shall comply with each of the following requirements:

1. Valves shall not be installed between the domestic water riser control valve and the sprinklers.

Exception: An *approved* indicating control valve supervised in the open position in accordance with Section 903.4.

2. The domestic service shall be capable of supplying the simultaneous domestic demand and the sprinkler demand required to be hydraulically calculated by NFPA 13, NFPA 13D or NFPA 13R.

~~**903.3.5.2 903.3.5.1.2 Residential combination services.**~~ A single combination water supply shall be allowed provided that the domestic demand is added to the sprinkler demand as required by NFPA 13R.

~~**[F] 903.3.8 Limited area sprinkler systems.**~~ Limited area sprinkler systems shall be in accordance with the standards listed in Section 903.3.1 except as provided in Sections 903.3.8.1 through 903.3.8.5.

~~**903.3.8.1 Number of sprinklers.**~~ Limited area sprinkler systems shall not exceed six sprinklers in any single *fire area*.

~~**903.3.8.2 Occupancy hazard classification.**~~ Only areas classified by NFPA 13 as Light Hazard or Ordinary Hazard Group 1 shall be permitted to be protected by limited area sprinkler systems.

~~**903.3.8.3 Piping arrangement.**~~ Where a limited area sprinkler system is installed in a building with an automatic wet standpipe system, sprinklers shall be supplied by the standpipe system. Where a limited area sprinkler system is installed in a building without an automatic wet standpipe system, water shall be permitted to be supplied by the plumbing system provided that the plumbing system is capable of simultaneously supplying domestic and sprinkler demands.

~~**903.3.8.4 Supervision.** Control valves shall not be installed between the water supply and sprinklers unless the valves are of an *approved* indicating type that are supervised or secured in the open position.~~

~~**903.3.8.5 Calculations.** Hydraulic calculations in accordance with NFPA 13 shall be provided to demonstrate that the available water flow and pressure are adequate to supply all sprinklers installed in any single *fire area* with discharge densities corresponding to the hazard classification.~~

Reason: limited area sprinkler systems were changed from 20 heads to 6 based on using NFPA 13 calculations water supply had to be 4 inch line not 1-2 inches. Thousands of these systems have been approved for decades to allow sprinklers to be added in windless stories or work areas that need sprinklers with separations. VRC existing buildings would prove to be too costly for renovation thus a barrier to reuse of older buildings and revitalization efforts.

Cost Impact: 2015 IBC/IFC 20 to 6 sprinklers adds tens of thousands in cost for new mains and 4 inch lines besides mandating more full sprinkled systems on floors and older buildings. No fire data past 15 years.

Public Comments (1)

By **James Dawson**
03-07-2017 08:45:18

This proposal re-damages repair work done at the ICC by the Fire Code Action Committee and should not be approved in Virginia.

That group, which is established by the International Code Council's Board of Directors to address weaknesses and voids in the International Codes, identified this issue through a series of regional national meetings and national meetings which included technical experts and interested parties. Their code change submitted to the ICC Code Change Committee which was approved in 2013.

Based on the available water supplies from a standard commercial supply, it is nearly impossible to provide the required water for a system that includes more than six (6) sprinkler heads given the required water flow would be between 370 and 427 gallons per minute before considering the typical domestic demand. This flow is well beyond the capacity of any standard two or three inch meter, and sets the fire protection system up for failure. That was a major consideration for the change in the ICC national model code.

These systems are not typically required when a building is originally constructed. It is our experience that building owners who change the use of a structure that may require fire protection have used limited area systems to protect very small storage rooms or voluntarily install them in high value areas of their business. This change would still allow the building owner/occupant to protect between 780 square feet for a Ordinary Hazard Group 1 area, and **2,025 square feet for a Light Hazard area** - a design that clearly falls within the water supply capacities of a standard two or three inch meter.

Systems which are larger than the six head limit passed by the International Code Council need a more robust hydraulic evaluation done - as required by NFPA 13 - to ensure an adequate water supply is provided and to ensure the system will perform as desired to control a fire involving the protected commodity.

The original proposal submitted to the ICC Fire Committee was approved as submitted, and received no opposition at the Final Action Hearings. Mr. Rodgers' proposal indicates

"thousands of these systems have been approved for decades" yet does not provide any basis for that statement. Several questions remain to be answered:

1. Where are those statistics coming from? Please provide a source for the statistic
2. How many heads are normally installed in limited area systems in existing buildings? Given the certainty with which his reason statement was provided, the data should clearly have that measure provided as well to substantiate the proposal.
3. What is the typical square footage of area or commodity protected with limited area systems? Given the certainty with which his reason statement was provided, the data should clearly have that measure provided as well to substantiate the proposal. Additionally, how many typical fire areas are protected in a given building? This proposal would allow multiple fire areas with 19 sprinkler heads in a single building further degrading the water supply issue noted previously.
4. How frequently are systems unable to be installed under the proposal when the water supply is inadequate to provide the simultaneous domestic demand and sprinkler demand? Based on the ICC supporting statement, it is not likely a system containing greater than six heads could meet the code provisions. This proposal creates a false expectation for the building owner and creates conflict with the enforcement community.

The attached documents are from the original ICC proposal and Committee Action Hearing results.

Attachment: Limited Area ICC Proposal and Results.pdf

Workgroup Recommendation

Workgroup 2 Recommendation Recommendation: Non-Consensus Final

Workgroup 2 Reason: Combined workgroup 1, 2, 3, & 4

Linda Hale stated they are seeing very large limited area systems in commercial buildings and that is a the problem.

Board Decision

None

Board Decisions

- Approved**
- Approved with Modifications**
- Carryover**
- Disapproved**
- None**

CB-903.3.5.1.1 cdpVA-15

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CB-915.1.1(2) cdpVA-15

915.1.1, 510.2

Proponent : Allison Cook, Representing Arlington County
(acook1@arlingtonva.gov)

2012 Virginia Construction Code

915.1.1 Installation. The building owner shall install radiating cable, such as coaxial cable or equivalent. The radiating cable shall be installed in dedicated conduits, raceways, plenums, attics, or roofs, compatible for these specific installations as well as other applicable provisions of this code. ~~The~~ If it is determined by the locality that increased amplification of the emergency communication system is needed, the building owner shall be responsible for the installation of any additional communication equipment required for the operation of the system.

2012 Virginia Statewide Fire Prevention Code

510.2 Additional in-building emergency communications installations. ~~If it is determined by the locality that increased amplification of their emergency communication system is needed, the~~ The building owner shall ~~allow the locality access as well as provide appropriate space within the building to install and~~ maintain necessary additional communication equipment by the locality. If the building owner denies the locality access or appropriate space, or both, the building owner shall be responsible for the installation and maintenance of these additional systems.

Reason: The 2012 Virginia Statewide Fire Code placed the responsibility for installation and maintenance of additional in-building emergency communications installations on the locality. This should be the responsibility of the building owner. For the 2015 Virginia Statewide Fire Code we should keep the 2015 IFC section 510 code section.

Cost Impact: No impact

Public Comments (0)

Workgroup Recommendation

Workgroup 2 Recommendation Recommendation: Non-Consensus Final

Workgroup 2 Reason: None

Board Decision

None

Board Decisions

- Approved**
- Approved with Modifications**
- Carryover**

- Disapproved**
- None**

CB-3307.2 cdpVA-15

Proponent : Andrew Milliken (amilliken@staffordcountyva.gov)

2012 Virginia Construction Code

3307.2 Protection of Adjacent Occupied Areas Vacant spaces, or areas under construction or demolition shall be separated and secured from the remainder of the occupied building by construction that is consistent with the existing type of construction for the building unless otherwise approved.

Reason: Staff note: Revised proposal to remove word "completely" based on discussion from August 23, 2017 workgroup meeting.

This proposal seeks to provide enforcement language for the Building Official to ensure that vacant spaces or areas undergoing construction/demolition in occupied and operating buildings have the minimum partitions and separation between occupied and unoccupied areas. This code addition originated with the deletion of the vacant tenant language for covered malls that was located in the Fire Prevention Code. It recognizes the importance of separation for the safety of occupants but also that any construction partitions should be consistent with the existing type of construction for the building.

Cost Impact: Minimal cost of partitions during construction. In most cases, these partitions are already provided and budgeted for within a construction budget when a building desires to be occupied and operating when under construction.

Public Comments (0)

Workgroup Recommendation

Workgroup 2 Recommendation Recommendation: Non-Consensus Final

Workgroup 2 Reason: 8/23/17 Non Consensus
6/23/17 Carry over until August

Board Decision

None

Board Decisions

- Approved**
- Approved with Modifications**
- Carryover**
- Disapproved**
- None**

CB-3307.2 cdpVA-15

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CE-R405.5.2 cdpVA-15

Proponent : Eric Lacey, Representing Responsible Energy Codes Alliance
(eric@reca-codes.com)

2012 Virginia Energy Conservation Code

(DHCD Staff Note: Proponent confirmed corresponding changes to be made to IRC energy provisions)

**TABLE R405.5.2(1)
SPECIFICATIONS FOR THE STANDARD REFERENCE AND PROPOSED DESIGNS**

BUILDING COMPONENT	STANDARD REFERENCE DESIGN	PROPOSED DESIGN
Above-grade walls	Type: mass wall if proposed wall is mass; otherwise wood frame. Gross area: same as proposed <i>U</i> -factor: from Table R402.1.3 Solar absorptance = 0.75 Remittance = 0.90	As proposed As proposed As proposed As proposed As proposed
Basement and crawl space walls	Type: same as proposed Gross area: same as proposed <i>U</i> -factor: from Table R402.1.3, with insulation layer on interior side of walls.	As proposed As proposed As proposed
Above-grade floors	Type: wood frame Gross area: same as proposed <i>U</i> -factor: from Table R402.1.3	As proposed As proposed As proposed
Ceilings	Type: wood frame Gross area: same as proposed <i>U</i> -factor: from Table R402.1.3	As proposed As proposed As proposed
Roofs	Type: composition shingle on wood sheathing Gross area: same as proposed Solar absorptance = 0.75 Emittance = 0.90	As proposed As proposed As proposed As proposed
Attics	Type: vented with aperture = 1 ft ² per 300 ft ² ceiling area	As proposed
Foundations	Type: same as proposed foundation wall area above and below grade and soil characteristics: same as proposed.	As proposed As proposed
Doors	Area: 40 ft ² Orientation: North <i>U</i> -factor: same as fenestration from Table R402.1.3.	As proposed As proposed As proposed

Glazing ^a	Total area ^b is 15% of the conditioned floor area. (a) The proposed glazing area, where the proposed glazing area is less than 15 percent of conditioned floor area (b) 15 percent of the conditioned floor area, where the proposed glazing area is 15 percent or more of the conditioned floor area	As proposed	
	Orientation: equally distributed to four cardinal compass orientations (N, E, S & W).	As proposed	
	U-factor: from Table N1102.1.3 (R402.1.3).	As proposed	
	SHGC: From Table N1102.1.1 (R402.1.1) except that for climates with no requirement (NR) SHGC = 0.40 shall be used.	As proposed	
	Interior shade fraction: 0.92-(0.21 x SHGC for the standard reference design)	0.92-(0.21 x SHGC as proposed)	
	External shading: none	As proposed	
	Skylights	None	As proposed
	Thermally isolated sunrooms	None	As proposed

Reason:

DHCD Staff Note: This proposal was carried over from the proposed phase and reassigned to WGs 2 and 3. The proposed phase proposal with the workgroup disposition and reasons may be viewed at this link: [Proposed Phase Proposal](#)

Proponent's Reason Statement:

Virginia currently assumes a fixed 15% fenestration area in its performance path, in direct conflict with every edition of the IECC since 2006 (and Virginia's previous Uniform Code). This results in an approximately **1.6% to 3.2% reduction in energy efficiency** for below-average glazed homes, as compared to a scenario in which Virginia applied the glazing area assumption as published in the IECC.

By establishing a fixed 15% fenestration area in the standard reference design, homes with less than 15% glazing in the actual design would be able to reduce (trade off) the efficiency measures in the rest of the home with the automatic free credit created by the difference in efficiency between the less efficient fenestration and more efficient opaque wall requirements. Virginia's current 15% fixed glazing area assumption results in a net reduction in energy efficiency, as

compared to the performance compliance path applied in the IECC and in nearly every other state in the country.

To be clear, the 15% fixed glazing area is not "energy neutral," but rather an "energy efficiency negative" loophole for homes built with less than 15% fenestration area.

Under the 2015 IECC performance path methodology, a proposed design with 12% fenestration would be compared to a standard reference design with 12% fenestration – in other words the method would compare designs with the same area. However, under Virginia's current performance path, the standard reference design would remain at 15%, even if the proposed design included only 12% window area, permitting code users to reduce the efficiency of the fenestration, opaque envelope, or other measures without undertaking any offsetting improvement in efficiency.

The amount of fenestration specified for most buildings is likely to be driven by a variety of factors unrelated to energy efficiency, including design or cost considerations. We have seen no evidence that fenestration area is driven, to any significant degree, by energy efficiency in general, much less in order to obtain trade-off credit under the code. For multifamily or attached housing in particular, fenestration area will likely be limited by the location of the unit in the building or row, the orientation, or other factors. To set the fenestration area assumption at a fixed 15% for these homes creates a significant free ridership "credit" for low glazing area, even where a low glazing area would have existed anyway and higher glazing area would have been impractical or impossible.

Maintaining a reasonable level of efficiency in buildings with lower fenestration area percentages is especially important. Examples of homes with lower fenestration area include townhouses, condos, multifamily buildings, or low-income housing. Weaker thermal envelopes in homes that may be targeted to low-income populations could have an even bigger negative impact on the ability of owners or renters to pay monthly energy bills.

The current dynamic approach to setting fenestration area in the performance path has been successfully applied since the 2006 edition of the IECC, and has been adopted by nearly every other state that has adopted the IECC. We recommend adopting the performance path fenestration area assumption as published in the 2015 IECC to help ensure reasonable energy performance in homes with below-average fenestration area.

Cost Impact: This proposal will only increase the cost of construction to the extent that a builder would have used the fenestration area trade-off in the 2012 Virginia Energy Conservation Code to reduce the efficiency of the envelope in homes with less than 15% fenestration area.

Public Comments (0)

Workgroup Recommendation

Workgroup 2 Recommendation Recommendation: Non-Consensus Final

Workgroup 2 Reason: None

Workgroup 3 Recommendation Recommendation: Non-Consensus Final

Workgroup 3 Reason: None

Board Decision

None

Board Decisions

- Approved**
- Approved with Modifications**
- Carryover**
- Disapproved**
- None**

CE-R405.5.2 cdpVA-15

CE-R405.5.2 cdpVA-15 - PRIOR PROPOSAL

Proponent : Eric Lacey, Representing Responsible Energy Codes Alliance
(eric@reca-codes.com)

2012 Virginia Energy Conservation Code

(DHCD Staff Note: Proponent confirmed corresponding changes to be made to IRC energy provisions)

**TABLE R405.5.2(1)
SPECIFICATIONS FOR THE STANDARD REFERENCE AND PROPOSED DESIGNS**

BUILDING COMPONENT	STANDARD REFERENCE DESIGN	PROPOSED DESIGN
Above-grade walls	Type: mass wall if proposed wall is mass; otherwise wood frame. Gross area: same as proposed <i>U</i> -factor: from Table R402.1.3 Solar absorptance = 0.75 Remittance = 0.90	As proposed As proposed As proposed As proposed As proposed
Basement and crawl space walls	Type: same as proposed Gross area: same as proposed <i>U</i> -factor: from Table R402.1.3 , with insulation layer on interior side of walls.	As proposed As proposed As proposed
Above-grade floors	Type: wood frame Gross area: same as proposed <i>U</i> -factor: from Table R402.1.3	As proposed As proposed As proposed
Ceilings	Type: wood frame Gross area: same as proposed <i>U</i> -factor: from Table R402.1.3	As proposed As proposed As proposed
Roofs	Type: composition shingle on wood sheathing Gross area: same as proposed Solar absorptance = 0.75 Emittance = 0.90	As proposed As proposed As proposed As proposed
Attics	Type: vented with aperture = 1 ft ² per 300 ft ² ceiling area	As proposed
Foundations	Type: same as proposed foundation wall area above and below grade and soil characteristics: same as proposed.	As proposed As proposed
Doors	Area: 40 ft ² Orientation: North <i>U</i> -factor: same as fenestration from Table R402.1.3 .	As proposed As proposed As proposed

Glazing ^a	Total area ^b = is 15% of the conditioned floor area. (a) <u>The proposed glazing area, where the proposed glazing area is less than 15 percent of conditioned floor area</u> (b) <u>15 percent of the conditioned floor area, where the proposed glazing area is 15 percent or more of the conditioned floor area</u>	As proposed
	Orientation: equally distributed to four cardinal compass orientations (N, E, S & W).	As proposed
	U-factor: from Table N1102.1.3 (R402.1.3).	As proposed
	SHGC: From Table N1102.1.1 (R402.1.1) except that for climates with no requirement (NR) SHGC = 0.40 shall be used.	As proposed
	Interior shade fraction: 0.92-(0.21 x SHGC for the standard reference design)	0.92-(0.21 x SHGC as proposed)
	External shading: none	As proposed
	Skylights	None
Thermally isolated sunrooms	None	As proposed

Reason: Virginia currently assumes a fixed 15% fenestration area in its performance path, in direct conflict with every edition of the IECC since 2006 (and Virginia's previous Uniform Code). This results in an approximately **1.6% to 3.2% reduction in energy efficiency** for below-average glazed homes, as compared to a scenario in which Virginia applied the glazing area assumption as published in the IECC.

By establishing a fixed 15% fenestration area in the standard reference design, homes with less than 15% glazing in the actual design would be able to reduce (trade off) the efficiency measures in the rest of the home with the automatic free credit created by the difference in efficiency between the less efficient fenestration and more efficient opaque wall requirements. Virginia's current 15% fixed glazing area assumption results in a net reduction in energy efficiency, as compared to the performance compliance path applied in the IECC and in nearly every other state in the country.

To be clear, the 15% fixed glazing area is not "energy neutral," but rather an "energy efficiency negative" loophole for homes built with less than 15% fenestration area.

Under the 2015 IECC performance path methodology, a proposed design with 12% fenestration would be compared to a standard reference design with 12% fenestration - in other words the method would compare designs with the same area. However, under Virginia's current performance path, the standard reference design would remain at 15%, even if the proposed design included only 12% window area, permitting code users to reduce the efficiency of the fenestration, opaque envelope, or other measures without undertaking any offsetting improvement in efficiency.

The amount of fenestration specified for most buildings is likely to be driven by a variety of factors unrelated to energy efficiency, including design or cost considerations. We have seen no evidence that fenestration area is driven, to any significant degree, by energy efficiency in general, much less in order to obtain trade-off credit under the code. For multifamily or attached housing in particular, fenestration area will likely be limited by the location of the unit in the building or row, the orientation, or other factors. To set the fenestration area assumption at a fixed 15% for these homes creates a significant free ridership "credit" for low glazing area, even where a low glazing area would have existed anyway and higher glazing area would have been impractical or impossible.

Maintaining a reasonable level of efficiency in buildings with lower fenestration area percentages is especially important. Examples of homes with lower fenestration area include townhouses, condos, multifamily buildings, or low-income housing. Weaker thermal envelopes in homes that may be targeted to low-income populations could have an even bigger negative impact on the ability of owners or renters to pay monthly energy bills.

The current dynamic approach to setting fenestration area in the performance path has been successfully applied since the 2006 edition of the IECC, and has been adopted by nearly every other state that has adopted the IECC. We recommend adopting the performance path fenestration area assumption as published in the 2015 IECC to help ensure reasonable energy performance in homes with below-average fenestration area.

Cost Impact: This proposal will only increase the cost of construction to the extent that a builder would have used the fenestration area trade-off in the 2012 Virginia Energy Conservation Code to reduce the efficiency of the envelope in homes with less than 15% fenestration area.

Workgroup Recommendation

Workgroup 2 Recommendation Recommendation: Non-Consensus Final

Workgroup 2 Reason: None

Workgroup 3 Recommendation Recommendation: Non-Consensus Final

Workgroup 3 Reason: None

Board Decision

None

CE-R405.5.2 cdpVA-15

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CR-E3902.16 cdpVA-15

Proponent : Haywood Kines (hkines@pwcgov.org)

2012 Virginia Residential Code

~~E3902.12 Arc-fault protection of bedroom outlets.~~

~~All branch circuits that supply 120-volt, single phase, 15-ampere and 20-ampere outlets installed in bedrooms shall be protected by a combination type arc-fault circuit interrupter installed to provide protection of the branch circuit.~~

Exceptions:

- ~~1. Where an outlet branch circuit Type AFCI is installed at the first outlet to provide protection for the remaining portion of the branch circuit, the portion of the branch circuit between the branch circuit overcurrent device and the first outlet shall be installed with metal outlet and junction boxes and RMC, IMC, EMT, Type MC or steel armored Type AC cables meeting the requirements of Section [E3908.8](#).~~
- ~~2. Where an outlet branch circuit Type AFCI is installed at the first outlet to provide protection for the remaining portion of the branch circuit, the portion of the branch circuit between the branch circuit overcurrent device and the first outlet shall be installed with metal or nonmetallic conduit or tubing that is encased in not less than 2 inches (51 mm) of concrete.~~
- ~~3. AFCI protection is not required for an individual branch circuit supplying only a fire alarm system where the branch circuit is wired with metal outlet and junction boxes and RMC, IMC, EMT or steel sheathed armored cable Type AC, or Type MC meeting the requirements of Section [E3908.8](#).~~

2015 International Residential Code

E3902.16 Arc-fault circuit-interrupter protection. Branch circuits that supply 120-volt, single-phase, 15- and 20-ampere outlets installed in ~~kitchens, family rooms, dining rooms, living rooms, parlors, libraries, dens, bedrooms, sunrooms, recreations rooms, closets, hallways, laundry areas and similar rooms or areas~~ all dwelling units shall be protected by any of the following:

1. A listed combination-type arc-fault circuit interrupter, installed to provide protection of the entire branch circuit.
2. A listed branch/feeder-type AFCI installed at the origin of the branch-circuit in combination with a listed outlet branch-circuit type arc-fault circuit interrupter installed at the first outlet box on the branch circuit. The first outlet box in the branch circuit shall be marked to indicate that it is the first outlet of the circuit.
3. A listed supplemental arc protection circuit breaker installed at the origin of the branch circuit in combination with a listed outlet branch-circuit type arc-fault circuit

interrupter installed at the first outlet box on the branch circuit where all of the following conditions are met:

- 3.1 The branch-circuit wiring shall be continuous from the branch-circuit overcurrent device to the outlet branch-circuit arc-fault circuit interrupter.
 - 3.2 The maximum length of the branch-circuit wiring from the branch-circuit overcurrent device to the first outlet shall not exceed 50 feet (15.2 m) for 14 AWG conductors and 70 feet (21.3 m) for 12 AWG conductors.
 - 3.3 The first outlet box on the branch circuit shall be marked to indicate that it is the first outlet on the circuit.
4. A listed outlet branch-circuit type arc-fault circuit interrupter installed at the first outlet on the branch circuit in combination with a listed branch-circuit overcurrent protective device where all of the following conditions are met:
- 4.1 The branch-circuit wiring shall be continuous from the branch-circuit overcurrent device to the outlet branch-circuit arc-fault circuit interrupter.
 - 4.2 The maximum length of the branch-circuit wiring from the branch-circuit overcurrent device to the first outlet shall not exceed 50 feet (15.2 m) for 14 AWG conductors and 70 feet (21.3 m) for 12 AWG conductors.
 - 4.3 The first outlet box on the branch circuit shall be marked to indicate that it is the first outlet on the circuit.
5. Where metal outlet boxes and junction boxes and RMC, IMC, EMT, Type MC or steel-armored Type AC cables meeting the requirements of Section E3908.8, metal wireways or metal auxiliary gutters are installed for the portion of the branch circuit between the branch-circuit overcurrent device and the first outlet, a listed outlet branch-circuit type AFCI installed at the first outlet shall be considered as providing protection for the remaining portion of the branch circuit.
6. Where a listed metal or nonmetallic conduit or tubing or Type MC cable is encased in not less than 2 inches (50.8 mm) of concrete for the portion of the branch circuit between the branch-circuit overcurrent device and the first outlet, a listed outlet branch-circuit type AFCI installed at the first outlet shall be considered as providing protection for the remaining portion of the branch circuit.

Exceptions:

1. AFCI protection is not required for an individual branch circuit supplying only a fire alarm system where the branch circuit is wired with metal outlet and junction boxes and RMC, IMC, EMT or steel-sheathed armored cable Type AC or Type MC meeting the requirements of Section E3908.8.
2. AFCI protection is not required for branch circuits feeding receptacles that are protected with ground-fault circuit interrupter protection as required by Sections 3902.1 through 3902.10.

Reason:

DHCD Staff Note: This proposal was carried over from the proposed phase and reassigned to WG3. The proposed phase proposal with the workgroup disposition and reasons may be viewed at this link: [Proposed Phase Proposal](#)

Proponent's Reason Statement:

According to the U.S. Fire Administration's National Fire Incident Reporting System, an estimated 372,900 residential building fires were reported to fire departments within the United States each year between 2011-2013 and caused an estimated 2,530 deaths, 13,125 injuries and \$7 billion in property loss. The report also indicated the second leading cause of residential fire death in 2013 was electrical malfunction. 84 percent of all electrical fires occurred in 1&2 family dwellings. The leading factors contributing to the ignition of residential building fires were due to electrical malfunction (41%), unspecified short-circuit arcing (25%), and short-circuit arcing from defective or worn insulation (12%). The statistics show that more than 8.4 percent of all electrical fires occur in the kitchen and/or cooking area of a home, 4.5 percent in laundry areas, and another 7 percent involve appliances. [USFA Reports Attached]

These numbers hold true for the Commonwealth of Virginia. Between the years 2013-2015, an average of 230 residential fires each year were attributed to electrical distribution. This resulted in an average of 3 civilian deaths, 10 civilian injuries, and 9 fire service injuries. [VFIRS Annual Reports Attached]

Cost Impact: This proposal will increase the cost of construction. Under these provisions, a typical 2,500 sq.ft. dwelling would be required to have approximately 10-12 AFCI devices installed to protect the branch-circuits supplying the named rooms and spaces. This is an increase of 5-7 AFCI devices as compared to the current requirement for AFCI protection of bedroom circuits alone. The increased cost is the difference between a standard circuit breaker and an AFCI circuit breaker. The average cost of an AFCI circuit breaker in Virginia is approximately \$45.00 each. The average cost of a standard circuit breaker in Virginia is approximately \$15.00 each. This is a difference of \$30 per device. A increase of 5-7 AFCI devices would result in an increase of \$150.00 to \$210.00 per dwelling. There is no increased cost of time or labor to install AFCI devices. The increased cost is minimal as compared to the loss from fires that could be prevented by AFCI protection.

Public Comments (2)

By **Vernon Hodge**

09-29-2016 14:12:58

DHCD Staff Note: Public comment submitted by email is attached.

Attachment: Email - Arc-fault(4a).pdf

By **Vernon Hodge**

09-29-2016 14:11:41

DHCD Staff Note: Public comment submitted by email is attached.

Attachment: Email - Arc-fault(3a).pdf

CR-E3902.16(2) cdpVA-15 - PRIOR PROPOSAL

Proponent : Haywood Kines (hkines@pwcgov.org)

2012 Virginia Residential Code

~~E3902.12 Arc-fault protection of bedroom outlets.~~

~~All branch circuits that supply 120-volt, single phase, 15-ampere and 20-ampere outlets installed in bedrooms shall be protected by a combination type arc-fault circuit interrupter installed to provide protection of the branch circuit.~~

Exceptions:

- ~~1. Where an outlet branch circuit Type AFCI is installed at the first outlet to provide protection for the remaining portion of the branch circuit, the portion of the branch circuit between the branch circuit overcurrent device and the first outlet shall be installed with metal outlet and junction boxes and RMC, IMC, EMT, Type MC or steel armored Type AC cables meeting the requirements of Section [E3908.8](#).~~
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- ~~3. AFCI protection is not required for an individual branch circuit supplying only a fire alarm system where the branch circuit is wired with metal outlet and junction boxes and RMC, IMC, EMT or steel sheathed armored cable Type AC, or Type MC meeting the requirements of Section [E3908.8](#).~~

2015 International Residential Code

E3902.16 Arc-fault circuit-interrupter protection. Branch circuits that supply 120-volt, single-phase, 15- and 20-ampere outlets installed in ~~kitchens, family rooms, dining rooms, living rooms, parlors, libraries, dens, bedrooms, sunrooms, recreations rooms, closets, hallways, laundry areas and similar rooms or areas~~ all dwelling units shall be protected by any of the following:

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interrupter installed at the first outlet box on the branch circuit where all of the following conditions are met:

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2. AFCI protection is not required for branch circuits feeding receptacles that are protected with ground-fault circuit interrupter protection as required by Sections 3902.1 through 3902.10.

Reason:

According to the U.S. Fire Administration's National Fire Incident Reporting System, an estimated 372,900 residential building fires were reported to fire departments within the United States each year between 2011-2013 and caused an estimated 2,530 deaths, 13,125 injuries and \$7 billion in property loss. The report also indicated the second leading cause of residential fire death in 2013 was electrical malfunction. 84 percent of all electrical fires occurred in 1&2 family dwellings. The leading factors contributing to the ignition of residential building fires were due to electrical malfunction (41%), unspecified short-circuit arcing (25%), and short-circuit arcing from defective or worn insulation (12%). The statistics show that more than 8.4 percent of all electrical fires occur in the kitchen and/or cooking area of a home, 4.5 percent in laundry areas, and another 7 percent involve appliances. [USFA Reports Attached]

These numbers hold true for the Commonwealth of Virginia. Between the years 2013-2015, an average of 230 residential fires each year were attributed to electrical distribution. This resulted in an average of 3 civilian deaths, 10 civilian injuries, and 9 fire service injuries. [VFIRS Annual Reports Attached]

Cost Impact: This proposal will increase the cost of construction. Under these provisions, a typical 2,500 sq.ft. dwelling would be required to have approximately 10-12 AFCI devices installed to protect the branch-circuits supplying the named rooms and spaces. This is an increase of 5-7 AFCI devices as compared to the current requirement for AFCI protection of bedroom circuits alone. The increased cost is the difference between a standard circuit breaker and an AFCI circuit breaker. The average cost of an AFCI circuit breaker in Virginia is approximately \$45.00 each. The average cost of a standard circuit breaker in Virginia is approximately \$15.00 each. This is a difference of \$30 per device. A increase of 5-7 AFCI devices would result in an increase of \$150.00 to \$210.00 per dwelling. There is no increased cost of time or labor to install AFCI devices. The increased cost is minimal as compared to the loss from fires that could be prevented by AFCI protection.

Workgroup Recommendation

Workgroup 3 Recommendation Recommendation: Non-Consensus Final

Workgroup 3 Reason: None

Board Decision

None

CR-E3902.16(2) cdpVA-15

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

From: Amy Acton

Received: 9/13/2016 3:54 PM

To: yy EadPortalGovCr

Subject: Time Sensitive – Protect Virginia Lives from Electrical Fires – Expand AFCI use

Dear Governor McAuliffe and Virginia Board of Housing and Development members: It has come to my attention that the Virginia Board of Housing and Development is currently reviewing proposals and information related to the National Electrical Code (NEC) requirement for installation of a fire prevention technology called arc fault circuit interrupters (AFCIs) in new home building. I understand that AFCIs have been saving lives by preventing electrical fires from starting in Virginia for many years now, but that a powerful special interest group is working to prevent that required use from expanding beyond bedrooms and into other areas of the home including kitchens and laundry areas. As the executive director of the Phoenix Society for Burn Survivors, representing thousands of burn survivors and their families in the U.S., along with burn unit nurses, doctors, hospitals and fire services personnel nationwide, including more than 100 individuals in Virginia, I want you to know that we very much support expansion of AFCI use in your state and oppose measures that will leave Virginia residents exposed to dangerous and deadly electrical fires. AFCIs are currently required in 48 states and many have adopted the 2014 NEC. I understand you are hoping to update your current code requirements that are more than a decade old. I know that each of you values what is best for the safety of your residents. We strongly support improving current AFCI requirements and bringing your electrical safety codes up to the level Virginia residents deserve. AFCIs have been protecting the public from deadly electrical fires since they were introduced as an NEC requirement in 1999. As you know, they detect dangerous arcing or sparking in wiring behind walls or through damaged electrical cords and shut down the electrical system before an electrical fire can start. Since the introduction of the AFCI requirement and other advancements in fire prevention technology, the number of electrical fires in our country has decreased. Still, the National Fire Protection Association reports each year there around 47,000 electrical fires resulting in nearly 500 deaths and many more burn injuries. Fire chiefs and other fire service personnel will tell you that AFCIs and other fire prevention technologies and construction materials are helping decrease these numbers. Keeping AFCI use anchored at a decade-old requirement level is bad policy and it will put future Virginians in danger of injuries and worse from electrical fires. Other states have stood up to these types of challenges and said no. Here are just a few recent examples: Florida: • <http://www.gainesville.com/news/20160404/after-emotional-pleas-board-keeps-fire-safety-devices-in-new-homes/1> • <http://mycbs4.com/news/local/burn-victim-shares-her-story> Alabama: • <http://abc3340.com/fighting-for-you-possible-changes-to-home-electrical-code-raising-an-alarm> As a burn survivor myself, I can tell you the physical and emotional impact a fire leaves on survivors and their families lasts a lifetime. We do not wish another individual or family to have to go through any of this. I embolden each of you to continue to stand up for the lives of your residents and do what you can to expand AFCI use by adopting the current 2014 NEC requirements. Protect Virginia lives. I thank you for your consideration.

Respectfully, Amy Acton, RN, BSN Executive Director Phoenix Society for Burn Survivors
1835 RW Berends Dr SW Grand Rapids, MI 49519 616-458-2773 or 800-888-2876
www.phoenix-society.org www.facebook.com/PhoenixSocietyforBurnSurvivors The Phoenix Society for Burn Survivors is the leading national non-profit serving the burn survivor community. We are a community committed to the vision of ensuring that every burn survivor and their loved ones have the necessary support and resources on the road to recovery. For more than 30 years we have worked with survivors, families, healthcare professionals, burn centers, the fire industry and our donors to: support burn recovery, improve the quality of burn care, and prevent burn injury.

current AFCI requirements and bringing your electrical safety codes up to the level Virginia residents deserve. AFCIs have been protecting the public from deadly electrical fires since they were introduced as an NEC requirement in 1999. As you know, they detect dangerous arcing or sparking in wiring behind walls or through damaged electrical cords and shut down the electrical system before an electrical fire can start. Since the introduction of the AFCI requirement and other advancements in fire prevention technology, the number of electrical fires in our country has decreased. Still, the National Fire Protection Association reports each year there are around 47,000 electrical fires resulting in nearly 500 deaths and many more burn injuries. Fire chiefs and other fire service personnel will tell you that AFCIs and other fire prevention technologies and construction materials are helping decrease these numbers. Keeping AFCI use anchored at a decade-old requirement level is bad policy and it will put future Virginians in danger of injuries and worse from electrical fires. Other states have stood up to these types of challenges and said no. Here are just a few recent examples: Florida: • <http://www.gainesville.com/news/20160404/after-emotional-pleas-board-keeps-fire-safety-devices-in-new-homes/1> • <http://mycbs4.com/news/local/burn-victim-shares-her-story> Alabama: • <http://abc3340.com/fighting-for-you-possible-changes-to-home-electrical-code-raising-an-alarm> As a burn survivor myself, I can tell you the physical and emotional impact a fire leaves on survivors and their families lasts a lifetime. We do not wish another individual or family to have to go through any of this. I embolden each of you to continue to stand up for the lives of your residents and do what you can to expand AFCI use by adopting the current 2014 NEC requirements. Protect Virginia lives. I thank you for your consideration.

Respectfully, Amy Acton, RN, BSN Executive Director Phoenix Society for Burn Survivors
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www.phoenix-society.org www.facebook.com/PhoenixSocietyforBurnSurvivors The Phoenix Society for Burn Survivors is the leading national non-profit serving the burn survivor community. We are a community committed to the vision of ensuring that every burn survivor and their loved ones have the necessary support and resources on the road to recovery. For more than 30 years we have worked with survivors, families, healthcare professionals, burn centers, the fire industry and our donors to: support burn recovery, improve the quality of burn care, and prevent burn injury.

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

From: Angela Murphy

Received: 9/14/2016 9:36 AM

To: yy EadPortalGovCr

Subject: AFCI fire prevention

Dear Sir or Madam, I am writing to you on behalf of The Phoenix Society and future home buyers all over Virginia regarding fire prevention. AFCI's can dramatically lower the risk of electrical fires in homes. Currently they are only required in the bedrooms of a home but that is not enough. Kitchens and laundry rooms (which are more frequently found on the main level or second story of newer homes) should also be required to have this technology installed. I am the mother of a burn victim and I can tell you there isn't a day that goes by that I don't think about "what if I could go back and stop this from happening" well this is YOUR chance to possibly stop a burn from happening. Please use the power of the office you have been given to save lives and properties. Thank you for taking the time to listen to my concerns. Sincerely, Angela Fredericksburg, VA

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CR-R313.1 cdpVA-15

R313.1, R313.2

Proponent : Ned Yost (nedjanet@gmail.com)

2012 Virginia Residential Code

R313.1 Townhouse automatic fire sprinkler systems. Notwithstanding the requirements of Section 103.8, where installed, an automatic residential fire sprinkler system for townhouses shall be designed and installed in accordance with NFPA 13D or Section P2904.

Exception Exceptions:

1. Townhouses designed or developed and marketed to senior citizens 55 years of age or older shall be equipped with an automatic residential fire sprinkler system in accordance with NFPA 13D or Section P2904.

2. An automatic residential fire sprinkler system shall not be required when additions or alterations are made to existing townhouses that do not have an automatic residential fire sprinkler system installed.

R313.2 One-family and two-family dwellings automatic fire sprinkler systems. Notwithstanding the requirements of Section 103.8, where installed, an automatic residential fire sprinkler system shall be designed and installed in accordance with NFPA 13D or Section P2904.

Exception Exceptions:

1. One- and two-family dwellings designed or developed and marketed to senior citizens 55 years of age or older shall be equipped with an automatic residential fire sprinkler system in accordance with NFPA 13D or Section P2904.

2. An automatic residential fire sprinkler system shall not be required for additions or alterations to existing buildings that are not already provided with an automatic residential fire sprinkler system.

Reason: Summary Statement: Code requirements for life safety measures to protect elderly residents living independently in one and two-family dwellings designed or developed and marketed to senior citizens 55 years of age or older do not address the life safety risks to which such older residents are exposed.

An example from Westminster-Canterbury of the Blue Ridge (WCBR), a Continuing Care Retirement Community (CCRC)

In compliance with applicable codes, the principal multi-story building at WCBR is sprinklered. In contrast, there are no sprinklers in the thirty-three, one and two-family, frame and brick cottages, Independent Living (IL) units, home to 80 residents as of July, 2016. There is no difference in the ages or physical condition of the residents living independently between those in the principal sprinklered building and those in the unsprinklered cottages. All the structures are owned by

WCBR. Without formally so stating, WCBR has embraced the concept of "Aging in Place" for residents in its IL units, both apartments and cottages.

The 2012 Int'l Fire Code Commentary, Section 903.6 page 9-33, states:

"According to the NFPA report on Facilities that Care for the Aged, 'The death rate per 1,000 fires was 82% lower when automatic suppression systems were present'... Residents of these facilities are particularly vulnerable. People over 65 face twice the risk of dying in a home fire as the general population. The risk increases with age. Consequently the elderly are considered a high-risk population." In the nine Jefferson Cottages at WCBR, my neighborhood, we currently have two residents over 90 and another dependent upon a wheelchair. All are over 65.

Kitchen Fire in WCBR's Jefferson Cottage 237, Sept. 8, 2016, approx. 9:44 AM

Cottage 237 is occupied by Liz Bodenschatz, widow, age 93, a resident since 2000, living independently. She uses a walker to move around in her cottage. I encountered Liz in WCBR's Healthcare Unit 3 the morning of Sept. 8th, where she had arrived for a two night stay while her cottage was restored. From notes I made that morning, she said "turned the stove on to heat water for tea, and the apartment stove burst into flame". WCBR's front desk recorded the emergency call arriving at 9:44 AM.

From statistics compiled by VA's Dept. of Fire Programs, over the five year period from 2011 thru 2015, there have been 12,602 kitchen fires, averaging 10.8% of all fires reported during that period.

Following my visit with Liz Bodenschatz on Sept. 8th, I called the Albemarle Fire Marshall's office for a copy of the fire report I planned to submit with this proposal. I learned "that Albemarle County Fire Rescue was not called to assist with Elizabeth Bodenschatz' kitchen fire on 9/8/16. The WCBR staff was able to handle the situation", according to an email exchange on 10/26/16 between Holly Bittle of the Fire Marshall's office and Theresa Thomas, WCBR's Director of Facilities Services.

Survey of random sample of forty-three CCRC retirement communities in VA to establish extent of exposure. (in process)

Recommendation:

The next revisions to the VA Residential Code should include provisions that one and two-family dwellings designed or developed and marketed to senior citizens 55 years of age or older shall be equipped with appropriate automatic residential fire sprinkler systems.

DHCD Staff Note: The proponent requested staff to attach public comment which may be found at the links below:

[PC 1](#)

[PC 2](#)

[PC 3](#)

Cost Impact: The "Home Fire Sprinkler Cost Assessment-2013" prepared by Newport Partners for The Fire Protection Research Foundation, which supports NFPA's mission, provides recent costs described as "sprinklered square feet" (sprinklered ft²) to reflect the total area of sprinklered spaces, including basements, garages and attics when applicable. "This term is used to better characterize the cost of sprinklers per unit of space which is covered by the system..." (from footnote, page 2). The Assessment-2013 reports that in the five years between 2008 and 2013, the median cost of sprinklered ft² reduced from \$1.42 to \$1.22. The cost data for 2013 was developed from 51 homes in 17 communities, and benefitted from regulations requiring sprinklers in residences in CA and MD, each of which contributed four homes to the total of 51 homes. Assessment-2013 also reports that the statewide requirements in CA and MA further reduced the sprinklered ft² cost to \$1.16.

Specific Example from WCBR (in process)

Public Comments (2)

By **Ned Yost**

06-20-2017 21:03:20

Letter of Support from Jefferson Area Board for Aging - JABA, serving five counties around Charlottesville

Letter of Support from AARP VA, which "promotes health, safety, and environmental sustainability" throughout VA

By **Ned Yost**

06-20-2017 21:03:17

Letter of Support from Jefferson Area Board for Aging - JABA, serving five counties around Charlottesville

Letter of Support from AARP VA, which "promotes health, safety, and environmental sustainability" throughout VA

Workgroup Recommendation

Workgroup 2 Recommendation Recommendation: Non-Consensus Final

Workgroup 2 Reason: 6/13/17 Combined workgroup meeting 1, 2, 3, and 4/ non consensus
4/11/17 Combined workgroup meeting 1, 2, 3, and 4/ Carry over

Workgroup 3 Recommendation Recommendation: Non-Consensus Final

Workgroup 3 Reason: 6/13/17 Combined workgroup meeting 1, 2, 3, and 4-non consensus
4/11/17 Combined workgroup meeting 1, 2, 3, and 4-Carry over

Board Decision

None

Board Decisions

- Approved**
- Approved with Modifications**
- Carryover**
- Disapproved**
- None**

CR-R313.1 cdpVA-15

E. D. "Ned" Yost
250 Pantops Mtn Rd #23, Charlottesville, VA 22911
434-972-2363; Fax: 972-2762; NedJanet@gmail.com
cell: 216-469-7501

Mar. 18, 2017

Introduction:

My name is Ned Yost. For the last eleven years my wife and I have been residents at the Westminster-Canterbury retirement community in Charlottesville.

Representation:

I represent no organization. However I am the undesignated and unofficial representative of elderly VA residents whose lives are at risk, living in unsprinklered one and two-family dwellings in retirement communities throughout VA. Residents in the principal multi-story buildings in these communities already enjoy extensive life safety protection by the codes you have adopted for construction and fire safety.

Exposure:

I quote from the NFPA report on Facilities that Care for the Aged, "Residents in these facilities are particularly vulnerable. People over 65 face twice the risk of dying in a home fire as the general population. The risk increases with age.. Consequently the elderly are considered a high-risk population."

Proposal:

My proposed changes to the 2012 VA Residential Code state that "one and two-family dwellings designed or developed and marketed to senior citizens 55 years of age or older shall be equipped with an automatic residential fire sprinkler system in accordance with NFPA 13D or Section P2904".

Thanks: I commend this Board for its system that permits the public to bring proposals such as mine to the Board.



*674 Hillsdale Dr., Suite 9
Charlottesville, VA 22901*

Board of Housing and Community Development
600 E. Main Street
Suite 300
Richmond, VA 23219

John Ainslie, Jr. - Chairman
Kyle Flanders - Secretary

RE: Proposed Changes to Residential Building Codes

Dear Mr. Ainslie and Mr. Flanders,

This letter is intended to show our support, as an organization, for the proposed change to the Virginia Residential Code to require automated fire sprinkler systems in dwellings designed or developed and marketed to senior citizens 55 years of age or older.

The proposed changes as outlined below to sections R313.1 and R313.2 are consistent with our organization's mission to promote, establish and preserve sustainable communities for healthy aging that benefits individuals and families of all ages.

The proposed changes are as follows:

R313.1 Townhouse automatic fire sprinkler systems. Notwithstanding the requirements of Section 103.8, where installed, an automatic residential fire sprinkler system for townhouses shall be designed and installed in accordance with NFPA 13D or Section P2904.

Exceptions:

1. Townhouses designed or developed and marketed to senior citizens 55 years of age or older shall be equipped with an automatic residential fire sprinkler system in accordance with NFPA 13D or Section P2904.

2. An automatic residential fire sprinkler system shall not be required when additions or alterations are made to existing townhouses that do not have an automatic residential fire sprinkler system installed.

R313.2 One-family and two-family dwellings automatic fire sprinkler systems. Notwithstanding the requirements of Section 103.8, where installed, an automatic residential fire sprinkler system shall be designed and installed in accordance with NFPA 13D or Section P2904.

Exceptions:

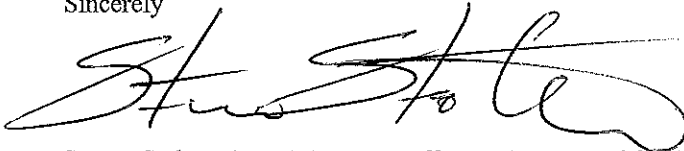
1. One- and two-family dwellings designed or developed and marketed to senior citizens 55 years of age or older shall be equipped with an automatic residential fire sprinkler system in accordance with NFPA 13D or Section P2904.

2. An automatic residential fire sprinkler system shall not be required for additions or alterations to existing buildings that are not already provided with an automatic residential fire sprinkler system.

These proposed changes will provide a much needed life safety improvement for future residential developments designed for the elderly and is consistent with the aging in place concept that is currently being promoted nationally. Due to the limited mobility of many seniors as the age in their homes, the addition of fire sprinkler systems will provide an added level of safety to the residents by suppressing or extinguishing fires before they have time to spread and provide added time for residents and emergency response crews to evacuate buildings.

We happily support and promote these changes and I encourage you to visit our website www.jabacares.org to learn more about our organization, our mission and goals. If you have any further questions, please feel free to contact me.

Sincerely

A handwritten signature in black ink, appearing to read "Steven Stokes". The signature is fluid and cursive, with a large, sweeping initial "S".

Steven Stokes, Asset Manager, Jefferson Area Board for Aging.

Cc: Ed and Janet Yost, 250 Pantops Mountain Road, Charlottesville, VA 22911



707 E. Main Street, #910 | Richmond, VA 23219
1-866-542-8164 | Fax: 804-819-1923 | TTY: 1-877-434-7598
aarp.org/va | aarpva@aarp.org | twitter: @AARPVa
facebook.com/AARPVirginia

June 9, 2017

Board of Housing and Community Development
John Ainslie, Jr. – Chair
Kyle Flanders – Secretary
600 East Main Street
Suite 300
Richmond, VA 23219

Good afternoon, Mr. Ainslie and Mr. Flanders:

Mr. Ned Yost of Charlottesville, VA, contacted AARP Virginia in regards to changes he has recently proposed to the Virginia Residential Code through the cdpVA program. These changes to CR-R313.1 and CR-R313.2 are to be considered at the cdpVA Workshop on Tuesday, June 13, 2017.

AARP’s general principles of livable communities **promote health, safety, and environmental sustainability**—communities should support the right of individuals from all incomes and backgrounds to live safe and healthy lives. We believe Mr. Yost’s proposed changes fall in line with these principles.

We suggest additional language to clarify that Mr. Yost’s proposal only affects new construction for senior housing.

Noting clarification that this affects only new construction for senior housing, AARP Virginia supports Mr. Yost’s proposal.

Best regards,

Natalie Snider
Program Specialist
O: 804-344-3063
Email: nsnider@aarp.org

cc: E. D. “Ned” Yost



NATIONAL FIRE PROTECTION ASSOCIATION

The leading information and knowledge resource on fire, electrical and related hazards

James T. Pauley
President and CEO

June 12, 2017

John Ainslie, Jr.
Chairman, Board of Housing and Community Development
600 E. Main Street, Suite 300
Richmond, VA 23219

RE: Proposal to Sprinkler Virginia's New Dwellings for Older Adults (Proposal # CR-R313.1 cdpVA-15)

Dear Mr. Ainslie:

On behalf of the National Fire Protection Association (NFPA), I would like to respond to a proposed change to the Virginia Residential Fire Code that would fire sprinkler new, one- and two-family homes designed and marketed for older adults. NFPA strongly supports the inclusion of the residential sprinkler requirements in the model building and fire codes. Since 2009, every edition of every model building code used in the U.S. calls for fire sprinklers in **ALL** residential properties. Removal or alteration of such provisions is in direct contrast to all model building and life safety codes, which have been developed through open and voluntary consensus processes by the leading code development organizations in this country.

Each year, approximately 2,500 people die in home fires. The risk of dying in a home fire decreases by approximately 80 percent when sprinklers are present. (Smoke alarms cut this risk by half.) Those residents especially at risk are children and older adults who can most benefit from the additional escape time provided by sprinkler protection. U.S. home structure fires surpass 350,000 each year and result in close to \$7 billion of property damage annually. Sprinkler protection has long been required in many types of buildings. The presence of sprinklers plays a significant role in limiting life and property loss when a fire occurs, reducing property damage by approximately 70 percent.

NFPA recommends the inclusion of residential fire sprinkler requirements as stated in the model codes, and we look forward to working with you to advance fire and life safety in the Commonwealth of Virginia.

Thank you for your consideration of these matters of public safety.

Sincerely,

A handwritten signature in black ink that reads 'James Pauley'.

James Pauley
President, National Fire Protection Association

cc: Kyle Flanders, Secretary, Board of Housing and Community Development
600 E. Mains St., Set 300, Richmond, VA, 23219

cc: E. D. "Ned" Yost
250 Pantops Mtn Rd #23, Charlottesville, VA 22911
seniorvost@gmail.com

E. D. "Ned" and Janet C. Yost
250 Pantops Mtn Rd., #23
Charlottesville, VA 22911-8686
434-972-2363; FAX: 972-2762; email: NedJanet@gmail.com

July 17, 2017

Board of Housing and Community Development
Richmond, VA

Ladies and Gentlemen,

This senior citizen appreciates the opportunity to reappear before you. I commend your sponsorship of the VA cdpaccess program that gives VA citizens the opportunity to bring their code change proposals thru a process that vets their concerns before the Board is asked to rule on them. Later in this process you will rule on my proposal to protect VA's senior citizens living in retirement communities in one and two-family dwellings. I ask you to approve the proposed code change, not only for its intrinsic merit, but also as this Board considers how best to manage its own risks.

City officials in Flint, Michigan, and Michigan state officials are facing the prospect of criminal charges because they did not make the necessary decisions and take steps to protect the health and lives of Flint's citizens. In London, England, various boards and officials face the prospect of criminal charges because they failed to consider the life safety risks created by the lack of sprinklers and the combustible cladding that led to the Grenfell Tower disaster. The public's awareness of the risks of fire increases with every new disaster.

No insurance this Board carries will be of any use to you if you face criminal charges following the injury or death of a senior citizen in a VA retirement community while living in a new one or two-family dwelling.

By your approval of the proposed code change, you will also send a message to VA's retirement communities that it is their responsibility to upgrade with sprinklers their existing one and two family dwellings.

Thank you,



E. D. "Ned" Yost
Senior Citizen

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CR-R802.2 cdpVA-15

Proponent : Charles Bajnai, Representing Chesterfield County
(bajnaic@chesterfield.gov)

2012 Virginia Residential Code

R802.2 Design and construction.

~~The framing details required in Section R802 apply. Roof and ceiling assembly shall provide continuous ties across the structure to roofs having a minimum slope of three units vertical in 12 units horizontal (25 percent slope) or greater prevent roof thrust from being applied to the supporting walls. Roof ceilings. The assembly shall be designed and constructed in accordance with the provisions of this chapter and Figures R606.11(1), R606.11(2) and R606.11(3) or in accordance with AFPA/NDS. Components of roof ceilings shall be fastened in accordance with Table R602.3(1).~~

R802.3 Ridge. A ridge board used to connect opposing rafters shall be not less than 1 inch (nominal) thickness and not less in depth than the cut end of the rafter. Where ceiling joist or rafter ties do not provide a continuous tie across the structure, a ridge beam shall be provided and supported on each end by a wall or girder.

R802.4 Rafters. Rafters shall be in accordance with this section.

R802.5R802.4.1 Allowable rafter spans.Rafter size.

~~Spans for rafters. Rafters shall be sized based on the rafter spans in accordance with Tables R802.5.1(1)R802.4.1(1) through R802.5.1(8)R802.4.1(8). Rafter spans shall be measured along the horizontal projection of the rafter. For other grades and species and for other loading conditions, refer to the AF&PA *Span Tables for Joists and Rafters*. The span of each rafter shall be measured along the horizontal projection of the rafter.~~

R802.3R802.4.2 Framing details.

~~Rafters shall be framed not more than 1-1/2" offset from each other to a ridge board or to directly opposite from each other with a collar tie, gusset plate as a tie or ridge strap in accordance with Table R602.3(1). Ridge board. Rafters shall be at least 1-inch (25 mm) nominal thickness and not less nailed to the top wall plates in depth than the cut end of the rafter. At all valleys and hips there shall be a valley or hip rafter not less than 2-inch (51 mm) accordance with Table R602.3(1) nominal thickness and not less in depth than the cut end of the rafter. Hip and valley rafters shall be supported at the ridge by a brace to a bearing partition or be designed to carry and distribute the specific load at that point. Where unless the roof pitch is less than three units vertical in 12 units horizontal (25 percent slope), structural members that support rafters and ceiling joists, such as ridge beams, hips and valleys, shall be designed as beams. required to comply with the uplift requirements of Section R802.11.~~

R802.4.3 Hips and valleys. Hip and valley rafters shall be not less than 2-inch

nominal thickness and not less in depth than the cut end of the rafter. Hip and valley rafters shall be supported at the ridge by a brace to a bearing partition or be designed to carry and distribute the specific load at that point.

R802.4.4 Rafter supports. Where the roof pitch is less than 3 units vertical in 12 units horizontal (25-percent slope), structural members that support rafters, such as ridges, hips and valleys, shall be designed as beams, and bearing shall be provided for rafters in accordance with R802.6.

R802.5.1R802.4.5 Purlins.

Installation of purlins to reduce the span of rafters is permitted as shown in Figure R802.5.1R802.4.5. Purlins shall be sized no less than the required size of the rafters that they support. Purlins shall be continuous and shall be supported by 2-inch by 4-inch (51 mm by 102 mm) braces installed to bearing walls at a slope not less than 45 degrees (0.785 rad) from the horizontal. The braces shall be spaced not more than 4 feet (1219 mm) on center and the unbraced length of braces shall not exceed 8 feet (2438 mm).

R802.4.6 Collar ties. Collar ties or ridge straps shall be connected in the upper third of the attic space in accordance with Table R602.3(1). Collar ties shall be not less than 1 inch by 4 inch (nominal), spaced not more than 4 feet on center.

R802.5 Ceiling joists. Ceiling joists shall be continuous across the structure or securely joined where they meet over interior partitions in accordance with this section.

-

R802.4R802.5.1 Allowable ceilingCeiling joist spansize.

Spans for ceilingCeiling joists shall be sized based on the joist spans in accordance with Tables ~~R802.4(1)~~R802.5.1(1) and ~~R802.4(2)~~R802.5.2(2). For other grades and species and for other loading conditions, refer to the *AF&PA Span Tables for Joists and Rafters*. AWC STJR.

R802.3.1R802.5.2 Ceiling joist and rafter connections.

Ceiling

Where ceilings joists andrun parallel to rafters, they shall be nailedconnected to each other in accordance with Table ~~R802.5.1(9)~~, and the rafter shall be nailed to rafters at the top wall plate in accordance with Table ~~R602.3(1)~~R802.5.2. Ceiling joists shall be continuous or securely joined in accordance with Table ~~R802.5.1(9)~~ where they meet over interior partitions and are nailed to adjacent rafters to provide a continuous tie across the building when such joists are parallel to the rafters.

Where ceiling joists are not connected to the rafters at the top wall plate, joists connected higher in the attic shall be installed as rafter ties, or rafter ties they shall be installed to provide a continuous tie. in the bottom third of the rafter height as rafter ties.

Where ceiling joists aredo not run parallel to rafters, rafter ties shall be installed. Rafter ties shall be a minimum of 2 inches by 4 inches (51 mm by 102 mm) (nominal), installed in accordance with the connection requirements in Table ~~R802.5.1(9)~~, or

~~connections of equivalent capacities shall be provided. Where ceiling joists or rafter ties are not provided, the ridge formed by these rafters shall be supported by a wall or girder designed in accordance with accepted engineering practice.~~

~~Collar ties or ridge straps to resist wind uplift shall be connected into the upper third of the attic space top plates in accordance with Table [R602.3\(1\)](#).~~

~~Collar ties. Each rafter shall be connected to the ceiling diaphragm with a minimum of 1 inch by 4 inches (25 mm by 102 mm) (nominal), spaced not more than 4 feet (1219 mm) on center.~~

~~2x4 kicker.~~

R802.3.2R802.5.2.1 Ceiling joists lapped.

Ends of ceiling joists shall be lapped a minimum of 3 inches (76 mm) or butted over bearing partitions or beams and toenailed to the bearing member. Where ceiling joists are used to provide resistance to rafter thrust, lapped joists shall be nailed together in accordance with Table [R802.5.1\(9\)](#)R802.5.2. and butted joists shall be tied together in a manner to resist such thrust. Joists that do not resist thrust shall be permitted to be nailed in accordance with Table [R602.3\(1\)](#).

R802.5.2.2 Rafter ties. Wood rafter ties shall be not less than 2 inches by 4 inches installed in accordance with Table R802.5.2 at each rafter. Other approved rafter tie methods shall be permitted.

R802.5.2.3 Blocking. Blocking shall be a minimum of utility grade lumber.

Reason: I rewrote Section R802.2 with the help of AWC. My proposal (RB310) was approved as modified by the ICC committee at the Louisville meeting.

This code proposal is a rewrite with minor technical changes and some new charging language. It is intended to reorganize the roof and ceiling assembly by separating out the requirements of the components:

R802.3 Ridge

R802.4 Rafters

R802.5 Ceiling joists

1. The current text is rather scrambled and the major components intermingled. It is not easy to understand. The IRC and the IBC appear to have different requirements.
2. Section R802.2 says that section R802. only apply to roofs with a slope of 3:12 or greater. That infers that roofs with less than 3:12 are not governed by the VA-IRC. I consulted with AWC and discussed what the intentions were for "flat" rafters. They said the existing tables are fine for flat roofs.
3. The IBC talks about rafter ties at a maximum of 48" o.c., while the IRC is silent on rafter ties. Again AWC wanted rafter ties on each rafter.

Cost Impact: There should not be any cost impact. The code section was rewritten for

clarification and ease of reading.

Workgroup Recommendation

Workgroup 3 Recommendation Recommendation: Non-Consensus Final

Workgroup 3 Reason: Combined workgroup meeting 1, 2, 3, and 4

Board Decision

None

Board Decisions

- Approved**
- Approved with Modifications**
- Carryover**
- Disapproved**
- None**

CR-R802.2 cdpVA-15

CR-R803.2.4 cdpVA-15

Proponent : Benjamin Goss, Representing Infinity Roofing & Siding, Inc and Richard Burkard, Building/Planning for City of Chesapeake (bengoss@infinityroofer.com)

2015 International Residential Code

SECTION 2015 R803.2.4 Structural Fascia and/or Perimeter Blocking

A 2x structural fascia shall be installed at the perimeter of the roof diaphragm. Roof sheathing shall be mechanically fastened with fasteners at 6 inches (15.24 cm) o.c. at the perimeter in accordance with Table R602.3(1), APA E30 for wood roof framing or with Table R804.3 for cold-formed steel roof framing.

Add new standard(s) as follows: <http://www.norbord.com/na/cms/wp-content/uploads/E30.pdf> DHCD Staff Note: Standard file too large to download.

Reason: INTENT: Add blocking or a structural fascia to the perimeter of the roof diaphragm to strengthen the edges of the roof sheathing and to transfer horizontal loads through the sheathing to the wall framings and bracing. As per multiple sources, it is critical that multiple continuous load paths properly carry transfer various loads.

NEED:

1. Current code leaves roof diaphragm inherently weak as there is no structural edge.
2. By installing a structural 2x fascia to the ends of the rafters and or wood trusses, you are creating a drag strut to transfer horizontal and vertical loads to the building framing and bracing more efficiently.
3. Blocking of structural fascia will increase impact, snow, human, wind and seismic loads.
4. Per APA E30, the resulting effect more than doubles the resistance to the various loads that the structure can be subjected to.
5. A structural fascia or 2x blocking adds a ridged member at the edge of the roof that supports the roof sheathing, drip edge, and roofing material . It also provides a much better nailing member at the roofs edge. It also Provides a better support for the roofers who are walking on or working on the edge of the roof. You can't use roof sheathing support clips on the edge of the roof for 24 inch spans.
6. Presently, when fastening a starter shingle or drip edge on the end of a roof, the roofing nail is only fastened through the roof sheathing for the majority of the perimeter edge. Most builders use 7/16 osb sheathing. The wind-loads and uplift forces are higher on the leading edge of roofs. A structural fascia or blocking provides additional support for gravity and uplift loads and a better nailing member than just roof sheathing.
7. This is sorely needed in regions that could be affected by major hurricane winds to prevent water intrusion into homes and buildings.

Cost Impact:

1. The cost is minimal (\$150 to 250 per home for materials only) and replaces a decorative nonstructural fascia that carries no load bearing benefit.
2. The labor cost is already being incurred with the installation of non-structural fascia that provides no wind-load or seismic-load resistant benefits.

Public Comments (0)

Workgroup Recommendation

Workgroup 3 Recommendation Recommendation: Non-Consensus Final

Workgroup 3 Reason: None

Board Decision

None

Board Decisions

- Approved**
- Approved with Modifications**
- Carryover**
- Disapproved**
- None**

CR-R803.2.4 cdpVA-15

CR-R905.2.8.5 cdpVA-15

Proponent : Benjamin Goss, Representing rburkard@cityofchesapeake.net (bengoss@infinityroofer.com)

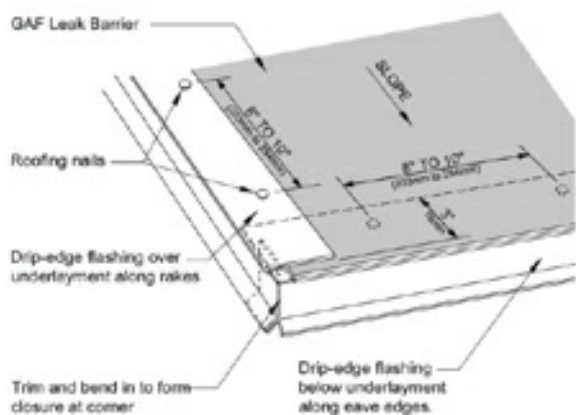
2015 International Residential Code

R905.2.8.5 Drip edge. [REJECT DELETION]

A drip edge shall be provided at eaves and rake edges of shingle roofs. Adjacent segments of drip edge shall be overlapped not less than 2 inches (51 mm). Drip edges shall extend not less than $\frac{1}{4}$ inch (6.4 mm) below the roof sheathing and extend up back onto the roof deck not less than 2 inches (51 mm). Drip edges shall be mechanically fastened to the roof deck at not more than 12 inches (305 mm) o.c. with fasteners as specified in Section R905.2.5. Underlayment shall be installed over the drip edge along eaves and under the drip edge along rake edges.

CHAPTER 9 ROOF ASSEMBLIES

- Reason:**
1. The major manufactures of asphalt shingles installation instructions limit the overhang of the roofing shingle to 1 inch or less pass the roof sheathing to meet the minimum wind uplift loads. By the VA/USBC eliminating the requirement for edge drip, the roofers are forced to extend the shingles 3,4, or up 6 inches passed the edge of sheathing to protect it from the sun and weather. By installing the shingles in this manner violates the Manufacture's installation instructions, which the roofers are required to follow per section 112.3.1 exception.
 2. The previous decision in prior versions of the VUSBC to delete drip edge as a requirement for the proper installation of a roof is based upon the mistaken thought that excluding drip edge reduces the overall cost of installation of a roof system. Instead it is actually more expensive and makes it far more likely that there will be undiscovered and/or deferred maintenance that degrades the integrity of the roof system, and significantly increases the likelihood of wind uplift damaging shingles, and water intrusion creating significant damage to the property over time.
 3. ASCE are now studying tornado type winds that occur on the leading edge of roofs that may result in new wind edge zones for roofs.



Cost Impact: 2x2 edge metal cost on average \$1.00 per lineal foot for a 2x2 G90 drip edge. The cost for an average single family home with 300 to 400 lineal feet of drip edge would be \$300

.00 to \$400.00 per home.

The cost to extend the asphalt shingles 4 to 6 inches past the roof sheathing for average single family with 300 to 400 lineal feet of perimeter edge would cost \$ material and labor \$375.00 to \$585.00 per roof. For a savings of \$75.00 to \$185.00 per typical home.

This would result in a less expensive cost to the builder and provide compliance with the manufacture's installation instructions

Public Comments (0)

Workgroup Recommendation

Workgroup 3 Recommendation Recommendation: Non-Consensus Final

Workgroup 3 Reason: None

Board Decision

None

Board Decisions

- Approved**
- Approved with Modifications**
- Carryover**
- Disapproved**
- None**

CR-R905.2.8.5 cdpVA-15

CR-R908.7 cdpVA-15

Proponent : Benjamin Goss, Representing Infinity Roofing & Siding, Inc and Michael Zambriczki of GAF (bengoss@infinityroofer.com)

2015 International Residential Code

R908.7 Roof System Repairs and Replacement Roof System: The totality of all components necessary to install on roof sheathing (a.k.a. the roof diaphragm) to insure that the building envelope is properly secured against water intrusion and wind uplift, in accordance with the applicable provisions of Chapter 9 - Roof Assembly and the manufacturer's installation instructions. This includes but is not limited to underlayment, roof covering, hip & ridge covering, pipe flashings, ventilation components, valley metal, drip edge, skylights, and other metal flashings (e.g. step flashing).

Roof Repair: The replacement of individual components of a roof assembly (roof system) such as flashings and/or individual shingles.

R908.7.1 Application of Code to Roof Repairs and Roof Replacements.

A permit is required for repairs that exceed a total surface area of 352 square feet.

R908.7.2 Roof Repair versus Roof Replacement.

When a repair exceeds a total of fifty percent (50%) of the surface area then the complete roof system must be replaced in its entirety.

Reason: Historically speaking, it has been acceptable to not require a re-roofing permit when the structure of the roof is not being changed. While this appears to be substantively accurate, it actually puts property owners at significant risk for unlicensed and shoddy workmanship. New property owners may be unaware of issues with an existing roof at purchase due to the fact that no permits are required to complete a roof replacement.

1. Half roof replacements create a deferred maintenance problems with non-replaced side of the structure.
2. The integrity of a roof system is compromised in the long term if some of the components are new, and some are "salvaged" from the original install. Salvaged materials are typically damaged when installed the first time, and never reinstall the same way a second time.
3. Common short cuts amongst roofing contractors is to "salvage" non-shingle components, including underlayment, and reuse them.
4. The poor quality workmanship that exists, especially in the Tidewater region, is an unnecessary and inherent risk to the public.
5. This issue ought to be aggressively addressed as quickly as possible to aid in safeguarding persons and property against catastrophic damage.
6. The basic line for the ice & water shield recommendation is the southern border shared with North Carolina. We need to be more aggressive in addressing the many properties are being damaged due to the lack of ice & water shield on their current roof structures. In my personal experience, this one deferred maintenance issue appears to be causing hundreds of thousands of dollars in damage each year, if not millions.
7. I have personally inspected roofs on homes built within the last six months where the manufacturer's warranty is void, and the home is vulnerable to wind uplift, water intrusion, and damage from ice damming. This is the direct result of multiple installation errors in the construction of the roof which are already historically responsible for millions in

damages from ice, water and wind.

Cost Impact: There is no cost impact to new construction, this particular section of code refers to the repair and replacement of existing roof systems.

There is no way to predict an average cost for this because there are too many variables involved. The Cost vs. Value report that is provided by Haney Woods and Remodeling Magazine, states that the average cost for a 3-tab, 235 lb average weight, shingle roof system is ~\$19,000 for a 30 square residential roof, but the cost for a new roof can vary by as much as 75% between contractors.

Workgroup Recommendation

Workgroup 3 Recommendation Recommendation: Non-Consensus Final

Workgroup 3 Reason: None

Board Decision

None

Board Decisions

- Approved**
- Approved with Modifications**
- Carryover**
- Disapproved**
- None**

CR-R908.7 cdpVA-15

CTM-401.4 cdpVA-15

Proponent : Mike Moore, Representing Broan-NuTone
(mmoore@newportventures.net)

2015 International Mechanical Code

401.4 Intake opening location. Air intake openings shall comply with all of the following:

1. Intake openings shall be located not less than 10 feet (3048 mm) from lot lines or buildings on the same lot.
2. Mechanical and gravity outdoor air intake openings shall be located not less than 10 feet (3048 mm) horizontally from any hazardous or noxious contaminant source, such as vents, streets, alleys, parking lots and loading docks, except as specified in Item 3 or Section 501.3.1. Outdoor air intake openings shall be permitted to be located less than 10 feet (3048 mm) horizontally from streets, alleys, parking lots and loading docks provided that the openings are located not less than 25 feet (7620 mm) vertically above such locations. Where openings front on a street or public way, the distance shall be measured from the closest edge of the street or public way.
3. Intake openings shall be located not less than 3 feet (914 mm) below contaminant sources where such sources are located within 10 feet (3048 mm) of the opening. This separation is not required between intake air and living space exhaust air of an individual dwelling unit where a combined intake/exhaust termination is used to separate the air streams in accordance with Section 501.3.1.3.
4. Intake openings on structures in flood hazard areas shall be at or above the elevation required by Section 1612 of the *International Building Code* for utilities and attendant equipment.

501.3.1 Location of exhaust outlets. The termination point of exhaust outlets and ducts discharging to the outdoors shall be located with the following minimum distances:

1. For ducts conveying explosive or flammable vapors, fumes or dusts: 30 feet (9144 mm) from property lines; 10 feet (3048 mm) from operable openings into buildings; 6 feet (1829 mm) from exterior walls and roofs; 30 feet (9144 mm) from combustibile walls and operable openings into buildings which are in the direction of the exhaust discharge; 10 feet (3048 mm) above adjoining grade.
2. For other product-conveying outlets: 10 feet (3048 mm) from the property lines; 3 feet (914 mm) from exterior walls and roofs; 10 feet (3048 mm) from operable openings into buildings; 10 feet (3048 mm) above adjoining grade.
3. For all *environmental air* exhaust: 3 feet (914 mm) from property lines; 3 feet (914 mm) from operable openings into buildings for all occupancies other than Group U, and 10 feet (3048 mm) from mechanical air intakes, except where a combined intake/exhaust termination is used to separate intake air from living space exhaust air, and the exhaust air concentration within the intake air does not exceed 10 percent, as demonstrated by testing conducted or witnessed and reported by an approved agency or laboratory.

- Such exhaust shall not be considered hazardous or noxious.
4. Exhaust outlets serving structures in flood hazard areas shall be installed at or above the elevation required by Section 1612 of the *International Building Code* for utilities and attendant equipment.
 5. For specific systems see the following sections:
 - 5.1. Clothes dryer exhaust, Section 504.4.
 - 5.2. Kitchen hoods and other kitchen exhaust *equipment*, Sections 506.3.13, 506.4 and 506.5.
 - 5.3. Dust stock and refuse conveying systems, Section 511.2.
 - 5.4. Subslab soil exhaust systems, Section 512.4.
 - 5.5. Smoke control systems, Section 513.10.3.
 - 5.6. Refrigerant discharge, Section 1105.7.
 - 5.7. Machinery room discharge, Section 1105.6.1.

Reason: Combined intake and exhaust terminations are regularly installed with heating and energy recovery ventilators (H/ERVs) used for dwelling units. Their use reduces building penetrations, labor, and associated system costs. By reducing the number of penetrations, air leakage can also be reduced, resulting in space conditioning energy savings. Further, the durability of the structure can be improved through reducing entry pathways for bulk water.

Manufacturer tests have demonstrated that minimum cross-contamination of airflow results from these terminations. The 10% cross contamination metric is based on language in ASHRAE 62.2 that approves combined intake/exhaust terminations that are self-verified by manufacturers to meet this specification; language in ASHRAE 62.1 that limits cross contamination of exhaust and supply streams to 10% for "air with moderate contaminant concentration, mild sensory-irritation intensity, or mildly offensive odors"; and language in IMC, Section 514.4, permitting up to 10% of cross-leakage between air streams.

By adding a requirement for performance verification by an approved agency or laboratory in this proposal, we build in 3rd-party oversight to ensure that the terminations meet this minimum 10% cross contamination under test conditions. The Home Ventilating Institute has plans to develop a test protocol for this purpose as well as a listing of compliant units. Virginia's approval of this amendment is expected to spur the development of this testing protocol and the delivery of more affordable and architecturally flexible ventilation systems to market. In the interim, this language would establish the minimum acceptable performance of these terminations as well as permit approved laboratories to establish testing protocol by which these terminations can be evaluated.

Cost Impact: This is a cost savings measure, as it reduces the number of penetrations required, if a builder/developer elects to specify a combined intake and exhaust termination.

Public Comments (0)

Workgroup Recommendation

Workgroup 4 Recommendation Recommendation: Non-Consensus Final

Workgroup 4 Reason: None

Board Decision

None

Board Decisions

- Approved**
- Approved with Modifications**
- Carryover**
- Disapproved**
- None**

CTM-401.4 cdpVA-15

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M-104.5.4.3 cdpVA-15

Proponent : Sub-workgroup for Manufactured Home Parks

DHCD Staff Contact: Vernon Hodge (vernon.hodge@dhcd.virginia.gov)

2012 Virginia Maintenance Code

104.5.4.3 Manufactured home park tenant notification. If a notice of violation is issued to a manufactured home park owner for violations of this code that jeopardize the health or safety of tenants of the park, a copy of the notice shall be provided to each affected tenant of the manufactured home park. The terms, "manufactured home park" and "owner," as used in this section, shall be as defined in the Manufactured Home Lot Rental Act (Chapter 13.3 (§ 55-248.41 et seq.) of Title 55 of the Code of Virginia).

Reason:

This code change is submitted in response to HB 2203 (2017 session). There were cases cited to the General Assembly where manufactured home park operators had been cited for code violations that potentially impacted park residents and the residents had not been notified.

Text from the bill:

Be it enacted by the General Assembly of Virginia:

1. § 1. *That the Department of Housing and Community Development shall consider including in the current revision of the Uniform Statewide Building Code a provision designed to ensure that localities provide appropriate notice to residents of manufactured home parks of any Building Code violation by a park owner that jeopardizes the health and safety of those residents and shall report to the General Assembly regarding the status of such efforts no later than November 1, 2017.*

2. That an emergency exists and this act is in force from its passage.

Link to the bill:

<https://lis.virginia.gov/cgi-bin/legp604.exe?171+sum+HB2203>

The sub-workgroup met in March of 2017, reviewed the two pieces of legislation which passed and discussed the issues relative to adding a provision in the Virginia Maintenance Code (VMC). The proposal was crafted using reference to the Manufactured Home Lot Rental Act (MHLRA) for several definitions to assure that the notice requirements in the VMC aligned with the threshold for protection under the MHLRA (parks with ten or more homes). The sub-workgroup consisted of representatives from the Virginia Building and Code Officials Association, the Virginia Manufactured and Modular Housing Association and lobbyist and legal firms involved in the legislation.

Cost Impact: The only cost impact will be to localities for increased notification costs.

Workgroup Recommendation

Workgroup 1 Recommendation Recommendation: Consensus for Approval

Workgroup 1 Reason: Combined workgroup 1, 2, 3, and 4 meeting

Workgroup 2 Recommendation Recommendation: Consensus for Approval

Workgroup 2 Reason: Combined workgroup 1, 2, 3, and 4 meeting

Board Decision

None

Board Decisions

- Approved**
- Approved with Modifications**
- Carryover**
- Disapproved**
- None**

M-104.5.4.3 cdpVA-15

M-105.9 cdpVA-15

Proponent : Earl Weaver, Representing Property Maintenance Committee
(earl.weaver@richmondgov.com)

2012 Virginia Maintenance Code

105.9 Emergency repairs and demolition. To the extent permitted by the locality, the code official may authorize emergency repairs to unsafe structures or structures unfit for human habitation when it is determined that there is an ~~immediate~~ imminent danger of any portion of the unsafe structure or structure unfit for human habitation collapsing or falling and when life is endangered. Emergency repairs may also be authorized where there is a code violation resulting in the immediate serious and imminent threat to the life and safety of the occupants. The code official shall be permitted to authorize the necessary work to make the structure temporarily safe whether or not legal action to compel compliance has been instituted. In addition, whenever an owner of an unsafe structure or structure unfit for human habitation fails to comply with a notice to demolish issued under Section 105.4 in the time period stipulated, the code official shall be permitted to cause the structure to be demolished. In accordance with Sections 15.2-906 and 15.2-1115 of the Code of Virginia, the legal counsel of the locality may be requested to institute appropriate action against the property owner to recover the costs associated with any such emergency repairs or demolition and every such charge that remains unpaid shall constitute a lien against the property on which the emergency repairs or demolition were made and shall be enforceable in the same manner as provided in Articles 3 (Section 58.1-3490 et seq.) and 4 (Section 58.1-3965 et seq.) of Chapter 39 of Title 58.1 of the Code of Virginia.

Note:Code officials and local governing bodies should be aware that other statutes and court decisions may impact on matters relating to demolition, in particular whether newspaper publication is required if the owner cannot be located and whether the demolition order must be delayed until the owner has been given the opportunity for a hearing. In addition, historic building demolition may be prevented by authority granted to local historic review boards in accordance with Section 15.2-2306 of the Code of Virginia unless determined necessary by the code official.

2015 International Property Maintenance Code

IMMINENT DANGER. A condition which could cause serious or life-threatening injury or death at any time.

Reason: The proposed regulation deletes the definition of "Imminent danger" because the term is not used in the code. Section 105.9 currently uses two terms that are very similar to the definition. This proposal changes the term "immediate" to "imminent" as it relates to danger and adds the definition back in so that we can keep the term which has value and use for enforcement personnel.

Cost Impact: This proposal does not impact the cost of enforcement.

Public Comments (0)

Workgroup Recommendation

Workgroup 1 Recommendation Recommendation: Consensus for Approval

Workgroup 1 Reason: None

Board Decision

None

Board Decisions

- Approved**
- Approved with Modifications**
- Carryover**
- Disapproved**
- None**

M-105.9 cdpVA-15

M-202(2) cdpVA-15

Proponent : Richard Witt (wittr@chesterfield.gov)

2012 Virginia Maintenance Code

APPLICABLE BUILDING CODE. The local or statewide building code and referenced standards in effect at the time the building or portion thereof was constructed, altered, renovated or underwent a change of occupancy. See Section 103 for the application of the code.

MAINTAINED. To keep unimpaired in an appropriate condition, operation, and continuance as installed in accordance with the *applicable building code*, or as previously approved, and in accordance with the applicable operational and maintenance provisions of this code.

2012 Virginia Statewide Fire Prevention Code

APPLICABLE BUILDING CODE. The local or statewide building code and referenced standards in effect at the time the building or portion thereof was constructed, altered,renovated, or underwent a change of occupancy. See Sections 102.2 and 102.3 for the application of the code.

MAINTAINED. To keep unimpaired in an appropriate condition, operation, and continuance as installed in accordance with the *applicable building code*, or as previously approved, and in accordance with the applicable operational and maintenance provisions of this code.

Reason: This change is intended to create a consistent definition of a term in both the Virginia Maintenance Code and the Virginia Fire Prevention Code. It also resolves the confusion with a proposed use of the definition of " building code" as it relates to application of the Fire Prevention Code. This new definition and term of "applicable building code" is intended to replace the phrase "the applicable building code in which it was constructed" or "building code" in the SFPC or equivalent language where used in both the Virginia Property Maintenance Code and the Virginia Statewide Fire Prevention Code.

Cost Impact: There is no cost impact

Public Comments (2)

By **Vernon Hodge**
08-29-2017 13:27:27

DHCD Staff Note: Additional public comment added.

Attachment: Email - Witt, proposals(21).pdf

Workgroup Recommendation

Workgroup 2 Recommendation Recommendation: Consensus for Approval

Workgroup 2 Reason: None

Board Decision

None

Board Decisions

- Approved**
- Approved with Modifications**
- Carryover**
- Disapproved**
- None**

M-202(2) cdpVA-15

From: [Payne, Kenney](#)
To: [Littlefield, Charles E.](#); [Terry, Jane \(DHCD\)](#); [Emory Rodgers](#); ealiff@vaib.org; [Smith-sam, Brandi \(DHCD\)](#); [Robby Dawson \(dawsonj@chesterfield.gov\)](#); mperdue@salemva.gov; [Willham, Dan](#); [Farrell, Sean](#); linda.hale@loudoun.gov; william.andrews@richmondgov.com; [Chambers, Keith](#); [Anderson, Christopher J.](#); [Russell Furr](#); [Witt, Rick](#); [Shaun Pharr](#); [Sites, Steven \(VDFFP\)](#)
Cc: [Davis, Cindy \(DHCD\)](#); [Brown, Jeff \(DHCD\)](#); [Hodge, Vernon \(DHCD\)](#); [Potts, Richard \(DHCD\)](#)
Subject: RE: Proposed Definition of "Maintained"
Date: Tuesday, August 22, 2017 3:48:56 PM
Attachments: [image001.png](#)
[image002.jpg](#)
[image003.jpg](#)
[image004.jpg](#)

Not to sound all academic, but I believe Casey may have created a “dependent clause” w/o an “independent clause” since it appears there is no longer a “subject.”

However, I do believe we should avoid using the term being defined in the definition; therefore, how about the following?

MAINTAINED. To keep unimpaired in an appropriate condition, operation, and continuance as installed in accordance with the applicable building code, or as ~~provided~~ previously approved, and in accordance with the applicable operational and maintenance provisions of this code.

- Rather than use the term “maintain” in the definition, I included terms used to define the word “maintain”
- I also thought “previously approved” would be better than “provided” because they might have provided something that was NOT approved – in that case, do they get to keep it that way? By tying it to “approved” someone would have had to allow it.
- I also deleted the semi-colon and substituted a comma, as I believe the one clause needs to tie back to the previous clause and not be its own independent clause.
- Although this may be implied, I thought adding “applicable” at the end further clarifies that such provisions only apply as far as they would be applicable to the condition.

Let the scholars show themselves!

Kenney

From: Littlefield, Charles E. [mailto:celittlefield@hanovercounty.gov]
Sent: Tuesday, August 22, 2017 2:57 PM
To: 'Terry, Jane (DHCD)' <Jane.Terry@dhcd.virginia.gov>; Emory Rodgers <errpp1242@verizon.net>; ealiff@vaib.org; Smith-sam, Brandi (DHCD) <Brandi.Smith-Sam@dhcd.virginia.gov>; Payne, Kenney <kpayne@moseleyarchitects.com>; Robby Dawson (dawsonj@chesterfield.gov) <dawsonj@chesterfield.gov>; mperdue@salemva.gov; Willham, Dan <Daniel.Willham@fairfaxcounty.gov>; Farrell, Sean <SFarrell@pwcgov.org>; linda.hale@loudoun.gov; william.andrews@richmondgov.com; Chambers, Keith <ChambersK@chesterfield.gov>; Anderson, Christopher J. <cjanderson@hanovercounty.gov>; Russell Furr <Russell.Furr@alexandriava.gov>; Witt, Rick <WittR@chesterfield.gov>; Shaun Pharr

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M-505.5 cdpVA-15

Proponent : Earl Weaver, Representing Property Maintenance Committee (earl.weaver@richmondgov.com)

2015 International Property Maintenance Code

Add new section to read as follows:

505.5 Nonpotable water reuse systems. Where installed, nonpotable water reuse and rainwater collection and conveyance systems shall be maintain in a safe and sanitary condition. Where such systems are not properly maintained, the systems shall be repaired to provide for safe and sanitary conditions, or the system shall be abandoned in accordance with the following:

1. All system piping connecting to a utility-provided or private water system shall be removed or disabled. Proper cross-connection control and backflow prevention measures shall comply with the applicable building code.

2. Where required, the distribution piping system shall be replaced with an approved potable water supply piping system.

3. The storage tank shall be secured from accidental access by sealing or locking tank inlets and access points, or filling with sand or equivalent.

Reason: As newly developed and approved water reclamation systems are being added in the built environment, these systems need to be maintained so as to not cause hazards to structures or the public. The section was brought forward by Virginia representatives at the national level and approved by the ICC code development process and will be in the 2018 International Property Maintenance Code. We are trying to implement it in the 2015 Virginia code.

Cost Impact: This proposal does not impact the cost of enforcement.

Public Comments (1)

By **Roger Harper**
08-19-2017 12:39:24

Jane-

I am unable to attend the next Code Change meeting on Aug 23, but would like to provide comments to one proposal in the

Virginia Maintenance Code: M-505.5 Nonpotable water reuse systems.

My comments are provided below:

Comments on **M-505.5 cdpVA-15:**

The new section should be modified as follows

"1. All system piping connecting to a utility-provided water system shall be removed or disabled." Add requirement: "**Proper cross-connection control and backflow prevention measures shall be followed, in accordance with (cite applicable**

plumbing code reference.)"

Susan E. Douglas, P.E.
Director of Technical Services
Office of Drinking Water
Virginia Department of Health
109 Governor St.
Richmond, VA 23219
804-864-7490

Workgroup Recommendation

Workgroup 2 Recommendation Recommendation: Consensus for Approval

Workgroup 2 Reason: None

Board Decision

None

Board Decisions

- Approved**
- Approved with Modifications**
- Carryover**
- Disapproved**
- None**

M-505.5 cdpVA-15

M-603.1(2) cdpVA-15

Proponent : Earl Weaver, Representing Property Maintenance Committee (earl.weaver@richmondgov.com)

2012 Virginia Maintenance Code

Change Section 603.1 as published in the proposed regulations as follows:

603.1 Mechanical equipment and appliances. Required or provided mechanical equipment, appliances, fireplaces, solid fuel-burning appliances, cooking appliances, chimneys, vents, and water heating appliances shall be maintained in compliance with the code under which the appliances, system, or equipment was installed, kept in safe working condition, and capable of performing the intended function.

Reason: Section 603.1, as published in the proposed regulations, adequately covers all mechanical appliances, but not the associated fuel conveyance piping, fuel gas systems, fuel oil storage, hangers, supports, etc. By adding "equipment" it clarifies that items associated with mechanical equipment are also covered by the code. The changes are consistent with changes made to the International Property Maintenance Code (IPMC) at the national level and were approved for the 2018 IPMC.

Cost Impact: This proposal does not impact the cost of enforcement.

Public Comments (0)

Workgroup Recommendation

Workgroup 2 Recommendation Recommendation: Consensus for Approval

Workgroup 2 Reason: None

Board Decision

None

Board Decisions

- Approved**
- Approved with Modifications**
- Carryover**
- Disapproved**
- None**

M-603.1(2) cdpVA-15

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M-604.3.2.1 cdpVA-15

Proponent : Earl Weaver, Representing Property Maintenance Committee (earl.weaver@richmondgov.com)

2015 International Property Maintenance Code

Remove the deletion of Sections 604.3.2 and 604.3.2.1 from the proposed regulations and amend the 2015 International Property Maintenance Code language for Section 604.3.2.1 as follows:

604.3.2.1 Electrical equipment. Electrical switches, receptacles and fixtures, including furnace, water heating, security system and power distribution circuits, that have been exposed to fire, shall be replaced in accordance with the provisions of the *International Building Code Virginia Construction Code*.

- **Exception:** Electrical switches, receptacles and fixtures that shall be allowed to be repaired or reused where an inspection report from the equipment manufacturer or an approved manufacturer's representative of the equipment manufacturer, a third party licensed or certified electrician, or an electrical engineer indicates that the equipment has not sustained damage that requires replacement.

Reason: These sections are deleted in the proposed regulations. However, they are similar to Section 604.3.1, which addresses water damage to electrical equipment and is part of the Virginia code. This proposal adds changes to these sections consistent with Section 604.3.1 so that the code will provide for situations where electrical equipment is exposed to water or to fire.

Cost Impact: This proposal does not impact the cost of enforcement.

Public Comments (0)

Workgroup Recommendation

Workgroup 2 Recommendation Recommendation: Consensus for Approval

Workgroup 2 Reason: None

Board Decision

None

Board Decisions

- Approved**
- Approved with Modifications**
- Carryover**
- Disapproved**
- None**

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M-606.1(1) cdpVA-15

Proponent : Emory Rodgers, Representing self (errpp1242@verizon.net)

2012 Virginia Maintenance Code

606.1 General.

Elevators, dumbwaiters and escalators shall be maintained in compliance with ASME A17.1. The most current certificate of inspection shall be on display at all times within the elevator or attached to the escalator or dumbwaiter; ~~or~~ **or** be available for public inspection in the office of the building operator; **or**, be posted in a publicly conspicuous location approved by the code official. **Where not displayed in the elevator or attached on the escalator or dumbwaiter, there shall be a notice where the certificate of inspection is available for public inspection.** An annual periodic inspection and test is required of elevators and escalators. A locality shall be permitted to require a six-month periodic inspection and test. All periodic inspections shall be performed in accordance with Section 8.11 of ASME A17.1. The code official may also provide for such inspection by an approved agency or through agreement with other local certified elevator inspectors. An approved agency includes any individual, partnership or corporation who has met the certification requirements established by the Virginia Certification Standards.

CHAPTER 6 MECHANICAL AND ELECTRICAL REQUIREMENTS

Reason: this section is being clarified that the owner has 3 separate options for displaying the elevator, escalator or dumbwaiter certificate of inspection. 1st is the most common of displaying in the elevator or attached to the escalator/dumbwaiter the certificate of inspection. 2nd option is having the CI in the managers/maintenance office for being available for public viewing and the 3rd option where approved by the building official. If options 2 or 3 are utilized, there has to be at the elevator, escalator and dumbwaiter a notice where the CI can reviewed by the public. The locality cannot require but one of these options to be utilized.

Cost Impact: none

Workgroup Recommendation

Workgroup 2 Recommendation Recommendation: Consensus for Approval

Workgroup 2 Reason: Combined workgroup 1, 2, 3, and 4 meeting
Consensus for approval with a change to replace "where" with "when".

Board Decision

None

Board Decisions

- Approved**
- Approved with Modifications**
- Carryover**
- Disapproved**
- None**

R-101.1 cdpVA-15

Proponent : Kenney Payne, Representing AIA-VA
(kpayne@moseleyarchitects.com)

2012 Virginia Rehabilitation Code

Rearrange and consolidate the 2012 Virginia Rehabilitation Code (VRC) to become the 2015 Virginia Existing Building Code (VEBC) as follows, including the indicated changes to the Virginia Construction Code (VCC).

1. Add new Section 103.1.1 to the VCC; delete Sections 103.3 through 103.7 of the VCC, and renumber the rest of Section 103 of the VCC accordingly:

103.1.1 Virginia Existing Building Code. Part II of the Virginia Uniform Statewide Building Code, also known as the "Virginia Existing Building Code," or the "VEBC" is applicable to construction and rehabilitation activities in existing buildings and structures, as those terms are defined in the VEBC, except where specifically addressed in the VCC.

2. Revise Chapters 1-10 the 2012 VRC to become Chapters 1-10 of the 2015 VEBC as follows (all text shown underlined; however, a legislative version showing in detail how the provisions are rearranged is included in the attachments to this proposal):

CHAPTER 1 **ADMINISTRATION**

SECTION 101 **GENERAL**

101.1 Short title. The Virginia Uniform Statewide Building Code, Part II, Existing Buildings, may be cited as the "Virginia Existing Building Code," or as the "VEBC."

101.2 Incorporation by reference. Chapters 2 - 16 of the 2015 International Existing Building Code, published by the International Code Council, Inc., are adopted and incorporated by reference to be an enforceable part of the VEBC. The term "IEBC" means the 2015 International Existing Building Code, published by the International Code Council, Inc. Any codes and standards referenced in the IEBC are also considered to be part of the incorporation by reference, except that such codes and standards are used only to the prescribed extent of each such reference.

101.3 Numbering system. A dual numbering system is used in the VEBC to correlate the numbering system of the Virginia Administrative Code with the numbering system of the IEBC. IEBC numbering system designations are provided in the catchlines of the Virginia Administrative Code sections and cross references between sections or chapters of the VEBC use only the IEBC numbering system designations. The term "chapter" is used in the context of the numbering system of the IEBC and may mean a chapter in the VEBC, a chapter in the IEBC or a chapter in a referenced code or standard, depending on the context of the use of the term. The term "chapter" is not used to designate a chapter of the Virginia Administrative Code, unless clearly indicated.

101.4 Arrangement of code provisions. The VEBC is comprised of the combination of (i) the provisions of Chapter 1, Administration, which are established herein, (ii) Chapters 2 - 16 of the IEBC, which are incorporated by reference in Section 101.2, and (iii) the changes to the text of the incorporated chapters of the IEBC that are specifically identified, including any new chapters added. The terminology "changes to the text of the incorporated chapters of the IEBC that are specifically identified, including any new chapters added" shall also be referred to as the "state amendments to the IEBC." Such state amendments to the IEBC are set out using corresponding chapter and section numbers of the IEBC numbering system. In addition, since Chapter 1 of the IEBC is not incorporated as part of the VEBC, any reference to a provision of Chapter 1 of the IEBC in the provisions of Chapters 2 - 16 of the IEBC is generally invalid. However, where the purpose of such a reference would clearly correspond to a provision of Chapter 1 established herein, then the reference may be construed to be a valid reference to such corresponding Chapter 1 provision.

101.5 Use of terminology and notes. The provisions of this code shall be used as follows:

1. The term "this code," or "the code," where used in the provisions of Chapter 1, in Chapters 2 - 16 of the IEBC, or in the state amendments to the IEBC, means the VEBC, unless the context clearly indicates otherwise.
2. The term "this code," or "the code," where used in a code or standard referenced in the VEBC, means that code or standard, unless the context clearly indicates otherwise.
3. The term "USBC" where used in this code, means the VCC, unless the context clearly indicates otherwise.
4. The use of notes in Chapter 1 is to provide information only and shall not be construed as changing the meaning of any code provision.
5. Notes in the IEBC, in the codes and standards referenced in the IEBC and in the state amendments to the IEBC, may modify the content of a related provision and shall be considered to be a valid part of the provision, unless the context clearly indicates otherwise.
6. References to International Codes and standards, where used in this code, include state amendments made to those International Codes and standards in the VCC.

Note: See Section 101.2 of the VCC for a list of major codes and standards referenced in the VCC.

101.6 Order of precedence. The provisions of this code shall be used as follows:

1. The provisions of Chapter 1 of this code supersede any provisions of Chapters 2 - 16 of the IEBC that address the same subject matter and impose differing requirements.
2. The provisions of Chapter 1 of this code supersede any provisions of the codes and standards referenced in the IEBC that address the same subject matter and impose differing requirements.
3. The state amendments to the IEBC supersede any provisions of Chapters 2 - 16 of the IEBC that address the same subject matter and impose differing requirements.

4. The state amendments to the IEBC supersede any provisions of the codes and standards referenced in the IEBC that address the same subject matter and impose differing requirements.

5. The provisions of Chapters 2 - 16 of the IEBC supersede any provisions of the codes and standards referenced in the IEBC that address the same subject matter and impose differing requirements.

101.7 Administrative provisions. The provisions of Chapter 1 establish administrative requirements, which include but are not limited to provisions relating to the scope and enforcement of the code. Any provisions of Chapters 2 - 16 of the IEBC or any provisions of the codes and standards referenced in the IEBC that address the same subject matter to a lesser or greater extent are deleted and replaced by the provisions of Chapter 1. Further, any administrative requirements contained in the state amendments to the IEBC shall be given the same precedence as the provisions of Chapter 1. Notwithstanding the above, where administrative requirements of Chapters 2 - 16 of the IEBC or of the codes and standards referenced in the IEBC are specifically identified as valid administrative requirements in Chapter 1 of this code or in the state amendments to the IEBC, then such requirements are not deleted and replaced.

Note: The purpose of this provision is to eliminate overlap, conflicts and duplication by providing a single standard for administrative, procedural and enforcement requirements of this code.

101.8 Definitions. The definitions of terms used in this code are contained in Chapter 2 along with specific provisions addressing the use of definitions. Terms may be defined in other chapters or provisions of the code and such definitions are also valid.

SECTION 102 **PURPOSE AND SCOPE**

102.1 Purpose. In accordance with § 36-99.01 of the Code of Virginia, the General Assembly of Virginia has declared that (i) there is an urgent need to improve the housing conditions of low and moderate income individuals and families, many of whom live in substandard housing, particularly in the older cities of the Commonwealth; (ii) there are large numbers of older residential buildings in the Commonwealth, both occupied and vacant, which are in urgent need of rehabilitation and must be rehabilitated if the state's citizens are to be housed in decent, sound, and sanitary conditions; and (iii) the application of those building code requirements currently in force to housing rehabilitation has sometimes led to the imposition of costly and time-consuming requirements that result in a significant reduction in the amount of rehabilitation activity taking place.

The General Assembly further declares that (i) there is an urgent need to improve the existing condition of many of the Commonwealth's stock of commercial properties, particularly in older cities; (ii) there are large numbers of older commercial buildings in the Commonwealth, both occupied and vacant, that are in urgent need of rehabilitation and that must be rehabilitated if the citizens of the Commonwealth are to be provided with decent, sound and sanitary work spaces; and (iii) the application of the existing building code to such rehabilitation has sometimes led to the imposition of costly and time-consuming requirements that result in a significant reduction in the amount of rehabilitation activity taking place.

102.2 Scope. The provisions of this code shall govern construction and rehabilitation activities in existing buildings and structures.

102.2.1 Change of occupancy to Group I-2 or I-3. A change of occupancy to Group I-2 or I-3 shall comply with the provisions of the VCC. Written application shall be made to the local building department for a new certificate of occupancy and the new certificate of occupancy shall be obtained prior to the change of occupancy. When impractical to achieve compliance with the VCC for the new occupancy classification, the building official shall consider modifications upon application and as provided for in Section 106.3 of the VCC.

102.2.2 Reconstruction, alteration or repair in Group R-5 occupancies.

Compliance with this section shall be an acceptable alternative to compliance with this code at the discretion of the owner or owner's agent. The VCC may be used for the reconstruction, alteration or repair of Group R-5 buildings or structures subject to the following criteria:

1. Any reconstruction, alteration or repair shall not adversely affect the performance of the building or structure, or cause the building or structure to become unsafe or lower existing levels of health and safety.

2. Parts of the building or structure not being reconstructed, altered or repaired shall not be required to comply with the requirements of the VCC applicable to newly constructed buildings or structures.

3. The installation of material or equipment, or both, that is neither required nor prohibited shall only be required to comply with the provisions of the VCC relating to the safe installation of such material or equipment.

4. Material or equipment, or both, may be replaced in the same location with material or equipment of a similar kind or capacity.

Exceptions:

1. This section shall not be construed to permit noncompliance with any applicable flood load or flood-resistant construction requirements of the VCC.

2. Reconstructed decks, balconies, porches and similar structures located 30 inches (762 mm) or more above grade shall meet the current code provisions for structural loading capacity, connections and structural attachment. This requirement excludes the configuration and height of handrails and guardrails.

5. In accordance with Section 36-99.2 of the Code of Virginia, any replacement glass installed in buildings constructed prior to the first edition of the USBC shall meet the quality and installation standards for glass installed in new buildings as are in effect at the time of installation. In addition, as a requirement of this code, the installation or replacement of glass in buildings constructed under any edition of the USBC shall be as required for new installations.

SECTION 103
APPLICATION OF CODE

103.1 General. All administrative provisions of the VCC, including but not limited to,

requirements for permits, inspections and approvals by the local building department, provisions for appeals from decisions of the local building department and the issuance of modifications, are applicable to the use of this code, except where this code sets out differing requirements. Where there is a conflict between a general requirement and a specific requirement in the IEBC, the specific requirement shall govern.

103.1.1 Use of performance code. Compliance with the provisions of a nationally recognized performance code when approved as a modification shall be considered to constitute compliance with this code. All documents submitted as part of such consideration shall be retained in the permanent records of the local building department.

103.1.2 Preliminary meeting. When requested by a prospective permit applicant or when determined necessary by the code official, the code official shall meet with the prospective permit applicant prior to the application for a permit to discuss plans for the proposed work or change of occupancy in order to establish the specific applicability of the provisions of this code.

103.2 Change of occupancy. Prior to a change of occupancy of the building or structure, the owner or the owner's agent shall make written application to the local building department for a new certificate of occupancy and shall obtain the new certificate of occupancy.

When impractical to achieve compliance with this code for the new occupancy, the building official shall consider modifications upon application and as provided for in Section 106.3 of the VCC.

103.3 Retrofit requirements. The local building department shall enforce the provisions of Section 1701 that require certain existing buildings to be retrofitted with fire protection systems and other safety equipment. Retroactive fire protection system requirements contained in the International Fire Code shall not be applicable unless required for compliance with the provisions of Section 1701.

103.4 Nonrequired equipment. The following criteria for nonrequired equipment is in accordance with Section 36-103 of the Code of Virginia. Building owners may elect to install partial or full fire alarms or other safety equipment that was not required by the edition of the VCC in effect at the time a building was constructed without meeting current requirements of the code, provided the installation does not create a hazardous condition. Permits for installation shall be obtained in accordance with the VCC. In addition, as a requirement of this code, when such nonrequired equipment is to be installed, the building official shall notify the appropriate fire official or fire chief.

103.4.1 Reduction in function or discontinuance of nonrequired fire protection systems. When a nonrequired fire protection system is to be reduced in function or discontinued, it shall be done in such a manner so as not to create a false sense of protection. Generally, in such cases, any features visible from interior areas shall be removed, such as sprinkler heads, smoke detectors, or alarm panels or devices, but any wiring or piping hidden within the construction of the building may remain. Approval of the proposed method of reduction or discontinuance shall be obtained from the building official.

103.5 Equipment changes. Upon the replacement or new installation of any fuel-burning appliances or equipment in existing buildings, an inspection or inspections shall be conducted in accordance with Section 113.3.1 of the VCC.

103.6 Requirements relating to maintenance. Any requirements of the IEBC requiring the maintenance of existing buildings or structures are invalid.

Note: Requirements for the maintenance of existing buildings and structures and for unsafe conditions are contained in Part III of the USBC, known as the Virginia Maintenance Code.

103.7 Use of Appendix A. Appendix A of the IEBC provides guidelines for the seismic retrofit of existing buildings. The use of this appendix is not mandatory but shall be permitted to be utilized at the option of an owner, the owner's agent or the RDP involved in a rehabilitation project. However, in no case shall the use of Appendix A be construed to authorize the lowering of existing levels of health or safety in buildings or structures being rehabilitated.

103.8 Use of Appendix B. Appendix B of the IEBC provides supplementary accessibility requirements for existing buildings and facilities. All applicable requirements of Appendix B shall be met in buildings and structures being rehabilitated.

103.9 Use of Resource A. Resource A of the IEBC provides guidelines for the evaluation of fire-resistance ratings of archaic materials and may be used in conjunction with rehabilitation projects.

103.10 Construction documents. Construction documents shall be submitted with the application for a permit. The work proposed to be performed on an existing building or structure, shall be classified on the construction documents as repairs, alterations, change of occupancy, addition, historic building, and/or moved building. All work areas shall be identified on the construction documents. Alterations shall further be identified as Level 1, Level 2, and/or Level 3.

Exception: Construction documents or classification of the work does not need to be submitted when the building official determines the proposed work does not require such documents, classification, or identification.

3. Revise Chapter Two of the 2012 VRC to be Chapter Two of the 2015 VEBC as follows (all text shown underlined; however, a legislative version showing in detail how the definition chapter is changed is included in the attachments to this proposal):

CHAPTER 2 **DEFINITIONS**

SECTION 201 **GENERAL**

201.1 Scope. Unless otherwise expressly stated, the following words and terms shall, for the purposes of this code, have the meanings shown in this chapter.

201.2 Interchangeability. Words used in the present tense include the future; words stated in the masculine gender include the feminine and neuter; the singular number includes the plural and the plural, the singular.

201.3 Terms defined in other codes. Where terms are not defined in this code and are defined in the other International Codes, such terms shall have the meanings

ascribed to them in those codes, except that terms that are not defined in this code and that are defined in the VCC shall take precedence over other definitions.

201.4 Terms not defined. Where terms are not defined through the methods authorized by this chapter, such terms shall have ordinarily accepted meanings such as the context implies.

SECTION 202 **GENERAL DEFINITIONS**

ADDITION. An extension or increase in floor area, number of stories, or height of a building or structure.

ALTERATION. Any construction or renovation to an existing structure other than a repair or addition.

BUILDING. A combination of materials, whether portable or fixed, having a roof to form a structure for the use or occupancy by persons, or property. The word "building" shall be construed as though followed by the words "or part or parts thereof" unless the context clearly requires a different meaning. "Building" shall not include roadway tunnels and bridges owned by the Virginia Department of Transportation, which shall be governed by construction and design standards approved by the Virginia Commonwealth Transportation Board.

For application of this code, each portion of a building that is completely separated from other portions by fire walls complying with Section 706 of the VCC shall be considered as a separate building (see Section 503.1 of the VCC).

CHANGE OF OCCUPANCY. Either of the following shall be considered a change of occupancy where the current VCC requires a greater degree of accessibility, structural strength, fire protection, means of egress, ventilation or sanitation than is existing in the current building or structure:

1. Any change in the occupancy classification of a building or structure.
2. Any change in the purpose of, or a change in the level of activity within, a building or structure.

Note: The use and occupancy classification of a building or structure, shall be determined in accordance with Chapter 3 of the VCC.

CODE OFFICIAL. The officer or other designated authority charged with the administration and enforcement of this code.

EQUIPMENT OR FIXTURE. Any plumbing, heating, electrical, ventilating, air conditioning, refrigerating, and fire protection equipment, and elevators, dumb waiters, escalators, boilers, pressure vessels and other mechanical facilities or installations that are related to building services. Equipment or fixture shall not include manufacturing, production, or process equipment, but shall include connections from building service to process equipment.

EXISTING BUILDING. A building for which a legal certificate of occupancy has been issued under any edition of the USBC or approved by the building official when no legal certificate of occupancy exists, and that has been occupied for its intended use; or, a

building built prior to the initial edition of the USBC.

EXISTING STRUCTURE. A structure (i) for which a legal building permit has been issued under any edition of the USBC; (ii) which has been previously approved; or, (iii) which was built prior to the initial edition of the USBC. For application of provisions in flood hazard areas, an existing structure is any building or structure for which the start of construction commenced before the effective date of the community's first flood plain management code, ordinance or standard.

HISTORIC BUILDING. Any building or structure that is one or more of the following:

1. Listed, or certified as eligible for listing, by the State Historic Preservation Officer or the Keeper of the National Register of Historic Places, in the National Register of Historic Places.

2. Designated as historic under an applicable state or local law.

3. Certified as a contributing resource within a National Register, state designated or locally designated historic district.

LOAD-BEARING ELEMENT. Any column, girder, beam, joist, truss, rafter, wall, floor or roof sheathing that supports any vertical load in addition to its own weight or any lateral load.

MOVED BUILDING OR STRUCTURE. An existing building or structure which is moved to a new location.

NONCOMBUSTIBLE MATERIAL. A material that, under the conditions anticipated, will not ignite or burn when subjected to fire or heat. Materials that pass ASTM E 136 are considered noncombustible materials.

PRIMARY FUNCTION. A primary function is a major activity for which the facility is intended. Areas that contain a primary function include, but are not limited to, the customer services lobby of a bank, the dining area of a cafeteria, the meeting rooms in a conference center, as well as offices and other work areas in which the activities of the public accommodation or other private entity using the facility are carried out. Mechanical rooms, boiler rooms, supply storage rooms, employee lounges or locker rooms, janitorial closets, entrances, corridors and restrooms are not areas containing a primary function.

REHABILITATION. Any work, as described by the categories of work defined herein, undertaken in an existing building.

REHABILITATION, SEISMIC. Work conducted to improve the seismic lateral force resistance of an existing building.

REPAIR. The reconstruction or renewal of any part of an existing building for the purpose of its maintenance or to correct damage.

REROOFING. The process of recovering or replacing an existing roof covering. See "Roof recover" and "Roof replacement."

ROOF RECOVER. The process of installing an additional roof covering over a prepared existing roof covering without removing the existing roof covering.

ROOF REPAIR. Reconstruction or renewal of any part of an existing roof for the purposes of its maintenance.

ROOF REPLACEMENT. The process of removing the existing roof covering, repairing any damaged substrate and installing a new roof covering.

SEISMIC LOADING. The forces prescribed herein, related to the response of the structure to earthquake motions, to be used in the analysis and design of the structure and its components.

STRUCTURE. An assembly of materials forming a construction for occupancy or use including stadiums, gospel and circus tents, reviewing stands, platforms, stagings, observation towers, radio towers, water tanks, storage tanks (underground and aboveground), trestles, piers, wharves, swimming pools, amusement devices, storage bins, and other structures of this general nature but excluding water wells. The word "structure" shall be construed as though followed by the words "or part or parts thereof" unless the context clearly requires a different meaning. "Structure" shall not include roadway tunnels and bridges owned by the Virginia Department of Transportation, which shall be governed by construction and design standards approved by the Virginia Commonwealth Transportation Board.

SUBSTANTIAL DAMAGE. For the purpose of determining compliance with the flood provisions of this code, damage of any origin sustained by a structure whereby the cost of restoring the structure to its before-damaged condition would equal or exceed 50 percent of the market value of the structure before the damage occurred.

SUBSTANTIAL IMPROVEMENT. For the purpose of determining compliance with the flood provisions of this code, any improvement, including repair, reconstruction, rehabilitation, alteration, or addition, or other improvement of a building or structure, the cost of which equals or exceeds 50 percent of the market value of the building or structure before the improvement or repair is started. If the building or structure has sustained substantial damage, any improvements are considered substantial improvement regardless of the actual improvement performed. The term does not, however, include either:

1. Any project for improvement of a building or structure required to correct existing health, sanitary or safety code violations identified by the building official and that is the minimum necessary to assure safe living conditions; or
2. Any alteration of a historic structure, provided that the alteration will not preclude the building or structure's continued designation as a historic building or structure.

SUBSTANTIAL STRUCTURAL DAMAGE. A condition where one or both of the following apply:

1. In any story, the vertical elements of the lateral force-resisting system have suffered damage such that the lateral load-carrying capacity of the structure in any horizontal direction has been reduced by more than 33 percent from its predamage condition.
2. The capacity of any vertical gravity load-carrying component, or any group of such components, that supports more than 30 percent of the total area of the structure's floor(s) and roof(s) has been reduced more than 20 percent from its predamage condition and the remaining capacity of such affected elements, with respect to all dead

and live loads, is less than 75 percent of that required by this code for new buildings of similar structure, purpose and location.

TECHNICALLY INFEASIBLE. An alteration of a facility that has little likelihood of being accomplished because the existing structural conditions require the removal or alteration of a load-bearing member that is an essential part of the structural frame, or because other existing physical or site constraints prohibit modification or addition of elements, spaces or features which are in full and strict compliance with the minimum requirements for new construction and which are necessary to provide accessibility.

WORK AREA. That intended room, space, or portion of a building or structure where a wall or walls are added, relocated, or removed. Work area excludes (i) the addition or elimination of any door or window; (ii) the reconfiguration or extension of any system; (iii) the installation of any additional equipment; (iv) the removal of finished flooring or ceiling materials; (v) adjacent rooms or other rooms, spaces or portions of the building or structure where incidental work entailed by the intended work must be performed; and, (vi) portions of the building or structure where work not initially intended is specifically required by this code.

CHAPTER 3 **GENERAL PROVISIONS AND SPECIAL DETAILED REQUIREMENTS**

SECTION 301 **GENERAL**

301.1 Applicability. The applicable provisions of this chapter shall be used in conjunction with the requirements in this code, and shall apply to all construction and rehabilitation.

301.2 Occupancy and use. When determining the appropriate application of the referenced sections of this code, the occupancy and use of a building shall be determined in accordance with Chapter 3 of the VCC.

SECTION 302 **BUILDING MATERIALS AND SYSTEMS**

302.1 Existing materials. Materials already in use in a building in compliance with requirements or approvals in effect at the time of their erection or installation shall be permitted to remain in use unless the VCC would not permit their use in buildings or structures of similar occupancy, purpose and location.

302.2 New and replacement materials. Except as otherwise required or permitted by this code, materials permitted by the applicable code for new construction shall be used. Like materials shall be permitted for repairs and alterations, provided no hazard to life, health or property is created. Hazardous materials shall not be used where the VCC would not permit their use in buildings or structures of similar occupancy, purpose and location.

302.3 Existing seismic force-resisting systems. Where the existing seismic force-resisting system is a type that can be designated ordinary, values of R, Ω_0 and Cd for the existing seismic force-resisting system shall be those specified by the VCC for an ordinary system unless it is demonstrated that the existing system will provide performance equivalent to that of a detailed, intermediate or special system.

SECTION 303

FIRE ESCAPES

303.1 Where permitted. Fire escapes shall be permitted only as provided for in Sections 303.1.1 through 303.1.4.

303.1.1 Existing fire escapes. Existing fire escapes shall continue to be accepted as a component in the means of egress in existing buildings only.

303.1.2 New fire escapes. Newly constructed fire escapes for existing buildings shall be permitted only where exterior stairs cannot be utilized due to lot lines limiting stair size or due to the sidewalks, alleys or roads at grade level. New fire escapes shall not incorporate ladders or access by windows.

Exception: Fire escapes that are replaced or repaired shall only be required to comply with Sections 303.3 and 303.4 if feasible, and if not feasible, such that the replaced or repaired fire escape is not less safe than its existing condition.

303.1.3 Limitations. Fire escapes shall comply with this section and shall not constitute more than 50 percent of the required number of exits nor more than 50 percent of the required exit capacity.

303.1.4 Fire escapes required. For other than Group I-2, where more than one exit is required, newly constructed fire escapes complying with Section 303.6 shall be accepted as providing one of the required means of egress. Replacement fire escapes or existing fire escapes undergoing repairs shall comply with Sections 303.3 and 303.4 if feasible, and if not feasible, to the greatest extent possible.

303.2 Location. Where located on the front of the building and where projecting beyond the building line, the lowest landing shall not be less than 7 feet (2134 mm) or more than 12 feet (3658 mm) above grade, and shall be equipped with a counterbalanced stairway to the street. In alleyways and thoroughfares less than 30 feet (9144 mm) wide, the clearance under the lowest landing shall not be less than 12 feet (3658 mm).

303.3 Construction. The fire escape shall be designed to support a live load of 100 pounds per square foot (4788 Pa) and shall be constructed of steel or other approved noncombustible materials. Fire escapes constructed of wood not less than nominal 2 inches (51 mm) thick are permitted on buildings of Type V construction. Walkways and railings located over or supported by combustible roofs in buildings of Type III and IV construction are permitted to be of wood not less than nominal 2 inches (51 mm) thick.

303.4 Dimensions. Stairs shall be at least 22 inches (559 mm) wide with risers not more than, and treads not less than, 8 inches (203 mm) and landings at the foot of stairs not less than 40 inches (1016 mm) wide by 36 inches (914 mm) long, located not more than 8 inches (203 mm) below the door.

303.5 Opening protectives. Openings within 10 feet (3048 mm) of newly constructed fire escape stairways shall be protected by fire assemblies having minimum 3/4 -hour fire-resistance ratings.

Exception: Opening protection shall not be required in buildings equipped throughout with an approved automatic sprinkler system.

303.6 Fire escape access and details. Newly constructed fire escapes shall comply

with all of the following requirements:

1. Occupants shall have unobstructed access to the fire escape without having to pass through a room subject to locking.

2. Access to a new fire escape shall be through a door, except that windows shall be permitted to provide access from single dwelling units or sleeping units in Group R-1, R-2 and I-1 occupancies or to provide access from spaces having a maximum occupant load of 10 in other occupancy classifications.

2.1. The window shall have a minimum net clear opening of 5.7 square feet (0.53 m²) or 5 square feet (0.46 m²) where located at grade.

2.2. The minimum net clear opening height shall be 24 inches (610 mm) and net clear opening width shall be 20 inches (508 mm).

2.3. The bottom of the clear opening shall not be greater than 44 inches (1118 mm) above the floor.

2.4. The operation of the window shall comply with the operational constraints of the VCC.

3. In all buildings of Group E occupancy, up to and including the 12th grade, buildings of Group I occupancy, rooming houses and childcare centers, ladders of any type are prohibited on fire escapes used as a required means of egress.

SECTION 304

GLASS REPLACEMENT AND REPLACEMENT WINDOWS

304.1 Conformance. In accordance with Section 36-99.2 of the Code of Virginia, any replacement glass installed in buildings constructed prior to the first edition of the USBC shall meet the quality and installation standards for glass installed in new buildings as are in effect at the time of installation. In addition, as a requirement of this code, the installation or replacement of glass in buildings constructed under any edition of the USBC shall be as required for new installations.

304.2 Replacement window opening control devices. In Group R-2 or R-3 buildings containing dwelling units, window opening control devices complying with ASTM F 2090 shall be installed where an existing window is replaced and where all of the following apply to the replacement window:

1. The window is operable;

2. The window replacement includes replacement of the sash and the frame;

3. The top of the sill of the window opening is at a height less than 36 inches (915 mm) above the finished floor;

4. The window will permit openings that will allow passage of a 4-inch-diameter (102 mm) sphere when the window is in its largest opened position; and

5. The vertical distance from the top of the sill of the window opening to the finished grade or other surface below, on the exterior of the building, is greater than 72 inches (1829 mm).

The window opening control device, after operation to release the control device allowing the window to fully open, shall not reduce the minimum net clear opening area of the window unit to less than the area required by Section 1029.2 of the VCC.

Exceptions:

1. Operable windows where the top of the sill of the window opening is located more than 75 feet (22 860 mm) above the finished grade or other surface below, on the exterior of the room, space or building, and that are provided with window fall prevention devices that comply with ASTM F 2006.

2. Operable windows with openings that are provided with window fall prevention devices that comply with ASTM F 2090.

304.3 Replacement window emergency escape and rescue openings. Where windows are required to provide emergency escape and rescue openings in Group R-2 and R-3 occupancies, replacement windows shall be exempt from the requirements of Sections 1030.2, 1030.3 and 1030.5 provided the replacement window meets the following conditions:

1. The replacement window is the manufacturer's largest standard size window that will fit within the existing frame or existing rough opening. The replacement window shall be permitted to be of the same operating style as the existing window or a style that provides for an equal or greater window opening area than the existing window.

2. The replacement of the window is not part of a change of occupancy.

SECTION 305
SEISMIC FORCE-RESISTING SYSTEMS

305.1 General. Where this code requires consideration of the seismic force-resisting system of an existing building subject to repair, alteration, change of occupancy, addition or relocation of existing buildings, the seismic evaluation and design shall be based on Section 305.2 regardless of which compliance method is used.

305.2 Seismic evaluation and design procedures. The seismic evaluation and design shall be based on the procedures specified in the VCC or ASCE 41. The procedures contained in Appendix A of this code shall be permitted to be used as specified in Section 305.2.2.

305.2.1 Compliance with VCC-level seismic forces. Where compliance with the seismic design provisions of the VCC is required, the criteria shall be in accordance with one of the following:

1. One-hundred percent of the values in the VCC. Where the existing seismic force-resisting system is a type that can be designated as "Ordinary," values of R, Ω_0 and Cd used for analysis in accordance with Chapter 16 of the VCC shall be those specified for structural systems classified as "Ordinary" in accordance with Table 12.2-1 of ASCE 7, unless it can be demonstrated that the structural system will provide performance equivalent to that of a "Detailed," "Intermediate" or "Special" system.

2. ASCE 41, using a Tier 3 procedure and the two level performance objective in Table 305.2.1 for the applicable risk category.

TABLE 305.2.1
PERFORMANCE OBJECTIVES FOR USE IN ASCE 41 FOR COMPLIANCE WITH VCC-
LEVEL SEISMIC FORCES

RISK CATEGORY (Based on VCC Table 1604.5)	STRUCTURAL PERFORMANCE LEVEL FOR USE WITH BSE-1E EARTHQUAKE HAZARD LEVEL	STRUCTURAL PERFORMANCE LEVEL FOR USE WITH BSE-2N EARTHQUAKE HAZARD LEVEL
I	Life Safety (S-3)	Collapse Prevention (S-5)
II	Life Safety (S-3)	Collapse Prevention (S-5)
III	Damage Control (S-2)	Limited Safety (S-4)
IV	Immediate Occupancy (S-1)	Life Safety (S-3)

305.2.2 Compliance with reduced VCC-level seismic forces. Where seismic evaluation and design is permitted to meet reduced VCC seismic force levels, the criteria used shall be in accordance with one of the following:

1. The VCC using 75 percent of the prescribed forces. Values of R, Ω_0 and Cd used for analysis shall be as specified in Section 305.2.1 of this code.

2. Structures or portions of structures that comply with the requirements of the applicable chapter in Appendix A as specified in Items 2.1 through 2.5 and subject to the limitations of the respective Appendix A chapters shall be deemed to comply with this section.

2.1. The seismic evaluation and design of unreinforced masonry bearing wall buildings in Risk Category I or II are permitted to be based on the procedures specified in Appendix Chapter A1.

2.2. Seismic evaluation and design of the wall anchorage system in reinforced concrete and reinforced masonry wall buildings with flexible diaphragms in Risk Category I or II are permitted to be based on the procedures specified in Chapter A2.

2.3. Seismic evaluation and design of cripple walls and sill plate anchorage in residential buildings of light-frame wood construction in Risk Category I or II are permitted to be based on the procedures specified in Chapter A3.

2.4. Seismic evaluation and design of soft, weak, or open-front wall conditions in multiunit residential buildings of wood construction in Risk Category I or II are permitted to be based on the procedures specified in Chapter A4.

2.5 Seismic evaluation and design of concrete buildings assigned to Risk Category I, II or III are permitted to be based on the procedures specified in Chapter A5.

3. ASCE 41, using the performance objective in Table 305.2.2 for the applicable risk category.

TABLE 305.2.2
PERFORMANCE OBJECTIVES FOR USE IN ASCE 41 FOR COMPLIANCE WITH REDUCED
VCC-LEVEL SEISMIC FORCES

<u>RISK CATEGORY (Based on VCC Table 1604.5)</u>	<u>STRUCTURAL PERFORMANCE LEVEL FOR USE WITH BSE-1E EARTHQUAKE HAZARD LEVEL</u>
<u>I</u>	<u>Life Safety (S-3)</u>
<u>II</u>	<u>Life Safety (S-3)</u>
<u>III</u>	<u>Damage Control (S-2). See Note a</u>
<u>IV</u>	<u>Immediate Occupancy (S-1)</u>

a. Tier 1 evaluation at the Damage Control performance level shall use the Tier 1 Life Safety checklists and Tier 1 Quick Check provisions midway between those specified for Life Safety and Immediate Occupancy performance

SECTION 306
GROUP B TEACHING AND RESEARCH LABORATORIES

306.1 Change of occupancy in existing Group B teaching and research laboratories. Where the use of new or different hazardous materials or a change in the amount of hazardous materials in existing Group B testing and research laboratories in educational occupancies above the 12th grade would constitute a change of occupancy, this section shall be permitted to be used as an acceptable alternative to compliance with change of occupancy requirements to permit the increased amounts of hazardous materials stipulated without the laboratories being classified as Group H. In addition, as set out in Section 5001.7 of the SFPC, approval under this section is contingent upon operational requirements in the SFPC being complied with and maintained.

306.1.1 Hazardous materials in existing Group B teaching and research laboratories. The percentage of maximum allowable quantities of hazardous materials per control area and the number of control areas permitted at each floor level within an existing building shall be permitted to comply with Table 306.1.1(1) in buildings equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1 of the VCC or shall be permitted to comply with Table 306.1.1(2) in buildings not equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1 of the VCC.

TABLE 306.1.1(1)
DESIGN AND NUMBER OF CONTROL AREAS IN EXISTING BUILDINGS EQUIPPED THROUGHOUT WITH AN AUTOMATIC SPRINKLER SYSTEM IN ACCORDANCE WITH SECTION 903.3.1.1 OF THE VCC WITH GROUP B TESTING AND RESEARCH LABORATORIES IN EDUCATIONAL OCCUPANCIES ABOVE THE 12TH GRADE

<u>FLOOR LEVEL</u>		<u>PERCENTAGE OF THE MAXIMUM ALLOWABLE QUANTITY PER CONTROL AREAa</u>	<u>NUMBER OF CONTROL AREAS PER FLOOR</u>	<u>FIRE-RESISTANCE RATING FOR FIRE BARRIERS AND HORIZONTAL ASSEMBLIES IN HOURSb</u>
	<u>Higher than 20</u>	<u>5</u>	<u>1</u>	<u>2</u>

Above grade plane	<u>10-20</u>	<u>10</u>	<u>1</u>	<u>2</u>
	<u>7-9</u>	<u>25</u>	<u>2</u>	<u>2</u>
	<u>4-6</u>	<u>50</u>	<u>2</u>	<u>2</u>
	<u>3</u>	<u>75</u>	<u>3</u>	<u>1</u>
	<u>2</u>	<u>100</u>	<u>3</u>	<u>1</u>
	<u>1</u>	<u>100</u>	<u>4</u>	<u>1</u>
Below grade plane	<u>1</u>	<u>75</u>	<u>3</u>	<u>1</u>
	<u>2</u>	<u>50</u>	<u>2</u>	<u>1</u>
	<u>Lower than 2</u>	<u>Not allowed</u>	<u>Not allowed</u>	<u>Not allowed</u>

a. Percentages shall be of the maximum allowable quantity per control area shown in Tables 307.1(1) and 307.1(2) of the VCC, with all increases allowed in the notes to those tables.

b. Separation shall include fire barriers and horizontal assemblies as necessary to provide separation from other portions of the building.

TABLE 306.1.1(2)
DESIGN AND NUMBER OF CONTROL AREAS IN EXISTING BUILDINGS NOT EQUIPPED THROUGHOUT WITH AN AUTOMATIC SPRINKLER SYSTEM IN ACCORDANCE WITH SECTION 903.3.1.1 OF THE VCC WITH GROUP B TESTING AND RESEARCH LABORATORIES IN EDUCATIONAL OCCUPANCIES ABOVE THE 12TH GRADE

FLOOR LEVEL		PERCENTAGE OF THE MAXIMUM ALLOWABLE QUANTITY PER CONTROL AREAA	NUMBER OF CONTROL AREAS PER FLOOR	FIRE-RESISTANCE RATING FOR FIRE BARRIERS AND HORIZONTAL ASSEMBLIES IN HOURS ^b
Above grade plane	<u>Higher than 9</u>	<u>5</u>	<u>1</u>	<u>2</u>
	<u>7-9</u>	<u>10</u>	<u>2</u>	<u>2</u>
	<u>4-6</u>	<u>25</u>	<u>2</u>	<u>2</u>
	<u>3</u>	<u>75</u>	<u>2</u>	<u>2</u>
	<u>2</u>	<u>100</u>	<u>3</u>	<u>1</u>
	<u>1</u>	<u>100</u>	<u>4</u>	<u>1</u>
Below grade plane	<u>1</u>	<u>75</u>	<u>3</u>	<u>1</u>
	<u>2</u>	<u>50</u>	<u>2</u>	<u>1</u>
	<u>Lower than 2</u>	<u>Not allowed</u>	<u>Not allowed</u>	<u>Not allowed</u>

a. Percentages shall be of the maximum allowable quantity per control area shown in Tables 307.1(1) and 307.1(2) of the VCC, excluding all increases allowed in the notes to

those tables.

b. Separation shall include fire barriers and horizontal assemblies as necessary to provide separation from other portions of the building.

306.1.2 Automatic fire alarm and detection systems. An automatic fire alarm system shall be provided throughout the building in accordance with Section 907 of the VCC. An automatic fire detection system shall be provided in the control area in accordance with Section 907 of the VCC where pyrophics or Class 4 oxidizers are used and the building is not equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1 of the VCC.

306.1.3 System supervision and monitoring. Automatic fire detection systems shall be electronically supervised and monitored by an approved supervising station or, where approved, shall initiate an audible and visual signal at a constantly attended onsite location.

SECTION 307 **REROOFING AND ROOF REPAIR**

307.1 Reroofing. Materials and methods of application used for recovering or replacing an existing roof covering shall comply with this section and the applicable requirements of Chapter 15 of the VCC.

Exceptions:

1. Roof replacement or roof recover of existing low-slope roof coverings shall not be required to meet the minimum design slope requirement of one-quarter unit vertical in 12 units horizontal (2-percent slope) in Section 1507 of the VCC for roofs that provide positive roof drainage.

2. Recovering or replacing an existing roof covering shall not be required to meet the requirement for secondary (emergency overflow) drains or scuppers in Section 1503.4 of the VCC for roofs that provide for positive roof drainage. For the purposes of this exception, existing secondary drainage or scupper systems required in accordance with the VCC shall not be removed unless they are replaced by secondary drains or scuppers designed and installed in accordance with Section 1503.4 of the VCC.

307.2 Structural and construction loads. Structural roof components shall be capable of supporting the roof-covering system and the material and equipment loads that will be encountered during installation of the system.

307.3 Roof replacement. Roof replacement shall include the removal of all existing layers of roof coverings down to the roof deck.

Exception: Where the existing roof assembly includes an ice barrier membrane that is adhered to the roof deck, the existing ice barrier membrane shall be permitted to remain in place and covered with an additional layer of ice barrier membrane in accordance with Section 1507 of the VCC.

307.3.1 Roof recover. The installation of a new roof covering over an existing roof covering shall be permitted where any of the following conditions occur:

1. Complete and separate roofing systems, such as standing-seam metal roof systems, that are designed to transmit the roof loads directly to the building's structural system

and that do not rely on existing roofs and roof coverings for support, shall not require the removal of existing roof coverings.

2. Metal panel, metal shingle and concrete and clay tile roof coverings shall be permitted to be installed over existing wood shake roofs when applied in accordance with Section 307.4.

3. The application of a new protective coating over an existing spray polyurethane foam roofing system shall be permitted without tear-off of existing roof coverings.

4. Where the new roof covering is installed in accordance with the roof covering manufacturer's approved instructions.

Exception: A roof recover shall not be permitted where any of the following conditions occur:

1. Where the existing roof or roof covering is water soaked or has deteriorated to the point that the existing roof or roof covering is not adequate as a base for additional roofing.

2. Where the existing roof covering is slate, clay, cement or asbestos-cement tile.

3. Where the existing roof has two or more applications of any type of roof covering.

307.4 Roof recovering. Where the application of a new roof covering over wood shingle or shake roofs creates a combustible concealed space, the entire existing surface shall be covered with gypsum board, mineral fiber, glass fiber or other approved materials securely fastened in place.

307.5 Reinstallation of materials. Existing slate, clay or cement tile shall be permitted for reinstallation, except that damaged, cracked or broken slate or tile shall not be reinstalled. Existing vent flashing, metal edgings, drain outlets, collars and metal counter-flashings shall not be reinstalled where rusted, damaged or deteriorated. Aggregate surfacing materials shall not be reinstalled.

307.6 Flashings. Flashings shall be reconstructed in accordance with approved manufacturer's installation instructions. Metal flashing to which bituminous materials are to be adhered shall be primed prior to installation.

307.7 Roof repair. Roof repairs shall comply with this section. Work on nondamaged components that is necessary for the required repair of damaged components shall be considered part of the roof repair and shall not be subject to the requirements of other parts of this code.

Exception: Routine maintenance required by this section, ordinary repairs exempt from permit in accordance with Section 108.2 of the VCC, and abatement of wear due to normal service conditions shall not be subject to the requirements for roof repairs in this section.

307.7.1 Building materials and systems. Building materials and systems shall comply with the requirements of Sections 307.7.1.1 and 307.7.1.2.

307.7.1.1 Existing materials. Materials already in use in a building in compliance with requirements or approvals in effect at the time of their erection or installation shall be

permitted to remain in use unless determined by the building official to be unsafe.

307.7.1.2 New and replacement materials. Except as otherwise required or permitted by this code, materials permitted by the applicable code for new construction shall be used. Like materials shall be permitted for repairs, provided no hazard to life, health or property is created. Hazardous materials shall not be used where the code for new construction would not permit their use in buildings of similar occupancy, purpose and location.

CHAPTER 4 **ACCESSIBILITY**

SECTION 401 **GENERAL**

401.1 Scope. The applicable provisions of this chapter shall apply to all construction and rehabilitation.

SECTION 402 **CHANGE OF OCCUPANCY**

402.1 Change of occupancy. Existing buildings or structures that undergo a change of occupancy shall comply with this section.

Exception: Type B dwelling or sleeping units required by Section 1107 of the VCC 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.

402.2 Partial change in occupancy. Where a portion of the building is changed to a new occupancy classification, additional accessible features are not required due to the change of occupancy.

402.3 Complete change of occupancy. Where an entire building undergoes a change of occupancy classification, it shall have all of the following accessible features:

1. At least one accessible building entrance.
2. At least one accessible route from an accessible building entrance to primary function areas.
3. Signage complying with Section 1111 of the VCC.
4. Accessible parking, where parking is being provided.
5. At least one accessible passenger loading zone, when loading zones are provided.
6. At least one accessible route connecting accessible parking and accessible passenger loading zones to an accessible entrance.

Where it is technically infeasible to comply with the new construction standards for any of these requirements for a change of occupancy, the above items shall conform to the requirements to the maximum extent technically feasible.

Exception: The accessible features listed in Items 1 through 6 are not required for an accessible route to Type B units.

SECTION 403 **ADDITIONS**

403.1 Additions. Accessibility provisions for new construction shall apply to additions. An addition that affects the accessibility to, or contains an area of, a primary function shall comply with the requirements in Section 410.7, as applicable.

403.2 Accessible dwelling units and sleeping units. Where Group I-1, I-2, I-3, R-1, R-2 or R-4 dwelling or sleeping units are being added, the requirements of Section 1107 of the VCC for accessible units apply only to the quantity of spaces being added.

403.3 Type A dwelling or sleeping units. Where more than 20 Group R-2 dwelling or sleeping units are being added, the requirements of Section 1107 of the VCC for Type A units and Chapter 9 of the VCC for visible alarms apply only to the quantity of the spaces being added.

403.4 Type B dwelling or sleeping units. Where four or more Group I-1, I-2, R-1, R-2, R-3 or R-4 dwelling or sleeping units are being added, the requirements of Section 1107 of the VCC for Type B units and Chapter 9 of the VCC for visible alarms apply only to the quantity of spaces being added.

SECTION 404 **ALTERATIONS**

404.1 General. An alteration of an existing facility shall not impose a requirement for greater accessibility than that which would be required for new construction. Alterations shall not reduce or have the effect of reducing accessibility of a facility or portion of a facility.

404.2 Alterations. A facility that is altered shall comply with the applicable provisions in this section and Chapter 11 of the VCC, except as modified by Sections 404.3 and 404.4, unless technically infeasible. Where compliance with this section is technically infeasible, the alteration shall provide access to the maximum extent technically feasible.

Exceptions:

1. The altered element or space is not required to be on an accessible route, unless required by Section 404.3.
2. Accessible means of egress required by Chapter 10 of the VCC are not required to be provided in existing facilities.
3. The alteration to Type A individually owned dwelling units within a Group R-2 occupancy shall be permitted to meet the provision for a Type B dwelling unit.
4. Type B dwelling or sleeping units required by Section 1107 of the VCC 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.

404.3 Alterations affecting an area containing a primary function. Where an

alteration affects the accessibility to, or contains an area of primary function, the route to the primary function area shall be accessible. The accessible route to the primary function area shall include toilet facilities and drinking fountains that shall also be accessible to and useable by individuals with disabilities, serving the area of primary function.

Exceptions:

1. The costs of providing the accessible route are not required to exceed 20 percent of the costs of the alterations affecting the area of primary function.

2. This provision does not apply to alterations limited solely to windows, hardware, operating controls, electrical outlets and signs.

3. This provision does not apply to alterations limited solely to mechanical systems, electrical systems, installation or alteration of fire protection systems and abatement of hazardous materials.

4. This provision does not apply to alterations undertaken for the primary purpose of increasing the accessibility of a facility.

5. This provision does not apply to altered areas limited to Type B dwelling and sleeping units.

404.4 Scoping for alterations. The provisions of Sections 404.4.1 through 404.4.15 shall apply to alterations to existing buildings and facilities.

404.4.1 Entrances. Where an alteration includes alterations to an entrance, and the facility has an accessible entrance on an accessible route, the altered entrance is not required to be accessible unless required by Section 404.3. Signs complying with Section 1111 of the VCC shall be provided.

Exception: Where an alteration includes alterations to an entrance, and the facility has an accessible entrance, the altered entrance is not required to be accessible, unless required by Section 404.3. Signs complying with Section 1111 of the VCC shall be provided.

404.4.2 Elevators. Altered elements of existing elevators shall comply with ASME A17.1/CSA B44 and ICC A117.1. Such elements shall also be altered in elevators programmed to respond to the same hall call control as the altered elevator.

404.4.3 Platform lifts. Platform (wheelchair) lifts complying with ICC A117.1 and installed in accordance with ASME A18.1 shall be permitted as a component of an accessible route.

404.4.4 Stairways and escalators. In alterations, change of occupancy or additions where an escalator or stairway is added where none existed previously and major structural modifications are necessary for installation, an accessible route shall be provided between the levels served by the escalator or stairways in accordance with Section 1104.4 of the VCC.

404.4.5 Ramps. Where steeper slopes than allowed by Section 1012.2 of the VCC are necessitated by space limitations, the slope of ramps in or providing access to existing facilities shall comply with Table 404.4.5.

TABLE 404.4.5
RAMPS

SLOPE	MAXIMUM RISE
Steeper than 1:10 but not steeper than 1:8	3 inches
Steeper than 1:12 but not steeper than 1:10	6 inches

For SI: 1 inch = 25.4 mm

404.4.6 Accessible dwelling or sleeping units. Where Group I-1, I-2, I-3, R-1, R-2 or R-4 dwelling or sleeping units are being altered, the requirements of Section 1107 of the VCC for Accessible units apply only to the quantity of the spaces being altered.

404.4.7 Type A dwelling or sleeping units. Where more than 20 Group R-2 dwelling or sleeping units are being altered, the requirements of Section 1107 of the VCC for Type A units and Chapter 9 of the VCC for visible alarms apply only to the quantity of the spaces being altered.

404.4.8 Type B dwelling or sleeping units. Where four or more Group I-1, I-2, R-1, R-2, R-3 or R-4 dwelling or sleeping units are being altered and where the work area is greater than 50 percent of the aggregate area of the building, the requirements of Section 1107 of the VCC for Type B units and Chapter 9 of the VCC for visible Alarms apply only to the quantity of the spaces being altered.

Exception: Group I-1, I-2, R-2, R-3 and R-4 dwelling or sleeping units where the first certificate of occupancy was issued before March 15, 1991 are not required to provide Type B dwelling or sleeping units.

404.4.9 Jury boxes and witness stands. In alterations, accessible wheelchair spaces are not required to be located within the defined area of raised jury boxes or witness stands and shall be permitted to be located outside these spaces where ramp or lift access poses a hazard by restricting or projecting into a required means of egress.

404.4.10 Toilet rooms. Where it is technically infeasible to alter existing toilet and bathing rooms to be accessible, an accessible family or assisted-use toilet or bathing room constructed in accordance with Section 1109.2.1 of the VCC is permitted. The family or assisted-use toilet or bathing room shall be located on the same floor and in the same area as the existing toilet or bathing rooms. At the inaccessible toilet and bathing rooms, provide directional signs indicating the location of the nearest family or assisted-use toilet room or bathing room. These directional signs shall include the International Symbol of Accessibility and sign characters shall meet the visual character requirements in accordance with ICC A117.1.

404.4.11 Dressing, fitting and locker rooms. Where it is technically infeasible to provide accessible dressing, fitting or locker rooms at the same location as similar types of rooms, one accessible room on the same level shall be provided. Where separate-sex facilities are provided, accessible rooms for each sex shall be provided. Separate sex facilities are not required where only unisex rooms are provided.

404.4.12 Fuel dispensers. Operable parts of replacement fuel dispensers shall be

permitted to be 54 inches (1370 mm) maximum, measuring from the surface of the vehicular way where fuel dispensers are installed on existing curbs.

404.4.13 Thresholds. The maximum height of thresholds at doorways shall be 3/4 inch (19.1 mm). Such thresholds shall have beveled edges on each side.

404.4.14 Amusement rides. Where the structural or operational characteristics of an amusement ride are altered to the extent that the amusement ride's performance differs from that specified by the manufacturer or the original design, the amusement ride shall comply with requirements for new construction in Section 1110.4.8 of the VCC.

404.4.15 Dining areas. An accessible route to raised or sunken dining areas or to outdoor seating areas is not required provided that the same services and decor are provided in an accessible space usable by any occupant and not restricted to use by people with a disability.

SECTION 405 **HISTORIC BUILDINGS**

405.1 General. These provisions shall apply to facilities designated as historic buildings or structures that undergo alterations or a change of occupancy, unless technically infeasible. Where compliance with the requirements for accessible routes, entrances or toilet rooms would threaten or destroy the historic significance of the facility, the alternative requirements of Sections 405.1.1 through 405.1.4 for that element shall be permitted.

Exception: Type B dwelling or sleeping units required by Section 1107 of the VCC are not required to be provided in historical buildings.

405.1.1 Site arrival points. At least one accessible route from a site arrival point to an accessible entrance shall be provided.

405.1.2 Multilevel buildings and facilities. An accessible route from an accessible entrance to public spaces on the level of the accessible entrance shall be provided.

405.1.3 Entrances. At least one main entrance shall be accessible.

Exceptions:

1. If a main entrance cannot be made accessible, an accessible nonpublic entrance that is unlocked while the building is occupied shall be provided; or

2. If a main entrance cannot be made accessible, a locked accessible entrance with a notification system or remote monitoring shall be provided.

3. Signs complying with Section 1111 of the VCC shall be provided at the primary entrance and the accessible entrance.

405.1.4 Toilet and bathing facilities. Where toilet rooms are provided, at least one accessible family or assisted-use toilet room complying with Section 1109.2.1 of the VCC shall be provided.

CHAPTER 5 **REPAIRS**

SECTION 501

GENERAL

501.1 Scope. Repairs, including the patching or restoration or replacement of damaged materials, elements, equipment or fixtures for the purpose of maintaining such components in good or sound condition with respect to existing loads or performance requirements, shall comply with the requirements of this chapter. Repairs to historic buildings need only comply with Chapter 9. Portions of the existing building or structure not being repaired shall not be required to comply with the requirements of this code applicable to newly constructed buildings or structures. Work on nondamaged components that is necessary for the required repair of damaged components shall be considered part of the repair and shall not be subject to the provisions of Chapter 6, 7 or 8. Routine maintenance required by Section 302, ordinary repairs exempt from permit in accordance with Section 108.2 of the VCC, and abatement of wear due to normal service conditions shall not be subject to the requirements for repairs in this section.

Exception: Repairs complying with the requirements of the building code under which the building or structure or the affected portions thereof was built, or as previously approved by the building official, shall be considered in compliance with the provisions of this code, unless the building or structure or the affected portions thereof is undergoing a substantial structural alteration as described in Section 604.7.1. New structural members added as part of the alteration or repairs shall comply with the VCC. Repairs of existing buildings in flood hazard areas shall comply with Section 503.

501.2 Conformance. The work shall not make the building less conforming than it was before the repair was undertaken. Repairs shall be done in a manner that maintains the following:

1. Level of fire protection that is existing.
2. Level of protection that is existing for the means of egress.
3. Level of accessibility that is existing.

SECTION 502

STRUCTURAL

502.1 General. Structural repairs shall be in compliance with this section and Section 501.2. Regardless of the scope of repair, new structural members and connections used for repair or rehabilitation shall comply with the detailing provisions of the VCC for new buildings of similar structure, purpose and location.

502.2 Repairs to damaged buildings. Repairs to damaged buildings shall comply with this section.

502.2.1 Less than substantial structural damage. For damage less than substantial structural damage, repairs shall be allowed that restore the building to its predamage state. New structural members and connections used for this repair shall comply with the detailing provisions of the VCC for new buildings of similar structure, purpose and location.

502.2.2 Substantial structural damage to vertical elements of the lateral force-resisting system. A building that has sustained substantial structural damage to the

vertical elements of its lateral force-resisting system shall be evaluated in accordance with Section 502.2.2.1, and either repaired in accordance with Section 502.2.2.2 or repaired and rehabilitated in accordance with Section 502.2.2.3, depending on the results of the evaluation.

Exceptions:

1. Buildings assigned to Seismic Design Category A, B, or C whose substantial structural damage was not caused by earthquake need not be evaluated or rehabilitated for load combinations that include earthquake effects.

2. One- and two-family dwellings need not be evaluated or rehabilitated for load combinations that include earthquake effects.

502.2.2.1 Evaluation. The building shall be evaluated by a registered design professional, and the evaluation findings shall be submitted to the building official. The evaluation shall establish whether the damaged building, if repaired to its predamage state, would comply with the provisions of the VCC for load combinations that include wind or earthquake effects, except that the seismic forces shall be the reduced VCC-level seismic forces.

Wind loads for this evaluation shall be those prescribed in Section 1609 of the VCC. Earthquake loads for this evaluation, if required, shall be permitted to be 75 percent of those prescribed in Section 1613 of the VCC. Alternatively, compliance with ASCE 41, using the performance objective in Table 305.2.2 for the applicable risk category, shall be deemed to meet the earthquake evaluation requirement.

502.2.2.2 Extent of repair for compliant buildings. If the evaluation establishes that the building in its predamage condition complies with the provisions of Section 502.2.2.1, then repairs shall be permitted that restore the building to its predamage state.

502.2.2.3 Extent of repair for noncompliant buildings. If the evaluation does not establish that the building in its predamage condition complies with the provisions of Section 502.2.2.1, then the building shall be rehabilitated to comply with the provisions of this section. The wind loads for the repair shall be as required by the building code in effect at the time of original construction, unless the damage was caused by wind, in which case the wind loads shall be in accordance with the VCC. The earthquake loads for this rehabilitation design shall be those required by the building code in effect at the time of original construction, but not less than the reduced VCC-level seismic forces. New structural members and connections required by this rehabilitation design shall comply with the detailing provisions of the VCC for new buildings of similar structure, purpose and location. Alternatively, compliance with ASCE 41, using the performance objective in Table 305.2.2 for the applicable risk category, shall be deemed to meet the earthquake rehabilitation requirement.

502.2.3 Substantial structural damage to gravity load-carrying components. Gravity load-carrying components that have sustained substantial structural damage shall be rehabilitated to comply with the applicable provisions for dead and live loads in the VCC. Snow loads shall be considered if the substantial structural damage was caused by or related to snow load effects. Existing gravity load-carrying structural elements shall be permitted to be designed for live loads approved prior to the damage. If the approved live load is less than that required by Section 1607 of the VCC, the area designed for the nonconforming live load shall be posted with placards of approved design indicating the approved live load. Nondamaged gravity load-carrying components

that receive dead, live or snow loads from rehabilitated components shall also be rehabilitated if required to comply with the design loads of the rehabilitation design, or shown to have the capacity to carry the design loads of the rehabilitation design. New structural members and connections required by this rehabilitation design shall comply with the detailing provisions of the VCC for new buildings of similar structure, purpose and location.

502.2.3.1 Lateral force-resisting elements. Regardless of the level of damage to gravity elements of the lateral force-resisting system, if substantial structural damage to gravity load-carrying components was caused primarily by wind or earthquake effects, then the building shall be evaluated in accordance with Section 502.2.2.1 and, if noncompliant, rehabilitated in accordance with Section 502.2.2.3.

Exceptions:

1. Buildings assigned to Seismic Design Category A, B, or C whose substantial structural damage was not caused by earthquake need not be evaluated or rehabilitated for load combinations that include earthquake effects.

2. One- and two-family dwellings need not be evaluated or rehabilitated for load combinations that include earthquake effects.

SECTION 503
FLOOD HAZARD AREAS

503.1 Flood hazard areas. For buildings and structures, in flood hazard areas established in Section 1612.3 of the VCC, or Section R322 of the International Residential Code, as applicable, any repair that constitutes substantial improvement or repair of substantial damage of the existing building or structure shall comply with the flood design requirements for new construction and all aspects of the existing building or structure shall be brought into compliance with the requirements for new construction for flood design.

For buildings and structures in flood hazard areas established in Section 1612.3 of the VCC, or Section R322 of the International Residential Code, as applicable, any repairs do not constitute substantial improvement or repair of substantial damage of the existing building or structure are not required to comply with the flood design requirements for new construction.

SECTION 504
ELECTRICAL

504.1 Material. Existing electrical wiring and equipment undergoing repair shall be allowed to be repaired or replaced with like material.

504.1.1 Receptacles. Replacement of electrical receptacles shall comply with the applicable requirements of Section 406.4(D) of NFPA 70.

504.1.2 Plug fuses. Plug fuses of the Edison-base type shall be used for replacements only where there is no evidence of over fusing or tampering per applicable requirements of Section 240.51(B) of NFPA 70.

504.1.3 Nongrounding-type receptacles. For replacement of nongrounding-type receptacles with grounding-type receptacles and for branch circuits that do not have an

equipment grounding conductor in the branch circuitry, the grounding conductor of a grounding-type receptacle outlet shall be permitted to be grounded to any accessible point on the grounding electrode system or to any accessible point on the grounding electrode conductor in accordance with Section 250.130(C) of NFPA 70.

504.1.4 Group I-2 receptacles. Non-"hospital grade" receptacles in patient bed locations of Group I-2 shall be replaced with "hospital grade" receptacles, as required by NFPA 99 and Article 517 of NFPA 70.

504.1.5 Grounding of appliances. Frames of electric ranges, wall-mounted ovens, counter-mounted cooking units, clothes dryers and outlet or junction boxes that are part of the existing branch circuit for these appliances shall be permitted to be grounded to the grounded circuit conductor in accordance with Section 250.140 of NFPA 70.

SECTION 505 **MECHANICAL**

505.1 General. Existing mechanical systems undergoing repair shall not make the building less conforming than it was before the repair was undertaken.

505.2 Mechanical draft systems for manually fired appliances and fireplaces. A mechanical draft system shall be permitted to be used with manually fired appliances and fireplaces where such a system complies with all of the following requirements:

1. The mechanical draft device shall be listed and installed in accordance with the manufacturer's installation instructions.

2. A device shall be installed that produces visible and audible warning upon failure of the mechanical draft device or loss of electrical power at any time that the mechanical draft device is turned on. This device shall be equipped with a battery backup if it receives power from the building wiring.

3. A smoke detector shall be installed in the room with the appliance or fireplace. This device shall be equipped with a battery backup if it receives power from the building wiring.

SECTION 506 **PLUMBING**

506.1 Materials. Plumbing materials and supplies shall not be used for repairs that are prohibited in the International Plumbing Code.

506.2 Water closet replacement. The maximum water consumption flow rates and quantities for all replaced water closets shall be 1.6 gallons (6 L) per flushing cycle.

Exception: Blowout-design water closets [3.5 gallons (13 L) per flushing cycle].

CHAPTER 6 **ALTERATIONS**

SECTION 601 **GENERAL**

601.1 General. Except as provided by Section 905.1 or this chapter, alterations to any

building or structure shall comply with the requirements of the VCC for new construction. Alterations shall be such that the existing building or structure is no less conforming to the provisions of the VCC than the existing building or structure was prior to the alteration.

Exceptions:

1. Any stairway replacing an existing stairway shall not be required to comply with the requirements of Section 1011 of the VCC where the existing space and construction does not allow a reduction in pitch or slope.

2. Handrails otherwise required to comply with Section 1011.11 of the VCC shall not be required to comply with the requirements of Section 1014.6 of the VCC regarding full extension of the handrails where such extensions would be hazardous due to plan configuration.

3. Where the current level of safety or sanitation is proposed to be reduced, the portion altered shall conform to the requirements of the VCC.

4. Alterations complying with the requirements of the building code under which the building or structure or the affected portions thereof was built, or as previously approved by the building official, shall be considered in compliance with the provisions of this code, unless the building or structure or the affected portions thereof is undergoing a substantial structural alteration as described in Section 604.7.1. New structural members added as part of the alteration or repairs shall comply with the VCC. Alterations of existing buildings in flood hazard areas shall comply with Section 601.3.

601.2 Levels of alterations. Alterations to any building or structure shall be classified as indicated in Sections 601.2.1 through 601.2.3.

601.2.1 Level 1. Level 1 alterations include the removal and replacement or the covering of existing materials, elements, equipment, or fixtures using new materials, elements, equipment, or fixtures that serve the same purpose. Level 1 alterations shall comply with the applicable provisions Section 602.

601.2.2 Level 2. Level 2 alterations include the addition or elimination of any door or window, the reconfiguration or extension of any system, or the installation of any additional equipment; and shall apply where the work area is less than 50 percent of the building area. Level 2 alterations shall comply with the applicable provisions Sections 602 and 603.

601.2.3 Level 3. Level 3 alterations apply where the work area exceeds 50 percent of the building area. Level 3 alterations shall comply with the applicable provisions Sections 602, 603, and 604.

601.2.3.1 Special provisions. A building separated horizontally in compliance with VCC Section 510.2 shall be considered as separate and distinct buildings for the purpose of determining building area used for application of Section 601.2.3.

601.3 Flood hazard areas. In flood hazard areas, alterations that constitute substantial improvement shall require that the building comply with Section 1612 of the VCC, or Section R322 of the International Residential Code, as applicable.

601.4 Energy conservation. Level 1, 2, and 3 alterations to existing buildings or

structures are permitted without requiring the entire building or structure to comply with the energy requirements of the International Energy Conservation Code or International Residential Code. The alterations shall conform to the energy requirements of the International Energy Conservation Code or International Residential Code as they relate to new construction only.

Exception: Except for window and door openings, like materials, assemblies or thicknesses shall be permitted for alterations involving the exterior building thermal envelope, provided no hazard to life, health or property is created. Hazardous materials shall not be used where the code for new construction would not permit their use in buildings of similar occupancy, purpose and location.

601.5 Accessibility. Accessibility shall be provided in accordance with applicable provisions of Section 404.

SECTION 602 **LEVEL 1 ALTERATIONS**

602.1 Scope. Level 1 alterations as described in Section 601.2.1 shall comply with the requirements of this section. Level 1 alterations to historic buildings shall comply with this chapter, except as modified in Chapter 12.

602.2 Conformance. Alterations shall be done in a manner that maintains the following:

1. Level of fire protection that is existing.
2. Level of protection that is existing for the means of egress.

602.3 Building elements and materials. Building elements and materials shall comply with the applicable provisions of Sections 302 and 602.3.1 through 602.3.5.

602.3.1 Interior finishes. All newly installed interior wall and ceiling finishes shall comply with Chapter 8 of the VCC.

602.3.2 Interior floor finish. New interior floor finish, including new carpeting used as an interior floor finish material, shall comply with Section 804 of the VCC.

602.3.3 Interior trim. All newly installed interior trim materials shall comply with Section 806 of the VCC.

602.3.4 Materials and methods. All new work shall comply with the materials and methods requirements in the VCC, International Energy Conservation Code, International Mechanical Code, and International Plumbing Code, as applicable, that specify material standards, detail of installation and connection, joints, penetrations, and continuity of any element, component, or system in the building.

602.3.5 International Fuel Gas Code. The following sections of the International Fuel Gas Code shall constitute the fuel gas materials and methods requirements for Level 1 alterations.

1. All of Chapter 3, entitled "General Regulations," except Sections 303.7 and 306.
2. All of Chapter 4, entitled "Gas Piping Installations," except Sections 401.8 and 402.3.

2.1. Sections 401.8 and 402.3 shall apply when the work being performed increases the load on the system such that the existing pipe does not meet the size required by code. Existing systems that are modified shall not require resizing as long as the load on the system is not increased and the system length is not increased even if the altered system does not meet code minimums.

3. All of Chapter 5, entitled "Chimneys and Vents."

4. All of Chapter 6, entitled "Specific Appliances."

SECTION 603 **LEVEL 2 ALTERATIONS**

603.1 Scope. Level 2 alterations as described in Section 601.2.2 shall comply with the requirements of this section.

Exception: Buildings in which the alteration is exclusively the result of compliance with the accessibility requirements of Section 404.3 shall be permitted to comply with Section 602.

603.2 Level 1 alteration compliance. In addition to the requirements of this section, all work shall comply with the applicable requirements of Section 602.

603.3 Compliance. All new construction elements, components, systems, and spaces shall comply with the requirements of the VCC.

Exceptions:

1. Windows may be added without requiring compliance with the light and ventilation requirements of the VCC.

2. Newly installed electrical equipment shall comply with the requirements of Section 603.8.

3. The length of dead-end corridors in newly constructed spaces shall only be required to comply with the provisions of Section 603.6.5.

4. The minimum ceiling height of the newly created habitable and occupiable spaces and corridors shall be 7 feet (2134 mm).

603.4 Building elements and materials. The requirements of Section 603.4 are limited to work areas in which Level 2 alterations are being performed and shall apply beyond the work area where specified.

603.4.1 Vertical openings. Existing vertical openings shall comply with the provisions of Sections 603.4.1.1, 603.4.1.2 and 603.4.1.3.

603.4.1.1 Existing vertical openings. Existing interior vertical openings connecting two or more floors shall be enclosed with approved assemblies having a fire-resistance rating of not less than 1 hour with approved opening protectives.

Exceptions:

1. Where vertical opening enclosure is not required by the VCC or the International Fire

Code.

2. Interior vertical openings other than stairways may be blocked at the floor and ceiling of the work area by installation of not less than 2 inches (51 mm) of solid wood or equivalent construction.

3. The enclosure shall not be required where:

3.1. Connecting the main floor and mezzanines; or

3.2. All of the following conditions are met:

3.2.1. The communicating area has a low hazard occupancy or has a moderate hazard occupancy that is protected throughout by an automatic sprinkler system.

3.2.2. The lowest or next to the lowest level is a street floor.

3.2.3. The entire area is open and unobstructed in a manner such that it may be assumed that a fire in any part of the interconnected spaces will be readily obvious to all of the occupants.

3.2.4. Exit capacity is sufficient to provide egress simultaneously for all occupants of all levels by considering all areas to be a single floor area for the determination of required exit capacity.

3.2.5. Each floor level, considered separately, has at least one half of its individual required exit capacity provided by an exit or exits leading directly out of that level without having to traverse another communicating floor level or be exposed to the smoke or fire spreading from another communicating floor level.

4. In Group A occupancies, a minimum 30-minute enclosure shall be provided to protect all vertical openings not exceeding three stories.

5. In Group B occupancies, a minimum 30-minute enclosure shall be provided to protect all vertical openings not exceeding three stories. This enclosure, or the enclosure specified in Section 603.4.1.1, shall not be required in the following locations:

5.1. Buildings not exceeding 3,000 square feet (279 m²) per floor.

5.2. Buildings protected throughout by an approved automatic fire sprinkler system.

6. In Group E occupancies, the enclosure shall not be required for vertical openings not exceeding three stories when the building is protected throughout by an approved automatic fire sprinkler system.

7. In Group F occupancies, the enclosure shall not be required in the following locations:

7.1. Vertical openings not exceeding three stories.

7.2. Special purpose occupancies where necessary for manufacturing operations and direct access is provided to at least one protected stairway.

7.3. Buildings protected throughout by an approved automatic sprinkler system.

8. In Group H occupancies, the enclosure shall not be required for vertical openings not exceeding three stories where necessary for manufacturing operations and every floor level has direct access to at least two remote enclosed stairways or other approved exits.

9. In Group M occupancies, a minimum 30-minute enclosure shall be provided to protect all vertical openings not exceeding three stories. This enclosure, or the enclosure specified in Section 603.4.1.1, shall not be required in the following locations:

9.1. Openings connecting only two floor levels.

9.2. Occupancies protected throughout by an approved automatic sprinkler system.

10. In Group R-1 occupancies, the enclosure shall not be required for vertical openings not exceeding three stories in the following locations:

10.1. Buildings protected throughout by an approved automatic sprinkler system.

10.2. Buildings with less than 25 dwelling units or sleeping units where every sleeping room above the second floor is provided with direct access to a fire escape or other approved second exit by means of an approved exterior door or window having a sill height of not greater than 44 inches (1118 mm) and where:

10.2.1. Any exit access corridor exceeding 8 feet (2438 mm) in length that serves two means of egress, one of which is an unprotected vertical opening, shall have at least one of the means of egress separated from the vertical opening by a 1-hour fire barrier; and

10.2.2. The building is protected throughout by an automatic fire alarm system, installed and supervised in accordance with the VCC.

11. In Group R-2 occupancies, a minimum 30-minute enclosure shall be provided to protect all vertical openings not exceeding three stories. This enclosure, or the enclosure specified in Section 603.4.1.1, shall not be required in the following locations:

11.1. Vertical openings not exceeding two stories with not more than four dwelling units per floor.

11.2. Buildings protected throughout by an approved automatic sprinkler system.

11.3. Buildings with not more than four dwelling units per floor where every sleeping room above the second floor is provided with direct access to a fire escape or other approved second exit by means of an approved exterior door or window having a sill height of not greater than 44 inches (1118 mm) and the building is protected throughout by an automatic fire alarm system complying with Section 603.5.4.

12. One- and two-family dwellings.

13. Group S occupancies where connecting not more than two floor levels or where connecting not more than three floor levels and the structure is equipped throughout with an approved automatic sprinkler system.

14. Group S occupancies where vertical opening protection is not required for open parking garages and ramps.

603.4.1.2 Supplemental shaft and floor opening enclosure requirements. Where the work area on any floor exceeds 50 percent of that floor area, the enclosure requirements of Section 603.4.1 shall apply to vertical openings other than stairways throughout the floor.

Exception: Vertical openings located in tenant spaces that are entirely outside the work area.

603.4.1.3 Supplemental stairway enclosure requirements. Where the work area on any floor exceeds 50 percent of that floor area, stairways that are part of the means of egress serving the work area shall, at a minimum, be enclosed with smoke-tight construction on the highest work area floor and all floors below.

Exception: Where stairway enclosure is not required by the VCC or the International Fire Code.

603.4.2 Smoke compartments. In Group I-2 occupancies where the work area is on a story used for sleeping rooms for more than 30 patients, the story shall be divided into not less than two compartments by smoke barrier walls in accordance with Section 407.5 of the VCC as required for new construction.

603.4.3 Interior finish. The interior finish of walls and ceilings in exits and corridors in any work area shall comply with the requirements of the VCC.

Exception: Existing interior finish materials that do not comply with the interior finish requirements of the VCC shall be permitted to be treated with an approved fire-retardant coating in accordance with the manufacturer's instructions to achieve the required rating.

603.4.3.1 Supplemental interior finish requirements. Where the work area on any floor exceeds 50 percent of the floor area, Section 603.4.3 shall also apply to the interior finish in exits and corridors serving the work area throughout the floor.

Exception: Interior finish within tenant spaces that are entirely outside the work area.

603.4.4 Guards. The requirements of Sections 603.4.4.1 and 603.4.4.2 shall apply in all work areas.

603.4.4.1 Minimum requirement. Every portion of a floor, such as a balcony or a loading dock, that is more than 30 inches (762 mm) above the floor or grade below and is not provided with guards, or those in which the existing guards are judged to be in danger of collapsing, shall be provided with guards.

603.4.4.2 Design. Where there are no guards or where existing guards must be replaced, the guards shall be designed and installed in accordance with the VCC.

603.4.5 Fire-resistance ratings. Where approved by the code official, buildings where an automatic sprinkler system installed in accordance with Section 903.3.1.1 or 903.3.1.2 of the VCC has been added, and the building is now sprinklered throughout, the required fire-resistance ratings of building elements and materials shall be permitted to meet the requirements of the current building code.

603.5 Fire protection. The requirements of Section 603.5 shall be limited to work areas

in which Level 2 alterations are being performed, and where specified they shall apply throughout the floor on which the work areas are located or otherwise beyond the work area.

603.5.1 Corridor ratings. Where an approved automatic sprinkler system is installed throughout the story, the required fire-resistance rating for any corridor located on the story shall be permitted to be reduced in accordance with the VCC. In order to be considered for a corridor rating reduction, such system shall provide coverage for the stairway landings serving the floor and the intermediate landings immediately below.

603.5.2 Automatic sprinkler system. Automatic sprinkler systems shall be provided in accordance with the requirements of Sections 603.5.2.1 through 603.5.2.5. Installation requirements shall be in accordance with the VCC.

603.5.2.1 High-rise buildings. In high-rise buildings, work areas that have exits or corridors shared by more than one tenant or that have exits or corridors serving an occupant load greater than 30 shall be provided with automatic sprinkler protection in the entire work area where the work area is located on a floor that has a sufficient sprinkler water supply system from an existing standpipe or a sprinkler riser serving that floor.

603.5.2.1.1 Supplemental automatic sprinkler system requirements. Where the work area on any floor exceeds 50 percent of that floor area, Section 603.5.2.1 shall apply to the entire floor on which the work area is located.

Exception: Occupied tenant spaces that are entirely outside the work area.

603.5.2.2 Groups A, B, E, F-1, H, I, M, R-1, R-2, R-4, S-1 and S-2. In buildings with occupancies in Groups A, B, E, F-1, H, I, M, R-1, R-2, R-4, S-1 and S-2, work areas that have exits or corridors shared by more than one tenant or that have exits or corridors serving an occupant load greater than 30 shall be provided with automatic sprinkler protection where all of the following conditions occur:

1. The work area is required to be provided with automatic sprinkler protection in accordance with the VCC as applicable to new construction; and

2. The work area exceeds 50 percent of the floor area.

Exception: If the building does not have sufficient municipal water supply for design of a fire sprinkler system available to the floor without installation of a new fire pump, work areas shall be protected by an automatic smoke detection system throughout all occupiable spaces other than sleeping units or individual dwelling units that activates the occupant notification system in accordance with Sections 907.4, 907.5 and 907.6 of the VCC.

603.5.2.2.1 Mixed uses. In work areas containing mixed uses, one or more of which requires automatic sprinkler protection in accordance with Section 603.5.2.2, such protection shall not be required throughout the work area provided that the uses requiring such protection are separated from those not requiring protection by fire-resistance-rated construction having a minimum 2-hour rating for Group H and a minimum 1-hour rating for all other occupancy groups.

603.5.2.3 Windowless stories. Work located in a windowless story, as determined in accordance with the VCC, shall be sprinklered where the work area is required to be

sprinklered under the provisions of the VCC for newly constructed buildings and the building has a sufficient municipal water supply without installation of a new fire pump.

603.5.2.4 Other required automatic sprinkler systems. In buildings and areas listed in Table 903.2.11.6 of the VCC, work areas that have exits or corridors shared by more than one tenant or that have exits or corridors serving an occupant load greater than 30 shall be provided with an automatic sprinkler system under the following conditions:

1. The work area is required to be provided with an automatic sprinkler system in accordance with the VCC applicable to new construction; and

2. The building has sufficient municipal water supply for design of an automatic sprinkler system available to the floor without installation of a new fire pump.

603.5.2.5 Supervision. Fire sprinkler systems required by this section shall be supervised by one of the following methods:

1. Approved central station system in accordance with NFPA 72;

2. Approved proprietary system in accordance with NFPA 72;

3. Approved remote station system of the jurisdiction in accordance with NFPA 72; or

4. When approved by the code official, approved local alarm service that will cause the sounding of an alarm in accordance with NFPA 72.

Exception: Supervision is not required for the following:

1. Underground gate valve with roadway boxes.

2. Halogenated extinguishing systems.

3. Carbon dioxide extinguishing systems.

4. Dry- and wet-chemical extinguishing systems.

5. Automatic sprinkler systems installed in accordance with NFPA 13R where a common supply main is used to supply both domestic and automatic sprinkler systems and a separate shutoff valve for the automatic sprinkler system is not provided.

603.5.3 Standpipes. Where the work area includes exits or corridors shared by more than one tenant and is located more than 50 feet (15 240 mm) above or below the lowest level of fire department access, a standpipe system shall be provided. Standpipes shall have an approved fire department connection with hose connections at each floor level above or below the lowest level of fire department access. Standpipe systems shall be installed in accordance with the VCC.

Exceptions:

1. No pump shall be required provided that the standpipes are capable of accepting delivery by fire department apparatus of a minimum of 250 gallons per minute (gpm) at 65 pounds per square inch (psi) (946 L/m at 448KPa) to the topmost floor in buildings equipped throughout with an automatic sprinkler system or a minimum of 500 gpm at 65

psi (1892 L/m at 448KPa) to the topmost floor in all other buildings. Where the standpipe terminates below the topmost floor, the standpipe shall be designed to meet (gpm/psi) (L/m/KPa) requirements of this exception for possible future extension of the standpipe.

2. The interconnection of multiple standpipe risers shall not be required.

603.5.4 Fire alarm and detection. An approved fire alarm system shall be installed in accordance with Sections 603.5.4.1 through 603.5.4.3. Where automatic sprinkler protection is provided in accordance with Section 603.5.2 and is connected to the building fire alarm system, automatic heat detection shall not be required.

An approved automatic fire detection system shall be installed in accordance with the provisions of this code and NFPA 72. Devices, combinations of devices, appliances, and equipment shall be approved. The automatic fire detectors shall be smoke detectors, except that an approved alternative type of detector shall be installed in spaces such as boiler rooms, where products of combustion are present during normal operation in sufficient quantity to actuate a smoke detector.

603.5.4.1 Fire alarm requirements. A fire alarm system shall be installed in accordance with Sections 603.5.4.1.1 through 603.5.4.1.7 and Sections 1103.7 and 1103.8 of the IFC. Existing alarm-notification appliances shall be automatically activated throughout the building. Where the building is not equipped with a fire alarm system, alarm-notification appliances within the work area shall be provided and automatically activated.

Exceptions:

1. Occupancies with an existing, previously approved fire alarm system.

2. Where selective notification is permitted, alarm-notification appliances shall be automatically activated in the areas selected.

603.5.4.1.1 Group E. Work areas classified as Group E occupancies.

603.5.4.1.2 Group I-1. Work areas classified as Group I-1 residential care/assisted living facilities.

603.5.4.1.3 Group I-2. Throughout occupancies classified as Group I-2 occupancies.

603.5.4.1.4 Group I-3. Work areas classified as Group I-3 occupancies.

603.5.4.1.5 Group R-1. Occupancies classified as Group R-1 occupancies.

603.5.4.1.6 Group R-2. Work areas classified as Group R-2 apartment buildings.

603.5.4.1.7 Group R-4. Work areas classified as Group R-4 residential care/assisted living facilities.

603.5.4.2 Supplemental fire alarm system requirements. Where the work area on any floor exceeds 50 percent of that floor area, Section 603.5.4.1 shall apply throughout the floor.

Exception: Alarm-initiating and notification appliances shall not be required to be installed in tenant spaces outside of the work area.

603.5.4.3 Smoke alarms. Individual sleeping units and individual dwelling units in any work area in Group R and I-1 occupancies shall be provided with smoke alarms in accordance with the International Fire Code.

Exception: Interconnection of smoke alarms outside of the work area shall not be required.

603.6 Means of egress. The means of egress shall comply with the requirements of Section 603.6.

Exceptions:

1. Where the work area and the means of egress serving it complies with NFPA 101.

2. Means of egress conforming to the requirements of the building code under which the building was constructed shall be considered compliant means of egress.

603.6.1 General. The requirements of this section shall be limited to work areas that include exits or corridors shared by more than one tenant within the work area in which Level 2 alterations are being performed, and where specified they shall apply throughout the floor on which the work areas are located or otherwise beyond the work area.

603.6.2 Number of exits. The number of exits shall be in accordance with Sections 603.6.2.1 through 603.6.2.3.

603.6.2.1 Minimum number. Every story utilized for human occupancy on which there is a work area that includes exits or corridors shared by more than one tenant within the work area shall be provided with the minimum number of exits based on the occupancy and the occupant load in accordance with the VCC. In addition, the exits shall comply with Sections 603.6.2.1.1 and 303.

603.6.2.1.1 Single-exit buildings. Only one exit is required from buildings and spaces of the following occupancies:

1. In Group A, B, E, F, M, U and S occupancies, a single exit is permitted in the story at the level of exit discharge when the occupant load of the story does not exceed 50 and the exit access travel distance does not exceed 75 feet (22 860 mm).

2. Group B, F-2, and S-2 occupancies not more than two stories in height that are not greater than 3,500 square feet per floor (326 m²), when the exit access travel distance does not exceed 75 feet (22 860 mm). The minimum fire-resistance rating of the exit enclosure and of the opening protection shall be 1 hour.

3. Open parking structures where vehicles are mechanically parked.

4. In Group R-4 occupancies, the maximum occupant load excluding staff is 16.

5. Groups R-1 and R-2 not more than two stories in height, when there are not more than four dwelling units per floor and the exit access travel distance does not exceed 50 feet (15 240 mm). The minimum fire-resistance rating of the exit enclosure and of the opening protection shall be 1 hour.

6. In multilevel dwelling units in buildings of occupancy Group R-1 or R-2, an exit shall not

be required from every level of the dwelling unit provided that one of the following conditions is met:

6.1. The travel distance within the dwelling unit does not exceed 75 feet (22 860 mm); or

6.2. The building is not more than three stories in height and all third-floor space is part of one or more dwelling units located in part on the second floor; and no habitable room within any such dwelling unit shall have a travel distance that exceeds 50 feet (15 240 mm) from the outside of the habitable room entrance door to the inside of the entrance door to the dwelling unit.

7. In Groups R-2, H-4, H-5 and I occupancies and in rooming houses and child care centers, a single exit is permitted in a one-story building with a maximum occupant load of 10 and the exit access travel distance does not exceed 75 feet (22 860 mm). In dwelling units within Group R-2 buildings, an occupant load of 12 shall be permitted to be substituted for the occupant load established above and, in addition, staff of such family day homes shall not be counted for the purposes of establishing occupant loads.

8. In buildings of Group R-2 occupancy that are equipped throughout with an automatic fire sprinkler system, a single exit shall be permitted from a basement or story below grade if every dwelling unit on that floor is equipped with an approved window providing a clear opening of at least 5 square feet (0.47 m²) in area, a minimum net clear opening of 24 inches (610 mm) in height and 20 inches (508 mm) in width, and a sill height of not more than 44 inches (1118 mm) above the finished floor.

9. In buildings of Group R-2 occupancy of any height with not more than four dwelling units per floor; with a smoke-proof enclosure or outside stairway as an exit; and with such exit located within 20 feet (6096 mm) of travel to the entrance doors to all dwelling units served thereby.

10. In buildings of Group R-3 occupancy equipped throughout with an automatic fire sprinkler system, only one exit shall be required from basements or stories below grade.

603.6.2.2 Mezzanines. Mezzanines in the work area and with an occupant load of more than 50 or in which the common path of egress travel distance to an exit or exit access doorway exceeds 75 feet (22 860 mm) shall have access to at least two independent means of egress.

Exception: Two independent means of egress are not required where the travel distance to an exit does not exceed 100 feet (30 480 mm) and the building is protected throughout with an automatic sprinkler system.

603.6.3 Egress doorways. Egress doorways in any work area shall comply with Sections 603.6.3.1 through 603.6.3.5.

603.6.3.1 Two egress doorways required. Work areas shall be provided with two egress doorways in accordance with the requirements of Sections 603.6.3.1.1 and 603.6.3.1.2.

603.6.3.1.1 Occupant load and travel distance. In any work area, all rooms and spaces having an occupant load greater than 50 or in which the common path of egress travel distance to an exit or exit access doorway exceeds 75 feet (22 860 mm) shall have a minimum of two egress doorways.

Exceptions:

1. Storage rooms having a maximum occupant load of 10.
2. Where the work area is served by a single exit in accordance with Section 603.6.2.1.1.

603.6.3.1.2 Group I-2. In buildings of Group I-2 occupancy, any patient sleeping room or suite of patient rooms greater than 1,000 square feet (93 m²) within the work area shall have a minimum of two egress doorways.

603.6.3.2 Door swing. In the work area and in the egress path from any work area to the exit discharge, all egress doors serving an occupant load greater than 50 shall swing in the direction of exit travel.

603.6.3.2.1 Supplemental requirements for door swing. Where the work area exceeds 50 percent of the floor area, door swing shall comply with Section 603.6.3.2 throughout the floor.

Exception: Means of egress within or serving only a tenant space that is entirely outside the work area.

603.6.3.3 Door closing. In any work area, all doors opening onto an exit passageway at grade or an exit stairway shall be self-closing or automatic-closing by listed closing devices.

Exceptions:

1. Where exit enclosure is not required by the VCC.
2. Means of egress within or serving only a tenant space that is entirely outside the work area.

603.6.3.3.1 Supplemental requirements for door closing. Where the work area exceeds 50 percent of the floor area, doors shall comply with Section 603.6.3.3 throughout the exit stairway from the work area to, and including, the level of exit discharge.

603.6.3.4 Panic hardware. In any work area, and in the egress path from any work area to the exit discharge, in buildings of Group A assembly occupancies with an occupant load greater than 100, all required exit doors equipped with latching devices shall be equipped with approved panic hardware.

603.6.3.4.1 Supplemental requirements for panic hardware. Where the work area exceeds 50 percent of the floor area, panic hardware shall comply with Section 603.6.3.4 throughout the floor.

Exception: Means of egress within a tenant space that is entirely outside the work area.

603.6.3.5 Emergency power source in Group I-3. Power operated sliding doors or power-operated locks for swinging doors shall be operable by a manual release mechanism at the door. Emergency power shall be provided for the doors and locks in accordance with Section 2702 of the VCC.

Exceptions:

1. Emergency power is not required in facilities with 10 or fewer locks complying with the exception to Section 408.4.1 of the VCC.

2. Emergency power is not required where remote mechanical operating releases are provided.

603.6.4 Openings in corridor walls. Openings in corridor walls in any work area shall comply with Sections 603.6.4.1 through 603.6.4.4.

Exception: Openings in corridors where such corridors are not required to be rated in accordance with the VCC.

603.6.4.1 Corridor doors. Corridor doors in the work area shall not be constructed of hollow core wood and shall not contain louvers. All dwelling unit or sleeping unit corridor doors in work areas in buildings of Groups R-1, R-2, and I-1 shall be at least 13/8-inch (35 mm) solid core wood or approved equivalent and shall not have any glass panels, other than approved wired glass or other approved glazing material in metal frames. All dwelling unit or sleeping unit corridor doors in work areas in buildings of Groups R-1, R-2, and I-1 shall be equipped with approved door closers. All replacement doors shall be 13/4-inch (44 mm) solid bonded wood core or approved equivalent, unless the existing frame will accommodate only a 13/8-inch (35 mm) door.

Exceptions:

1. Corridor doors within a dwelling unit or sleeping unit.

2. Existing doors meeting the requirements of Guidelines on Fire Ratings of Archaic Materials and Assemblies (IEBC Resource A) for a rating of 15 minutes or more shall be accepted as meeting the provisions of this requirement.

3. Existing doors in buildings protected throughout with an approved automatic sprinkler system shall be required only to resist smoke, be reasonably tight fitting, and shall not contain louvers.

4. In group homes with a maximum of 15 occupants and that are protected with an approved automatic detection system, closing devices may be omitted.

5. Door assemblies having a fire protection rating of at least 20 minutes.

603.6.4.2 Transoms. In all buildings of Group I-1, I-2, R-1 and R-2 occupancies, all transoms in corridor walls in work areas shall be either glazed with 1/4-inch (6.4 mm) wired glass set in metal frames or other glazing assemblies having a fire protection rating as required for the door and permanently secured in the closed position or sealed with materials consistent with the corridor construction.

603.6.4.3 Other corridor openings. In any work area, unless otherwise protected or fire-resistant rated in accordance with Section 716 of the VCC, any other sash, grille, or opening in a corridor and any window in a corridor not opening to the outside air shall be sealed with materials consistent with the corridor construction.

603.6.4.3.1 Supplemental requirements for other corridor opening. Where the work area exceeds 50 percent of the floor area, Section 603.6.4.3 shall be applicable to all corridor windows, grills, sashes, and other openings on the floor.

Exception: Means of egress within or serving only a tenant space that is entirely outside the work area.

603.6.4.4 Supplemental requirements for corridor openings. Where the work area on any floor exceeds 50 percent of the floor area, the requirements of Sections 603.6.4.1 through 603.6.4.3 shall apply throughout the floor.

603.6.5 Dead-end corridors. Dead-end corridors in any work area shall not exceed 35 feet (10 670 mm).

Exceptions:

1. Where dead-end corridors of greater length are permitted by the VCC.

2. In other than Group A and H occupancies, the maximum length of an existing dead-end corridor shall be 50 feet (15 240 mm) in buildings equipped throughout with an automatic fire alarm system installed in accordance with the VCC.

3. In other than Group A and H occupancies, the maximum length of an existing dead-end corridor shall be 70 feet (21 356 mm) in buildings equipped throughout with an automatic sprinkler system installed in accordance with the VCC.

4. In other than Group A and H occupancies, the maximum length of an existing, newly constructed, or extended dead-end corridor shall not exceed 50 feet (15 240 mm) on floors equipped with an automatic sprinkler system installed in accordance with the VCC.

603.6.6 Means-of-egress lighting. Means-of-egress lighting shall be in accordance with this section, as applicable.

603.6.6.1 Artificial lighting required. Means of egress in all work areas shall be provided with artificial lighting in accordance with the requirements of the VCC.

603.6.6.2 Supplemental requirements for means-of-egress lighting. Where the work area on any floor exceeds 50 percent of that floor area, means of egress throughout the floor shall comply with Section 603.6.6.1.

Exception: Means of egress within or serving only a tenant space that is entirely outside the work area.

603.6.7 Exit signs. Exit signs shall be in accordance with this section, as applicable.

603.6.7.1 Work areas. Means of egress in all work areas shall be provided with exit signs in accordance with the requirements of the VCC.

603.6.7.2 Supplemental requirements for exit signs. Where the work area on any floor exceeds 50 percent of that floor area, means of egress throughout the floor shall comply with Section 603.6.7.1.

Exception: Means of egress within a tenant space that is entirely outside the work area.

603.6.8 Handrails. The requirements of Sections 603.6.8.1 and 603.6.8.2 shall apply to handrails from the work area floor to, and including, the level of exit discharge.

603.6.8.1 Minimum requirement. Every required exit stairway that is part of the means of egress for any work area and that has three or more risers and is not provided with at least one handrail, or in which the existing handrails are judged to be in danger of collapsing, shall be provided with handrails for the full length of the stairway on at least one side. All exit stairways with a required egress width of more than 66 inches (1676 mm) shall have handrails on both sides.

603.6.8.2 Design. Handrails required in accordance with Section 603.6.8.1 shall be designed and installed in accordance with the provisions of the VCC.

603.6.9 Guards. The requirements of Sections 603.6.9.1 and 603.6.9.2 shall apply to guards from the work area floor to, and including, the level of exit discharge but shall be confined to the egress path of any work area.

603.6.9.1 Minimum requirement. Every open portion of a stairway, landing, or balcony that is more than 30 inches (762 mm) above the floor or grade below and is not provided with guards, or those portions in which existing guards are judged to be in danger of collapsing, shall be provided with guards.

603.6.9.2 Design. Guards required in accordance with Section 603.6.9.1 shall be designed and installed in accordance with the VCC.

603.7 Structural. Structural elements and systems within buildings undergoing Level 2 alterations shall comply with Sections 603.7.1 through 603.7.5.

603.7.1 New structural elements. New structural elements in alterations, including connections and anchorage, shall comply with the VCC.

603.7.2 Minimum design loads. The minimum design loads on existing elements of a structure that do not support additional loads as a result of an alteration shall be the loads applicable at the time the building was constructed.

603.7.3 Existing structural elements carrying gravity loads. Any existing gravity load-carrying structural element for which an alteration causes an increase in design gravity load of more than 5 percent shall be strengthened, supplemented, replaced or otherwise altered as needed to carry the increased gravity load required by the VCC for new structures. Any existing gravity load-carrying structural element whose gravity load-carrying capacity is decreased as part of the alteration shall be shown to have the capacity to resist the applicable design gravity loads required by the VCC for new structures.

Exception: Buildings of Group R occupancy with not more than five dwelling or sleeping units used solely for residential purposes where the existing building and its alteration comply with the conventional light-frame construction methods of the VCC or the provisions of the International Residential Code.

603.7.3.1 Design live load. Where the alteration does not result in increased design live load, existing gravity load-carrying structural elements shall be permitted to be evaluated and designed for live loads approved prior to the alteration. If the approved live load is less than that required by Section 1607 of the VCC, the area designed for the nonconforming live load shall be posted with placards of approved design indicating the approved live load. Where the alteration does result in increased design live load, the live load required by Section 1607 of the VCC shall be used.

603.7.4 Existing structural elements resisting lateral loads. Except as permitted by Section 603.7.5, where the alteration increases design lateral loads in accordance with Section 1609 or 1613 of the VCC, or where the alteration results in a prohibited structural irregularity as defined in ASCE 7, or where the alteration decreases the capacity of any existing lateral load-carrying structural element, the structure of the altered building or structure shall be shown to meet the requirements of Sections 1609 and 1613 of the VCC. For purposes of this section, compliance with ASCE 41, using a Tier 3 procedure and the two-level performance objective in Table 305.2.2 for the applicable risk category, shall be deemed to meet the requirements of Section 1613 of the VCC.

Exception: Any existing lateral load-carrying structural element whose demand-capacity ratio with the alteration considered is not more than 10 percent greater than its demand-capacity ratio with the alteration ignored shall be permitted to remain unaltered. For purposes of calculating demand-capacity ratios, the demand shall consider applicable load combinations with design lateral loads or forces in accordance with VCC Sections 1609 and 1613. Reduced VCC level seismic forces in accordance with Section 305.2.2 shall be permitted. For purposes of this exception, comparisons of demand-capacity ratios and calculation of design lateral loads, forces and capacities shall account for the cumulative effects of additions and alterations since original construction.

603.7.5 Voluntary lateral force-resisting system alterations. Alterations of existing structural elements and additions of new structural elements that are initiated for the purpose of increasing the lateral force-resisting strength or stiffness of an existing structure and that are not required by other sections of this code shall not be required to be designed for forces conforming to the VCC, provided that an engineering analysis is submitted to show that:

1. The capacity of existing structural elements required to resist forces is not reduced;
2. The lateral loading to existing structural elements is not increased either beyond its capacity or more than 10 percent;
3. New structural elements are detailed and connected to the existing structural elements as required by the VCC;
4. New or relocated nonstructural elements are detailed and connected to existing or new structural elements as required by the VCC; and
5. A dangerous condition as defined in this code is not created. Voluntary alterations to lateral force-resisting systems conducted in accordance with Appendix A and the referenced standards of this code shall be permitted.

603.7.6 Voluntary seismic improvements. Alterations to existing structural elements or additions of new structural elements that are not otherwise required by this chapter and are initiated for the purpose of improving the performance of the seismic force-resisting system of an existing structure or the performance of seismic bracing or anchorage of existing nonstructural elements shall be permitted, provided that an engineering analysis is submitted demonstrating the following:

1. The altered structure and the altered nonstructural elements are no less conforming to the provisions of the VCC with respect to earthquake design than they were prior to the alteration.

2. New structural elements are detailed as required for new construction.

3. New or relocated nonstructural elements are detailed and connected to existing or new structural elements as required for new construction.

4. The alterations do not create a structural irregularity as defined in ASCE 7 or make an existing structural irregularity more severe.

603.8 Electrical. Electrical elements and systems within buildings undergoing Level 2 alterations shall comply with Sections 603.8.1 through 603.8.3.

603.8.1 New installations. All newly installed electrical equipment and wiring relating to work done in any work area shall comply with all applicable requirements of NFPA 70 except as provided for in Section 603.8.3.

603.8.2 Existing installations. Existing wiring in all work areas in Group A-1, A-2, A-5, H and I occupancies shall be upgraded to meet the materials and methods requirements of Section 602.3.

603.8.3 Residential occupancies. In Group R-2, R-3, R-4 and R-5 occupancies and buildings regulated by the International Residential Code, the requirements of Sections 603.8.3.1 through 603.8.3.7 shall be applicable only to work areas located within a dwelling unit.

603.8.3.1 Enclosed areas. All enclosed areas, other than closets, kitchens, basements, garages, hallways, laundry areas, utility areas, storage areas and bathrooms shall have a minimum of two duplex receptacle outlets or one duplex receptacle outlet and one ceiling or wall-type lighting outlet.

603.8.3.2 Kitchens. Kitchen areas shall have a minimum of two duplex receptacle outlets.

603.8.3.3 Laundry areas. Laundry areas shall have a minimum of one duplex receptacle outlet located near the laundry equipment and installed on an independent circuit.

603.8.3.4 Ground fault circuit interruption. Newly installed receptacle outlets shall be provided with ground fault circuit interruption as required by NFPA 70.

603.8.3.5 Minimum lighting outlets. At least one lighting outlet shall be provided in every bathroom, hallway, stairway, attached garage, and detached garage with electric power, and to illuminate outdoor entrances and exits.

603.8.3.6 Utility rooms and basements. At least one lighting outlet shall be provided in utility rooms and basements where such spaces are used for storage or contain equipment requiring service.

603.8.3.7 Clearance for equipment. Clearance for electrical service equipment shall be provided in accordance with the NFPA 70.

603.9 Mechanical. All work areas intended for occupancy and all spaces converted to habitable or occupiable space in any work area shall be provided with natural or mechanical ventilation in accordance with the International Mechanical Code.

Exception: Existing mechanical ventilation systems shall comply with the requirements of Section 603.9.1.

603.9.1 Altered existing systems. In mechanically ventilated spaces, existing mechanical ventilation systems that are altered, reconfigured, or extended shall provide not less than 5 cubic feet per minute (cfm) (0.0024 m³/s) per person of outdoor air and not less than 15 cfm (0.0071 m³/s) of ventilation air per person; or not less than the amount of ventilation air determined by the Indoor Air Quality Procedure of ASHRAE 62.

603.9.2 Local exhaust. All newly introduced devices, equipment, or operations that produce airborne particulate matter, odors, fumes, vapor, combustion products, gaseous contaminants, pathogenic and allergenic organisms, and microbial contaminants in such quantities as to affect adversely or impair health or cause discomfort to occupants shall be provided with local exhaust.

603.10 Plumbing. Where the occupant load of the story is increased by more than 20 percent, plumbing fixtures for the story shall be provided in quantities specified in the International Plumbing Code based on the increased occupant load.

SECTION 604

LEVEL 3 ALTERATIONS

604.1 Scope. Level 3 alterations as described in Section 601.2.3 shall comply with the requirements of this section.

Exception: Buildings in which the alteration is exclusively the result of compliance with the accessibility requirements of Section 404.3 shall be permitted to comply with Section 602.

604.2 Level 1 and Level 2 alterations compliance. In addition to the requirements of this section, work shall comply with the applicable requirements of Sections 602 and 603. The requirements of Sections 603.4, 603.5 and 603.6 shall apply within all work areas whether or not they include exits and corridors shared by more than one tenant and regardless of the occupant load.

Exception: Buildings in which the alteration affecting exits or shared egress access is exclusively the result of compliance with the accessibility requirements of Section 404.3 shall not be required to comply with this section.

604.3 Special use and occupancy. The following special uses and occupancies shall comply with the requirements of Section 603.6 except as specifically required in Sections 604.3.1 and 604.3.2.

604.3.1 High-rise buildings. Any building having occupied floors more than 75 feet (22 860 mm) above the lowest level of fire department vehicle access shall comply with the requirements of Sections 604.3.1.1 and 604.3.1.2.

604.3.1.1 Recirculating air or exhaust systems. When a floor is served by a recirculating air or exhaust system with a capacity greater than 15,000 cubic feet per minute (701 m³/s), that system shall be equipped with approved smoke and heat detection devices installed in accordance with the International Mechanical Code.

604.3.1.2 Elevators. Where there is an elevator or elevators for public use, at least one elevator serving the work area shall comply with this section. Existing elevators with a

travel distance of 25 feet (7620 mm) or more above or below the main floor or other level of a building and intended to serve the needs of emergency personnel for fire-fighting or rescue purposes shall be provided with emergency operation in accordance with ASME A17.3. New elevators shall be provided with Phase I emergency recall operation and Phase II emergency in-car operation in accordance with ASME A17.1.

604.3.2 Boiler and furnace equipment rooms. Boiler and furnace equipment rooms adjacent to or within Groups I-1, I-2, I-4, R-1, R-2 and R-4 occupancies shall be enclosed by 1-hour fire-resistance-rated construction.

Exceptions:

1. Steam boiler equipment operating at pressures of 15 pounds per square inch gauge (psig) (103.4 KPa) or less is not required to be enclosed.

2. Hot water boilers operating at pressures of 170 psig (1171 KPa) or less are not required to be enclosed.

3. Furnace and boiler equipment with 400,000 British thermal units (Btu) (4.22 × 10⁸ J) per hour input rating or less is not required to be enclosed.

4. Furnace rooms protected with an automatic sprinkler system are not required to be enclosed.

604.4 Building elements and materials. Building elements and materials shall comply with the requirements of Section 603.6 except as specifically required in Sections 604.4.1 through 604.4.3.

604.4.1 Existing stairways. Existing stairways that are part of the means of egress shall be enclosed in accordance with Section 603.4.1.1, and its exceptions if applicable, from the highest work area floor to, and including, the level of exit discharge and all floors below.

604.4.2 Fire separation in Group R-3. Where the work area is in any attached dwelling unit in Group R-3 or any multiple single-family dwelling (townhouse), walls separating the dwelling units that are not continuous from the foundation to the underside of the roof sheathing shall be constructed to provide a continuous fire separation using construction materials consistent with the existing wall or complying with the requirements for new structures. All work shall be performed on the side of the dwelling unit wall that is part of the work area.

Exception: Where alterations or repairs do not result in the removal of wall or ceiling finishes exposing the structure, walls are not required to be continuous through concealed floor spaces.

604.4.3 Interior finish. Interior finish in exits serving the work area shall comply with Section 603.4.3 between the highest floor on which there is a work area to the floor of exit discharge.

604.5 Fire protection. Fire protection shall comply with the requirements of Section 603.6 except as specifically required in Sections 604.5.1 and 604.5.2.

604.5.1 Automatic sprinkler systems. An automatic sprinkler system shall be provided in a work area where required by Section 603.5.2 or this section.

604.5.1.1 High-rise buildings. An automatic sprinkler system shall be provided in work areas where the high-rise building has a sufficient municipal water supply for the design and installation of an automatic sprinkler system at the site.

604.5.1.2 Rubbish and linen chutes. Rubbish and linen chutes located in the work area shall be provided with automatic sprinkler system protection or an approved automatic fire-extinguishing system where protection of the rubbish and linen chute would be required under the provisions of the VCC for new construction.

604.5.1.3 Upholstered furniture or mattresses. Work areas shall be provided with an automatic sprinkler system in accordance with the VCC where any of the following conditions exist:

1. A Group F-1 occupancy used for the manufacture of upholstered furniture or mattresses exceeds 2,500 square feet (232 m²).

2. A Group M occupancy used for the display and sale of upholstered furniture or mattresses exceeds 5,000 square feet (464 m²).

3. A Group S-1 occupancy used for the storage of upholstered furniture or mattresses exceeds 2,500 square feet (232 m²).

604.5.2 Fire alarm and detection systems. Fire alarm and detection shall be provided throughout the work area in accordance with Section 907 of the VCC as required for new construction.

604.5.2.1 Manual fire alarm systems. Where required by the VCC, a manual fire alarm system shall be provided throughout the work area. Alarm notification appliances shall be provided on such floors and shall be automatically activated as required by the VCC.

Exceptions:

1. Alarm-initiating and notification appliances shall not be required to be installed in tenant spaces outside of the work area.

2. Visual alarm notification appliances are not required, except where an existing alarm system is upgraded or replaced or where a new fire alarm system is installed.

604.5.2.2 Automatic fire detection. Where required by the VCC for new buildings, automatic fire detection systems shall be provided throughout the work area.

604.6 Means of egress. The means of egress shall comply with the requirements of Section 603.6 except as specifically required in Sections 604.6.1 and 604.6.2.

604.6.1 Means-of-egress lighting. Means of egress from the highest work area floor to the floor of exit discharge shall be provided with artificial lighting within the exit enclosure in accordance with the requirements of the VCC.

604.6.2 Exit signs. Means of egress from the highest work area floor to the floor of exit discharge shall be provided with exit signs in accordance with the requirements of the VCC.

604.7 Structural. Structural alterations shall comply with the requirements of Section

603.6 except as specifically required in Sections 604.7.1 and 604.7.2.

604.7.1 Substantial structural alteration. Where more than 30 percent of the total floor and roof areas of the building or structure have been or are proposed to be involved in structural alteration within a 5-year period, the evaluation and analysis shall demonstrate that the lateral load-resisting system of the altered building or structure complies with the International Building Code for wind loading and with reduced International Building Code-level seismic forces in accordance with Section 305.2.2. The areas to be counted toward the 30 percent shall be those areas tributary to the vertical load-carrying components, such as joists, beams, columns, walls and other structural components that have been or will be removed, added or altered, as well as areas such as mezzanines, penthouses, roof structures and in-filled courts and shafts.

604.7.2 Limited structural alteration. Where the work does not involve a substantial structural alteration and the building is not assigned to Seismic Design Category F, the existing elements of the lateral load-resisting system shall comply with Section 603.7.4.

CHAPTER 7 **CHANGE OF OCCUPANCY**

SECTION 701 **GENERAL**

701.1 Scope. The provisions of this chapter shall apply where a change of occupancy occurs, except as modified by Section 906 for historic buildings. Compliance with the current VCC for the change of occupancy shall only be required as prescribed in this chapter. Compliance shall be only as necessary to meet the specific provisions of the applicable International Codes and is not intended to require the entire building be brought into compliance.

Exception: Compliance with the provisions of Chapter 14 shall be permitted in lieu of complying with this chapter for a change of occupancy.

701.2 Work undertaken in connection with a change of occupancy. Any repairs, alterations, or additions undertaken in connection with a change of occupancy shall conform to the applicable requirements for the work as classified in this code and as modified by this chapter.

SECTION 702 **SPECIAL USE AND OCCUPANCY**

702.1 Compliance with the building code. Where a building undergoes a change of occupancy to one of the special use or occupancy categories described in Chapter 4 of the VCC, the building shall comply with all of the requirements of Chapter 4 of the VCC applicable to the special use or occupancy.

702.2 Incidental uses. Where a portion of a building undergoes a change of occupancy to one of the incidental uses listed in Table 509 of the VCC, the incidental use shall comply with the applicable requirements of Section 509 of the VCC.

SECTION 703 **BUILDING ELEMENTS AND MATERIALS**

703.1 Interior finish. In areas of the building undergoing a change of occupancy

classification, the interior finish of walls and ceilings shall comply with the requirements of the VCC for the new occupancy classification.

703.2 Enclosure of vertical openings. When a change of occupancy classification is made to a higher hazard category as shown in Table 705.2, protection of existing vertical openings shall be in accordance with Sections 703.2.1 through 703.2.3.

703.2.1 Stairways. Interior stairways shall be protected as required by Section 705.1.

703.2.2 Other vertical openings. Interior vertical openings, other than stairways, within the area of the change of occupancy shall be protected as required by the VCC.

Exceptions:

1. Existing 1-hour interior shaft enclosures shall be accepted where a higher rating is required.

2. Vertical openings, other than stairways, in buildings of other than Group I occupancy and connecting less than six stories shall not be required to be enclosed are permitted if the entire building is provided with an approved automatic sprinkler system.

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

SECTION 704
FIRE PROTECTION

704.1 Fire protection systems. Fire protection systems shall be provided in accordance with Sections 704.2 and 704.3.

704.2 Fire sprinkler system. Where a building undergoes a change of occupancy that requires an automatic fire sprinkler system to be provided based on the new occupancy in accordance with Chapter 9 of the VCC, such system shall be provided throughout the area where the change of occupancy occurs.

704.3 Fire alarm and detection system. Where a building undergoes a change of occupancy that requires a fire alarm and detection system to be provided based on the new occupancy in accordance with Chapter 9 of the VCC, such system shall be provided throughout the area where the change of occupancy occurs. Existing alarm notification appliances shall be automatically activated throughout the building. Where the building is not equipped with a fire alarm system, alarm notification appliances shall be provided throughout the area where the change of occupancy occurs in accordance with Section 907 of the VCC as required for new construction.

SECTION 705
MEANS OF EGRESS

705.1 General. Means of egress in buildings undergoing a change of occupancy shall comply with this Section.

705.2 Means of egress, hazards. Hazard categories in regard to life safety and means of egress shall be in accordance with Table 705.2.

**TABLE 705.2
MEANS OF EGRESS HAZARD CATEGORIES**

<u>RELATIVE HAZARD</u>	<u>OCCUPANCY CLASSIFICATIONS</u>
<u>1 (Highest Hazard)</u>	<u>H</u>
<u>2</u>	<u>I-2, I-3, I-4</u>
<u>3</u>	<u>A, E, I-1, M, R-1, R-2, R-4</u>
<u>4</u>	<u>B, F-1, R-3, S-1, R-5</u>
<u>5 (Lowest Hazard)</u>	<u>F-2, S-2, U</u>

705.3 Means of egress for change to higher hazard category. When a change of occupancy classification is made to a higher hazard category (lower number) as shown in Table 705.2, the means of egress serving the area of the change of occupancy shall comply with the requirements of Chapter 10 of the VCC.

Exceptions:

1. Existing interior stairways are permitted to be enclosed in accordance with Section 603.4.1.1 from the highest floor where the change of occupancy classification occurs to, and including, the level of exit discharge and all floors below.
2. An enclosure shall not be required for openings serving only one adjacent floor and that are not connected with corridors or stairways serving other floors.
3. Unenclosed existing stairways need not be enclosed in a continuous vertical shaft if each story is separated from other stories by 1-hour fire resistance rated construction or approved wired glass set in steel frames and all exit corridors are sprinklered. The openings between the corridor and the occupant space shall have at least one sprinkler head above the openings on the tenant side. The sprinkler system shall be permitted to be supplied from the domestic water supply systems, provided the system is of adequate pressure, capacity, and sizing for the combined domestic and sprinkler requirements.
4. Existing corridor walls constructed on both sides of wood lath and plaster in good condition or 1/2 -inch-thick (12.7 mm) gypsum wallboard shall be permitted. Such walls shall either terminate at the underside of a ceiling of equivalent construction or extend to the underside of the floor or roof next above.
5. Existing corridor doorways, transoms and other corridor openings are permitted to comply with the requirements in Sections 603.6.4.1, 603.6.4.2 and 603.6.4.3 regardless of work areas.
6. Existing dead-end corridors are permitted to comply with the requirements in Section 603.6.5 regardless of work areas.
7. An existing operable window with clear opening area no less than 4 square feet (0.38 m²) and minimum opening height and width of 22 inches (559 mm) and 20 inches (508 mm), respectively, shall be accepted as an emergency escape and rescue opening.

8. Regardless of work areas, existing handrails are permitted to comply with the requirements of Section 603.6.8 and existing guards are permitted to comply with the requirements of Section 603.6.10.

9. Fire escapes in compliance with Section 303.

10. Existing stairways are not required to be altered to meet current tread depth and riser height requirements.

705.4 Means of egress for change of occupancy to equal or lower hazard category or without a change in classification. When a change of occupancy classification is made to an equal or lesser hazard category (higher number) as shown in Table 705.2 or a change of occupancy without a change of classification is made, the means of egress shall be deemed acceptable provided the means of egress serving the area of the change of occupancy meets the egress capacity and occupant load based means of egress provisions in Chapter 10 of the VCC for the new occupancy.

SECTION 706 **HEIGHTS AND AREAS**

706.1 General. Heights and areas of buildings and structures undergoing a change of occupancy classification shall comply with this Section.

706.2 Heights and areas, hazards. Hazard categories in regard to height and area shall be in accordance with Table 706.2.

TABLE 706.2
HEIGHTS AND AREAS HAZARD CATEGORIES

<u>RELATIVE HAZARD</u>	<u>OCCUPANCY CLASSIFICATIONS</u>
<u>1 (Highest Hazard)</u>	<u>H</u>
<u>2</u>	<u>I-2, I-3, I-4</u>
<u>3</u>	<u>A-1, A-2, A-3, A-4, I, R-1, R-2, R-4</u>
<u>4</u>	<u>E, F-1, S-1, M</u>
<u>5 (Lowest Hazard)</u>	<u>B, F-2, S-2, A-5, R-3, R-5, U</u>

706.3 Height and area for change to higher hazard category. When a change of occupancy classification is made to a higher hazard category as shown in Table 706.2, heights and areas of buildings and structures shall comply with the requirements of Chapter 5 of the VCC for the new occupancy classification.

Exception: For high-rise buildings constructed in compliance with a previously issued permit, the type of construction reduction specified in Section 403.2.1 of the VCC is permitted. This shall include the reduction for columns. The high-rise building is required to be equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1 of the VCC.

706.3.1 Fire wall alternative. In other than Groups H, F-1 and S-1, fire barriers and horizontal assemblies constructed in accordance with Sections 707 and 711,

respectively, of the VCC shall be permitted to be used in lieu of fire walls to subdivide the building into separate buildings for the purpose of complying with the area limitations required for the new occupancy where all of the following conditions are met:

1. The buildings are protected throughout with an automatic sprinkler system in accordance with Section 903.3.1.1 of the International Building Code.

2. The maximum allowable area between fire barriers, horizontal assemblies, or any combination thereof shall not exceed the maximum allowable area determined in accordance with Chapter 5 of the VCC without an increase allowed for an automatic sprinkler system in accordance with Section 506 of the VCC.

3. The fire-resistance rating of the fire barriers and horizontal assemblies shall be not less than that specified for fire walls in Table 706.4 of the VCC.

Exception: Where horizontal assemblies are used to limit the maximum allowable area, the required fire resistance rating of the horizontal assemblies shall be permitted to be reduced by 1 hour provided the height and number of stories increases allowed for an automatic sprinkler system by Section 504 of the VCC are not used for the buildings.

706.4 Height and area for change to equal or lesser hazard category. When a change of occupancy classification is made to an equal or lesser hazard category as shown in Table 706.2, the height and area of the existing building shall be deemed acceptable.

706.5 Fire barriers. When a change of occupancy classification is made to a higher hazard category as shown in Table 706.2, fire barriers in separated mixed use buildings shall comply with the fire-resistance requirements of the VCC.

Exception: Where the fire barriers are required to have a 1-hour fire-resistance rating, existing wood lath and plaster in good condition or existing 1/2-inch-thick (12.7 mm) gypsum wallboard shall be permitted.

SECTION 707

EXTERIOR WALL FIRE-RESISTANCE RATINGS

707.1 Exterior wall fire-resistance ratings, hazards. Hazard categories in regard to fire-resistance ratings of exterior walls shall be in accordance with Table 707.1.

TABLE 707.1

EXPOSURE OF EXTERIOR WALLS HAZARD CATEGORIES

<u>RELATIVE HAZARD</u>	<u>OCCUPANCY CLASSIFICATIONS</u>
<u>1 (Highest Hazard)</u>	<u>H</u>
<u>2</u>	<u>F-1, M, S-1</u>
<u>3</u>	<u>A, B, E, I, R</u>
<u>4 (Lowest Hazard)</u>	<u>F-2, S-2, U</u>

707.2 Exterior wall rating for change of occupancy classification to a higher hazard category. When a change of occupancy classification is made to a higher hazard category as shown in Table 707.1, exterior walls shall have fire resistance and

exterior opening protectives as required by the VCC.

Exception: A 2-hour fire-resistance rating shall be allowed where the building does not exceed three stories in height and is classified as one of the following groups: A-2 and A-3 with an occupant load of less than 300, B, F, M or S.

707.3 Exterior wall rating for change of occupancy classification to an equal or lesser hazard category. When a change of occupancy classification is made to an equal or lesser hazard category as shown in Table 707.1, existing exterior walls, including openings, shall be accepted.

707.4 Opening protectives. Openings in exterior walls shall be protected as required by the VCC. Where openings in the exterior walls are required to be protected because of their distance from the lot line, the sum of the area of such openings shall not exceed 50 percent of the total area of the wall in each story.

Exceptions:

1. Where the VCC permits openings in excess of 50 percent.

2. Protected openings shall not be required in buildings of Group R occupancy that do not exceed three stories in height and that are located not less than 3 feet (914 mm) from the lot line.

3. Where exterior opening protectives are required, an automatic sprinkler system throughout may be substituted for opening protection.

4. Exterior opening protectives are not required when the change of occupancy group is to an equal or lower hazard classification in accordance with Table 707.1.

SECTION 708
ELECTRICAL AND LIGHTING

708.1 Special occupancies. Where a building undergoes a change of occupancy to one of the following special occupancies as described in NFPA 70, the electrical wiring and equipment of the building that contains the proposed occupancy shall comply with the applicable requirements of NFPA 70:

1. Hazardous locations.

2. Commercial garages, repair, and storage.

3. Aircraft hangars.

4. Gasoline dispensing and service stations.

5. Bulk storage plants.

6. Spray application, dipping, and coating processes.

7. Health care facilities.

8. Places of assembly.

9. Theaters, audience areas of motion picture and television studios, and similar locations.

10. Motion picture and television studios and similar locations.

11. Motion picture projectors.

12. Agricultural buildings.

708.2 Service upgrade. When a new occupancy is required to have a higher electrical load demand per NFPA 70 and the service cannot accommodate the increased demand, the service shall be upgraded to meet the requirements of NFPA 70 for the new occupancy.

708.3 Number of electrical outlets. Where a building undergoes a change of occupancy, the number of electrical outlets shall comply with NFPA 70 for the new occupancy.

708.4 Lighting. Lighting shall comply with the requirements of the VCC for the new occupancy.

SECTION 709 **MECHANICAL AND VENTILATION**

709.1 Mechanical and ventilation requirements. Where a building undergoes a change of occupancy such that the new occupancy is subject to different kitchen exhaust requirements or to increased ventilation requirements in accordance with the International Mechanical Code, the new occupancy shall comply with the respective International Mechanical Code provisions.

SECTION 710 **PLUMBING**

710.1 Increased demand. Where the occupancy a building undergoes a change of an existing building or part of an existing building is changed occupancy such that the new occupancy is subject to increased or different plumbing fixture requirements or to increased water supply requirements in accordance with the International Plumbing Code, the new occupancy shall comply with the intent of the respective International Plumbing Code provisions.

Exception: In other than Group R or I occupancies or child care facilities classified as group E, where the occupant load is increased by 20 percent or less in the area where the change of occupancy occurs, additional plumbing fixtures required based on the increased occupant load in quantities specified in the International Plumbing Code.

710.2 Interceptor required. If the new occupancy will produce grease or oil-laden wastes, interceptors shall be provided as required in the International Plumbing Code.

710.3 Chemical wastes. If the new occupancy will produce chemical wastes, the following shall apply:

1. If the existing piping is not compatible with the chemical waste, the waste shall be neutralized prior to entering the drainage system, or the piping shall be changed to a compatible material.

2. No chemical waste shall discharge to a public sewer system without the approval of the sewage authority.

SECTION 711 **STRUCTURAL**

711.1 Gravity loads. Buildings subject to a change of occupancy where such change in the nature of occupancy results in higher uniform or concentrated loads based on Table 1607.1 of the VCC shall comply with the gravity load provisions of the VCC.

Exception: Structural elements whose stress is not increased by more than 5 percent.

711.2 Snow and wind loads. Buildings and structures subject to a change of occupancy where such change in the nature of occupancy results in higher wind or snow risk categories based on Table 1604.5 of the VCC shall be analyzed and shall comply with the applicable wind or snow load provisions of the VCC.

Exception: Where the new occupancy with a higher risk category is less than or equal to 10 percent of the total building floor area. The cumulative effect of the area of occupancy changes shall be considered for the purposes of this exception.

711.3 Seismic loads. Existing buildings with a change of occupancy shall comply with the seismic provisions of Sections 711.3.1 and 711.3.2.

711.3.1 Compliance with VCC-level seismic forces. Where a building is subject to a change of occupancy that results in the building being assigned to a higher risk category based on Table 1604.5 of the VCC, the building shall comply with the requirements for VCC-level seismic forces as specified in Section 305.2.1 for the new risk category.

Exceptions:

1. Specific detailing provisions required for a new structure are not required to be met where it can be shown that an equivalent level of performance and seismic safety is obtained for the applicable risk category based on the provision for reduced VCC-level seismic forces as specified in Section 305.2.2.

2. Where the area of the new occupancy with a higher hazard category is less than or equal to 10 percent of the total building floor area and the new occupancy is not classified as Risk Category IV. For the purposes of this exception, buildings occupied by two or more occupancies not included in the same risk category, shall be subject to the provisions of Section 1604.5.1 of the VCC. The cumulative effect of the area of occupancy changes shall be considered for the purposes of this exception.

3. Unreinforced masonry bearing wall buildings in Risk Category III when assigned to Seismic Design Category A or B shall be allowed to be strengthened to meet the requirements of Appendix Chapter A1 of this code [Guidelines for the Seismic Retrofit of Existing Buildings (GSREB)].

711.3.2 Access to Risk Category IV. Where a change of occupancy is such that compliance with Section 711.3.1 is required and the building is assigned to Risk Category IV, the operational access to the building shall not be through an adjacent structure, unless that structure conforms to the requirements for Risk Category IV structures. Where operational access is less than 10 feet (3048 mm) from either an interior lot line

or from another structure, access protection from potential falling debris shall be provided by the owner of the Risk Category IV structure.

SECTION 712 **ACCESSIBILITY**

712.1 General. Existing buildings that undergo a change of occupancy classification shall comply with Section 402.

CHAPTER 8 **ADDITIONS**

SECTION 801 **GENERAL**

801.1 Scope. Additions to any building or structure shall comply with the requirements of the VCC for new construction without requiring the existing building or structure to comply with any requirements of those codes or of these provisions, except as required by this chapter. Where an addition impacts the existing building or structure, that portion shall comply with this code. Where a fire wall that complies with Section 706 of the VCC is provided between the addition and the existing building, the addition shall be considered a separate building.

801.2 Creation or extension of nonconformity. An addition shall not create or extend any nonconformity in the existing building to which the addition is being made with regard to accessibility, structural strength, fire safety, means of egress, or the capacity of mechanical, plumbing, or electrical systems. Alterations to the existing building or structure, shall be made so that the existing building or structure, together with the addition are no less conforming to the provisions of the VCC than the existing building or structure was prior to the addition.

801.3 Other work. Any repair or alteration work within an existing building to which an addition is being made shall comply with the applicable requirements for the work as classified in this code.

SECTION 802 **HEIGHTS AND AREAS**

802.1 Height limitations. No addition shall increase the height of an existing building beyond that permitted under the applicable provisions of Chapter 5 of the VCC for new buildings.

802.2 Area limitations. No addition shall increase the area of an existing building beyond that permitted under the applicable provisions of Chapter 5 of the VCC for new buildings unless fire separation as required by the VCC is provided.

Exception: In-filling of floor openings and nonoccupiable appendages such as elevator and exit stairway shafts shall be permitted beyond that permitted by the VCC.

802.3 Fire protection systems. Existing fire areas increased by the addition shall comply with Chapter 9 of the VCC.

SECTION 803 **STRUCTURAL**

803.1 Compliance with the VCC. Additions to existing buildings or structures are new construction and shall comply with the VCC.

803.2 Existing structural elements carrying gravity load. Any existing gravity load-carrying structural element for which an addition and its related alterations cause an increase in design gravity load of more than 5 percent shall be strengthened, supplemented, replaced or otherwise altered as needed to carry the increased gravity load required by the VCC for new structures. Any existing gravity load-carrying structural element whose gravity load-carrying capacity is decreased shall be considered an altered element subject to the requirements of Section 603.7.3. Any existing element that will form part of the lateral load path for any part of the addition shall be considered an existing lateral load-carrying structural element subject to the requirements of Section 803.3.

Exception: Buildings of Group R occupancy with no more than five dwelling units or sleeping units used solely for residential purposes where the existing building and the addition comply with the conventional light-frame construction methods of the VCC or the provisions of the International Residential Code.

803.2.1 Design live load. Where the addition does not result in increased design live load, existing gravity load-carrying structural elements shall be permitted to be evaluated and designed for live loads approved prior to the addition. If the approved live load is less than that required by Section 1607 of the VCC, the area designed for the nonconforming live load shall be posted with placards of approved design indicating the approved live load. Where the addition does result in increased design live load, the live load required by Section 1607 of the VCC shall be used.

803.3 Existing structural elements carrying lateral load. Where the addition is structurally independent of the existing structure, existing lateral load-carrying structural elements shall be permitted to remain unaltered. Where the addition is not structurally independent of the existing structure, the existing structure and its addition acting together as a single structure shall be shown to meet the requirements of Sections 1609 and 1613 of the VCC. For purposes of this section, compliance with ASCE 41, using a Tier 3 procedure and the two-level performance objective in Table 305.2.1 for the applicable risk category, shall be deemed to meet the requirements of Section 1613.

Exceptions:

1. Any existing lateral load-carrying structural element whose demand-capacity ratio with the addition considered is not more than 10 percent greater than its demand-capacity ratio with the addition ignored shall be permitted to remain unaltered. For purposes of this exception, comparisons of demand-capacity ratios and calculation of design lateral loads, forces and capacities shall account for the cumulative effects of additions and alterations since original construction. For purposes of calculating demand capacity ratios, the demand shall consider applicable load combinations involving VCC-level seismic forces in accordance with Section 305.2.1.

2. Buildings of Group R occupancy with no more than five dwelling or sleeping units used solely for residential purposes where the existing building and the addition comply with the conventional light-frame construction methods of the VCC or the provisions of the International Residential Code.

803.4 Voluntary addition of structural elements to improve the lateral force-

resisting system. Voluntary addition of structural elements to improve the lateral force-resisting system of an existing building shall comply with Section 603.7.5.

803.5 Snow drift loads. Any structural element of an existing building subjected to additional loads from the effects of snow drift as a result of an addition shall comply with the VCC.

Exceptions:

1. Structural elements whose stress is not increased by more than 5 percent.
2. Buildings of Group R occupancy with no more than five dwelling units or sleeping units used solely for residential purposes where the existing building and the addition comply with the conventional light-frame construction methods of the VCC or the provisions of the International Residential Code.

**SECTION 804
FLOOD HAZARD AREAS**

804.1 Flood hazard areas. Additions and foundations in flood hazard areas shall comply with the following requirements:

1. For horizontal additions that are structurally interconnected to the existing building:
 - 1.1. If the addition and all other proposed work, when combined, constitute substantial improvement, the existing building and the addition shall comply with Section 1612 of the International Building Code, or Section R322 of the International Residential Code, as applicable.
 - 1.2. If the addition constitutes substantial improvement, the existing building and the addition shall comply with Section 1612 of the International Building Code, or Section R322 of the International Residential Code, as applicable.
2. For horizontal additions that are not structurally interconnected to the existing building:
 - 2.1. The addition shall comply with Section 1612 of the International Building Code, or Section R322 of the International Residential Code, as applicable.
 - 2.2. If the addition and all other proposed work, when combined, constitute substantial improvement, the existing building and the addition shall comply with Section 1612 of the International Building Code, or Section R322 of the International Residential Code, as applicable.
3. For vertical additions and all other proposed work that, when combined, constitute substantial improvement, the existing building shall comply with Section 1612 of the International Building Code, or Section R322 of the International Residential Code, as applicable.
4. For a raised or extended foundation, if the foundation work and all other proposed work, when combined, constitute substantial improvement, the existing building shall comply with Section 1612 of the International Building Code, or Section R322 of the International Residential Code, as applicable.

5. For a new foundation or replacement foundation, the foundation shall comply with Section 1612 of the International Building Code or Section R322 of the International Residential Code, as applicable.

CHAPTER 9 **HISTORIC BUILDINGS**

SECTION 901 **GENERAL**

901.1 Scope. It is the intent of this chapter to provide means for the preservation of historic buildings. The provisions of this code relating to construction involving historic buildings shall not be mandatory unless such construction constitutes a life safety hazard. Accessibility shall be provided in accordance with Section 405.

901.2 Report. The code official shall be permitted to require that a historic building undergoing repair, alteration or change of occupancy be investigated and evaluated by an RDP or other qualified person or agency as a condition of determining compliance with this code.

901.3 Special occupancy exceptions. When a building in Group R-3 is also used for Group A, B, or M purposes such as museum tours, exhibits, and other public assembly activities, or for museums less than 3,000 square feet (279 m²), the code official may determine that the occupancy is Group B when life-safety conditions can be demonstrated in accordance with Section 901.2. Adequate means of egress in such buildings, which may include a means of maintaining doors in an open position to permit egress, a limit on building occupancy to an occupant load permitted by the means of egress capacity, a limit on occupancy of certain areas or floors, or supervision by a person knowledgeable in the emergency exiting procedures, shall be provided.

SECTION 902 **FLOOD HAZARD AREAS**

902.1 Flood hazard areas. In flood hazard areas, if all proposed work, including repairs, work required because of a change of occupancy, and alterations, constitutes substantial improvement, then the existing building shall comply with Section 1612 of the International Building Code, or Section R322 of the International Residential Code, as applicable.

Exception: If an historic building will continue to be an historic building after the proposed work is completed, then the proposed work is not considered a substantial improvement. For the purposes of this exception, an historic building is:

1. Listed or preliminarily determined to be eligible for listing in the National Register of Historic Places;
2. Determined by the Secretary of the U.S. Department of Interior as contributing to the historical significance of a registered historic district or a district preliminarily determined to qualify as an historic district; or
3. Designated as historic under a state or local historic preservation program that is approved by the Department of Interior.

SECTION 903

REPAIRS

903.1 General. Repairs to any portion of an historic building or structure shall be permitted with original or like materials and original methods of construction, subject to the provisions of this chapter. Hazardous materials, such as asbestos and lead-based paint, shall not be used where the code for new construction would not permit their use in buildings of similar occupancy, purpose and location.

903.2 Moved buildings. Foundations of moved historic buildings and structures shall comply with the VCC. Moved historic buildings shall otherwise be considered an historic building for the purposes of this code. Moved historic buildings and structures shall be sited so that exterior wall and opening requirements comply with the VCC or with the compliance alternatives of this code.

903.3 Replacement. Replacement of existing or missing features using original materials shall be permitted. Partial replacement for repairs that match the original in configuration, height, and size shall be permitted. Replacement glazing in hazardous locations shall comply with the safety glazing requirements of Chapter 24 of the VCC.

Exception: Glass block walls, louvered windows, and jalousies repaired with like materials.

SECTION 904 **FIRE SAFETY**

904.1 Scope. Except as provided in Section 901, historic buildings undergoing alterations, changes of occupancy, or that are moved shall comply with this section.

904.2 General. Every historic building that does not conform to the construction requirements specified in this code for the occupancy or use and that constitutes a distinct fire hazard as defined herein shall be provided with an approved automatic fire-extinguishing system as determined appropriate by the code official. However, an automatic fire-extinguishing system shall not be used to substitute for, or act as an alternative to, the required number of exits from any facility.

904.3 Means of egress. Existing door openings and corridor and stairway widths less than those specified elsewhere in this code shall be permitted, provided there is sufficient width and height for a person to pass through the opening or traverse the means of egress. The front or main exit doors need not swing in the direction of the path of exit travel, provided that other approved means of egress having sufficient capacity to serve the total occupant load are provided.

904.4 Transoms. In fully sprinklered buildings of Group R-1, R-2 or R-3 occupancy, existing transoms in corridors and other fire-resistance-rated walls may be maintained if fixed in the closed position. A sprinkler shall be installed on each side of the transom.

904.5 Interior finishes. The existing finishes of walls and ceilings shall be accepted when it is demonstrated that they are the historic finishes.

904.6 Stairway enclosure. In buildings of three stories or less, exit enclosure construction shall limit the spread of smoke by the use of tight-fitting doors and solid elements. Such elements are not required to have a fire-resistance rating.

904.7 One-hour fire-resistant assemblies. Where 1-hour fire-resistance-rated

construction is required by these provisions, it need not be provided, regardless of construction or occupancy, where the existing wall and ceiling finish is wood or metal lath and plaster.

904.8 Glazing in fire-resistance-rated systems. Historic glazing materials are permitted in interior walls required to have a 1-hour fire-resistance rating where the opening is provided with approved smoke seals and the area affected is provided with an automatic sprinkler system.

904.9 Stairway railings. Grand stairways shall be accepted without complying with the handrail and guard requirements. Existing handrails and guards at all stairways shall be permitted to remain, provided they are not structurally dangerous.

904.10 Guards. Guards shall comply with Sections 904.10.1 and 904.10.2.

904.10.1 Height. Existing guards shall comply with the requirements of Section 604.

904.10.2 Guard openings. The spacing between existing intermediate railings or openings in existing ornamental patterns shall be accepted. Missing elements or members of a guard may be replaced in a manner that will preserve the historic appearance of the building or structure.

904.11 Exit signs. Where exit sign or egress path marking location would damage the historic character of the building, alternative exit signs are permitted with approval of the code official. Alternative signs shall identify the exits and egress path.

904.12 Automatic fire-extinguishing systems. Every historical building that cannot be made to conform to the construction requirements specified in the VCC for the occupancy or use and that constitutes a distinct fire hazard shall be deemed to be in compliance if provided with an approved automatic fire-extinguishing system.

Exception: When the code official approves an alternative life-safety system.

SECTION 905 **ALTERATIONS**

905.1 General. The provisions of Chapter 6, as applicable, shall apply to facilities designated as historic structures that undergo alterations, unless technically infeasible.

SECTION 906 **CHANGE OF OCCUPANCY**

906.1 General. Historic buildings undergoing a change of occupancy shall comply with the applicable provisions of Chapter 7, except as specifically permitted in this chapter. When Chapter 7 requires compliance with specific requirements of Chapter 6 and when those requirements are subject to the exceptions in Section 903, the same exceptions shall apply to this section.

906.2 Building area. The allowable floor area for historic buildings undergoing a change of occupancy shall be permitted to exceed by 20 percent the allowable areas specified in Chapter 5 of the VCC.

906.3 Location on property. Historic structures undergoing a change of use to a higher hazard category in accordance with Section 707.1 may use alternative methods to

comply with the fire-resistance and exterior opening protective requirements. Such alternatives shall comply with Section 901.2.

906.4 Occupancy separation. Required occupancy separations of 1 hour may be omitted when the building is provided with an approved automatic sprinkler system throughout.

906.5 Roof covering. Regardless of occupancy or use group, Roof-covering materials not less than Class C, when tested in accordance with ASTM E 108 or UL 790, shall be permitted where a fire-retardant roof covering is required.

906.6 Means of egress. Existing door openings and corridor and stairway widths less than those that would be acceptable for non-historic buildings under these provisions shall be permitted, provided there is sufficient width and height for a person to pass through the opening or traverse the exit and that the capacity of the exit system is adequate for the occupant load, or where other operational controls to limit occupancy are approved by the code official.

906.7 Door swing. Existing front doors need not swing in the direction of exit travel, provided that other approved exits having sufficient capacity to serve the total occupant load are provided.

906.8 Transoms. In corridor walls required by these provisions to be fire-resistance rated, existing transoms may be maintained if fixed in the closed position, and fixed wired glass set in a steel frame or other approved glazing shall be installed on one side of the transom.

Exception: Transoms conforming to Section 904.4 shall be accepted.

906.9 Finishes. Where interior finish materials are required to have a flame spread index of Class C or better, when tested in accordance with ASTM E 84 or UL 723, existing nonconforming materials shall be surfaced with approved fire-retardant paint or finish.

Exception: Existing nonconforming materials need not be surfaced with an approved fire-retardant paint or finish where the building is equipped throughout with an automatic sprinkler system installed in accordance with the VCC and the nonconforming materials can be substantiated as being historic in character.

906.10 One-hour fire-resistant assemblies. Where 1-hour fire-resistance-rated construction is required by these provisions, it need not be provided, regardless of construction or occupancy, where the existing wall and ceiling finish is wood lath and plaster.

906.11 Stairways and guards. Existing stairways shall comply with the requirements of these provisions and Section 904. The code official shall grant alternatives for stairways and guards if alternative stairways are found to be acceptable or are judged to meet the intent of these provisions.

Exception: For buildings less than 3,000 square feet (279 m²), existing conditions are permitted to remain at all stairways and guards.

906.12 Exit signs. Where exit signs would damage the historic character of the building or structure, alternative locations shall be permitted. Such signs shall identify the exits and exit path.

906.13 Exit stair live load. Existing stairways in buildings changed to a Group R-1 or R-2 occupancy shall be permitted where it can be shown that the stairway can support a 75-pounds-per-square-foot (366 kg/m²) live load.

906.14 Natural light. When the natural light requirements of Section 709.1 will lead to loss of historic character or historic materials in the building, the existing level of natural lighting shall be considered acceptable.

SECTION 907 **STRUCTURAL**

907.1 General. Historic buildings shall comply with the applicable structural provisions for the work as classified in Section 103.10.

Exception: The code official shall be authorized to accept existing floors and approve operational controls that limit the live load on any such floor.

CHAPTER 10 **MOVED BUILDINGS AND STRUCTURES**

SECTION 1001 **GENERAL**

1001.1 Scope. This chapter provides requirements for moved buildings and structures.

1001.2 Conformance. Any repair, alteration, or change of occupancy undertaken within the moved building or structure shall comply with the requirements of this code applicable to the work being performed. Any field-fabricated elements shall comply with the requirements of the VCC or the International Residential Code as applicable.

1001.3 Required inspection and repairs. The code official shall be authorized to inspect, or to require approved professionals to inspect at the expense of the owner, the various structural parts of a moved building or structure to verify that structural components and connections have not sustained structural damage. Any repairs required by the code official as a result of such inspection shall be made prior to the final approval.

SECTION 1002 **REQUIREMENTS**

1002.1 Location on the lot. The building or structure shall be located on the lot in accordance with the requirements of the VCC or the International Residential Code as applicable.

1002.2 Foundation. The foundation system of moved buildings and structures shall comply with the VCC or the International Residential Code as applicable.

1002.2.1 Connection to the foundation. The connection of the moved building or structure to the foundation shall comply with the VCC or the International Residential Code as applicable.

1002.3 Wind loads. Buildings and structures shall comply with VCC or International Residential Code wind provisions at the new location as applicable.

Exceptions:

1. Detached one- and two-family dwellings and Group U occupancies where wind loads at the new location are not higher than those at the previous location.
2. Structural elements whose stress is not increased by more than 10 percent.

1002.4 Seismic loads. Buildings and structures shall comply with VCC or International Residential Code seismic provisions at the new location as applicable.

Exceptions:

1. Structures in Seismic Design Categories A and B and detached one- and two-family dwellings in Seismic Design Categories A, B and C where the seismic loads at the new location are not higher than those at the previous location.
2. Structural elements whose stress is not increased by more than 10 percent.

1002.5 Snow loads. Buildings and structures shall comply with VCC or International Residential Code snow loads as applicable where snow loads at the new location are higher than those at the previous location.

Exception: Structural elements whose stress is not increased by more than 5 percent.

1002.6 Flood hazard areas. If moved into a flood hazard area, buildings and structures shall comply with Section 1612 of the VCC, or Section R322 of the International Residential Code, as applicable.

3. Move and renumber Chapter 17 of the 2012 VRC to become Chapter 11 of the 2015 VEBC (no change to text):

CHAPTER 11 **RETROFIT REQUIREMENTS**

4. Move and renumber Chapter 15 of the 2012 VRC to become Chapter 12 of the 2015 VEBC and change Section 1504.1 (now 1204.1) to read as shown:

CHAPTER 12 **CONSTRUCTION SAFEGUARDS**

1204.1 Where required. All structures under construction, alteration, or demolition shall be provided with not less than one approved portable fire extinguisher in accordance with Section 906 of the International Building Code and sized for not less than ordinary hazard as follows:

5. Move Chapter 16 of the 2012 VRC to become Chapter 13 of the 2015 VEBC (no change in text):

CHAPTER 13 **REFERENCED STANDARDS**

6. Retitle Chapter 14 of the 2012 VRC to become Chapter 14 of the 2015 VEBC and change the sections listed below to read as shown:

CHAPTER 14 **COMPLIANCE ALTERNATIVE - CHANGE OF OCCUPANCY**

SECTION 1401 **GENERAL**

1401.1 Scope. The provisions of this chapter are intended to maintain or increase the current degree of public safety, health and general welfare in existing buildings or structures, while permitting changes of occupancy without requiring full compliance with Chapter 7, except where compliance with other provisions of this code is specifically required in this chapter.

Exception: The provisions of this chapter shall not apply to buildings with occupancies in Group H or I.

1401.1.1 Complete change of occupancy. Where an entire existing building undergoes a change of occupancy, the applicable provisions of this chapter for the new occupancy shall be used to determine compliance with this code.

Exception: Plumbing, mechanical and electrical systems in buildings undergoing a change of occupancy shall be subject to any applicable requirements of Chapter 7.

1401.1.2 Partial change of occupancy. Where a portion of the building undergoes a change of occupancy and that portion is separated from the remainder of the building with fire barrier or horizontal assemblies having a fire-resistance rating as required by Table 508.4 of the VCC or Section R317 of the International Residential Code for the separate occupancies, or with approved compliance alternatives, the portion changed shall be made to conform to the provisions of this chapter.

Where a portion of the building undergoes a change of occupancy and that portion is not separated from the remainder of the building with fire barriers or horizontal assemblies having a fire-resistance rating as required by Table 508.4 of the VCC or Section R317 of the International Residential Code for the separate occupancies, or with approved compliance alternatives, the provisions of this chapter which apply to each occupancy shall apply to the entire building. Where there are conflicting provisions, those requirements which are the most restrictive shall apply to the entire building or structure.

1401.2 Accessibility requirements. All portions of the buildings proposed for change of occupancy to existing buildings or structures, shall conform to the applicable accessibility provisions of Chapter 4.

1401.3 Acceptance. For changes of occupancy to existing buildings that are evaluated in accordance with this chapter, compliance with this chapter shall be accepted by the code official.

1401.3.1 Compliance with flood hazard provisions. In flood hazard areas, buildings or structures that are evaluated in accordance with this chapter shall comply with Section 1612 of the VCC, or Section R322 of the International Residential Code, as applicable if the work covered by this chapter constitutes substantial improvement.

1401.4 Investigation and evaluation. For proposed work covered by this chapter, the building owner shall cause the existing building to be investigated and evaluated in

accordance with the provisions of Sections 1401.4 through 1401.9.

1401.4.1 Structural analysis. The owner shall have a structural analysis of the existing building made to determine adequacy of structural systems for the proposed alteration, addition or change of occupancy. The analysis shall demonstrate that the building with the work completed is capable of resisting the loads specified in Chapter 16 of the VCC.

1401.4.2 Submittal. The results of the investigation and evaluation as required in Section 1401.4, along with proposed compliance alternatives, shall be submitted to the code official.

1401.4.3 Determination of compliance. The code official shall determine whether the existing building, with the proposed change of occupancy, complies with the provisions of this section in accordance with the evaluation process in Sections 1401.5 through 1401.9.

1401.5 Evaluation. The evaluation shall be comprised of three categories: fire safety, means of egress, and general safety, as defined in Sections 1401.5.1 through 1401.5.3.

1401.5.1 Fire safety. Included within the fire safety category are the structural fire resistance, automatic fire detection, fire alarm, automatic sprinkler system and fire suppression system features of the facility.

1401.5.2 Means of egress. Included within the means of egress category are the configuration, characteristics, and support features for means of egress in the facility.

1401.5.3 General safety. Included within the general safety category are the fire safety parameters and the means-of-egress parameters.

1401.6 Evaluation process. The evaluation process specified herein shall be followed in its entirety to evaluate existing buildings. Table 1401.7 shall be utilized for tabulating the results of the evaluation. References to other sections of this code indicate that compliance with those sections is required in order to gain credit in the evaluation herein outlined. In applying this section to a building with mixed occupancies, where the separation between the mixed occupancies does not qualify for any category indicated in Section 1401.6.16, the score for each occupancy shall be determined, and the lower score determined for each section of the evaluation process shall apply to the entire building.

Where the separation between the mixed occupancies qualifies for any category indicated in Section 1401.6.16, the score for each occupancy shall apply to each portion, or smoke compartment of the building based on the occupancy of the space.

1401.6.2 Building area. The value for building area shall be determined by the formula in Section 1401.6.2.2. Section 506 of the VCC and the formula in Section 1401.6.2.1 shall be used to determine the allowable area of the building. Subtract the actual building area from the allowable area and divide by 1,200 square feet (112 m²). Enter the area value and its sign (positive or negative) in Table 1401.7 under Safety Parameter 1401.6.2, Building Area, for fire safety, means of egress and general safety. In determining the area value, the maximum permitted positive value for area is 50 percent of the fire safety score as listed in Table 1401.8, Mandatory Safety Scores.

1401.6.4 Tenant and dwelling unit separations. Evaluate the fire-resistance rating of floors and walls separating tenants, including dwelling units, and not evaluated under

Sections 1401.6.3 and 1401.6.5.

1401.6.7 HVAC systems. Evaluate the ability of the HVAC system to resist the movement of smoke and fire beyond the point of origin. Under the categories in Section 1401.6.7.1, determine the appropriate value and enter that value into Table 1401.7 under Safety Parameter 1401.6.7, HVAC Systems, for fire safety, means of egress, and general safety.

1401.6.8 Automatic fire detection. Evaluate the smoke detection capability based on the location and operation of automatic fire detectors in accordance with Section 907 of the VCC and the International Mechanical Code. Under the categories and occupancies in Table 1401.6.8, determine the appropriate value and enter that value into Table 1401.7 under Safety Parameter 1401.6.8, Automatic Fire Detection, for fire safety, means of egress, and general safety.

1401.6.8.1 Categories. The categories for automatic fire detection are:

1. Category a—None.

2. Category b—Existing smoke detectors in HVAC systems.

3. Category c—Smoke detectors in HVAC systems. The detectors are installed in accordance with the requirements for new buildings in the International Mechanical Code.

4. Category d—Smoke detectors throughout all floor areas other than individual sleeping units, tenant spaces and dwelling units.

5. Category e—Smoke detectors installed throughout the floor area.

6. Category f—Smoke detectors in corridors only.

1401.6.14 Elevator control. Evaluate the passenger elevator equipment and controls that are available to the fire department to reach all occupied floors. Emergency recall and in-car operation of elevators shall be provided in accordance with the building code under which the building or the affected portion thereof was constructed or previously approved. Under the categories and occupancies in Table 1401.5.14, determine the appropriate value and enter that value into Table 1401.7 under Safety Parameter 1401.5.14, Elevator Control, for fire safety, means of egress and general safety. The values shall be zero for a single-story building.

1401.6.14.1 Categories. The categories for elevator controls are:

1. Category a—No elevator.

2. Category b—Any elevator without Phase I emergency recall operation and Phase II emergency in-car operation.

3. Category c—All elevators with Phase I emergency recall operation and Phase II emergency in-car operation as required by the building code under which the building or the affected portion thereof was constructed or previously approved.

4. Category d—All meet Category c; or Category b where permitted to be without Phase I emergency recall operation and Phase II emergency in-car operation; and at least one

elevator that complies with new construction requirements serves all occupied floors.

1401.6.16 Mixed occupancies. Where a building has two or more occupancies that are not in the same occupancy classification, the separation between the mixed occupancies shall be evaluated in accordance with this section. Where there is no separation between the mixed occupancies or the separation between mixed occupancies does not qualify for any of the categories indicated in Section 1401.6.16.1, the building shall be evaluated as indicated in Section 1401.6, and the value for mixed occupancies shall be zero. Under the categories and occupancies in Table 1401.6.16, determine the appropriate value and enter that value into Table 1401.7 under Safety Parameter 1401.6.16, Mixed Occupancies, for fire safety and general safety. For buildings without mixed occupancies, the value shall be zero.

1401.6.17 Automatic sprinklers. Evaluate the ability to suppress a fire based on the installation of an automatic sprinkler system in accordance with Section 903.3.1.1 of the VCC. "Required sprinklers" shall be based on the requirements of this code. Under the categories and occupancies in Table 1401.6.17, determine the appropriate value and enter that value into Table 1401.7 under Safety Parameter 1401.6.17, Automatic Sprinklers, for fire safety, means of egress divided by 2, and general safety. High-rise buildings defined in Chapter 2 of the VCC that undergo a change of occupancy to Group R shall be equipped throughout with an automatic sprinkler system in accordance with Section 403 of the VCC and Chapter 9 of the VCC.

1401.6.20 Smoke compartmentation. Evaluate the smoke compartments for compliance with Section 407.5 of the VCC. Under the categories and occupancies in Table 1401.6.20, determine the appropriate smoke compartmentation value (SCV) and enter that value into Table 1401.7 under Safety Parameter 1401.6.20, Smoke Compartmentation, for fire safety, means of egress and general safety.

7. The appendices and resource provisions of the 2015 International Existing Building Code are included in the 2015 VEBC as used in the 2012 VRC.

Reason: NOTE: this proposal has been vetted by the VBCOA Rehabilitation Code Committee (and others including Ron Clements and Emory Rodgers) and has received their SUPPORT.

This proposal starts by including all the proposals previously approved by the BHCD and are included in the "Proposed Regulations." It then includes all the proposals that were moved forward as "Consensus for Approval" at the April 11 workgroup meeting. It does include a proposal that did not receive "Consensus for Approval" (regarding the deletion of smoke alarms).

This proposal reformats the entire code to basically eliminate the need for the three (3) main compliance methods (Prescriptive, Work Area, and Performance). In so doing, we are able to reduce the number of chapters from 17 to 14. Why does there need to be three different ways to do:

- Repairs
- Alterations
- Change of occupancy
- Additions
- Historic buildings
- Moved buildings
- Accessibility
- Fire escapes

- Glass replacement
- Window openings in Groups R-2 and R-3

Why should we debate over whether a roof replacement is a repair or an alteration?

Why do we need to duplicate the same text in multiple chapters? Worse – the text is repeated, but not EXACTLY (even though the intent was to be the same).

With the above in mind, the reformatting goes like this:

Chapter 1:

- Includes only those changes that would be required because of this reformatting.

Chapter 2:

- Added a few definitions.

Chapter 3:

- This is like Chapter 4 in the IBC where there may be "special" construction that may need additional requirements to those elsewhere in the code.
- This is serving the same purpose as the original Chapter 3 of the IEBC where conditions that apply to ALL compliance methods would appear here.
- Fire escapes, glass replacement, window openings, and reroofing and roof repair have been relocated here.
- Seismic force and labs were already located in this Chapter.

Chapter 4:

- All things "accessible" have been located here.

Chapter 5:

- All things "repairs" have been located here.
- The chapter is made from parts of the prescriptive and work area compliance methods (IEBC 404, 502, Chapter 6).

Chapter 6:

- All things "alterations" have been located here.
- The chapter is made from parts of the prescriptive and work area compliance methods (IEBC 403, 504, 505, Chapters 7, 8, and 9).

Chapter 7:

- All things "change of occupancy" have been located here.
- The chapter is made from Ron Clement's proposal that rewrote the original Chapter 10 – with some minor changes.

Chapter 8:

- All things "additions" have been located here.
- The chapter is made from parts of the prescriptive and work area compliance methods (IEBC 402, 503, 505, Chapter 11).

Chapter 9:

- All things "historic buildings" have been located here.

- The chapter is made from parts of the prescriptive and work area compliance methods (IEBC 408 and Chapter 12).

Chapter 10:

- All things "moved buildings" have been located here.
- The chapter is made from the work area compliance method (Chapter 13).

Chapter 11:

- No changes.

Chapter 12:

- No changes other than one minor change from IFC to IBC.

Chapter 13:

- No changes.

Chapter 14:

- This is the "Performance" compliance method in the current Chapter 14. We propose to keep it as Chapter 14 to avoid renumbering all the sections and tables.
- The main difference here is that this is now limited to only a change of occupancy. Currently, the other types of work were being handled by other portions of the code:
- Additions had to comply with the IBC.
- Alterations and repairs had to comply with IEBC Chapters 2-12 and IBC Chapters 14-33.
- Historic and moved buildings are not specifically addressed (as are the other types of work)
- That left us with only change of occupancy – so, this chapter is now being proposed as an "alternative" or "acceptable" means to comply to a change of occupancy w/o full compliance with the new Chapter 7

Appendices and Resource:

- No changes.

Cost Impact: None.

Workgroup Recommendation

Workgroup 2 Recommendation Recommendation: Consensus for Approval

Workgroup 2 Reason: None

Board Decision

None

Board Decisions

- Approved**
- Approved with Modifications**
- Carryover**
- Disapproved**

None

R-101.1 cdpVA-15



2015

**Virginia
Existing
Building
Code**

*Part II of the Virginia
Uniform Statewide
Building Code*

Effective April 1, 2018



LEGEND

BLUE TEXT: 2015 USBC “PROPOSED” REGULATIONS TEXT
(already approved by the Board)

GREEN TEXT: PROPOSED CODE CHANGES FOR “FINAL” REGULATIONS
(Moving forward as “Consensus for Approval” based on
workgroup meeting – has not been approved by C&SC or
BHCD)

BLACK TEXT: 2015 IEBC

RED TEXT: QUESTIONABLE TEXT OR COMMENTARY

HIGHLIGHTED TEXT:

CHANGES TO PROPOSED REGULATIONS

CHANGES TO PROPOSED CODE CHANGES FOR “FINAL”
REGULATIONS

BRAND NEW PROPOSED CHANGES

**NOTE: BECAUSE THIS PROPOSAL WOULD BECOME A VIRGINIA
AMENDMENT, ALL REFERENCES TO THE “INTERNATIONAL BUILDING
CODE” (THAT ARE PROPOSED TO REMAIN) HAVE BEEN REPLACED WITH
“VCC.” THESE CHANGES MAY NOT BE HIGHLIGHTED.**

CHANGES TO VCC (that affect the proposed VEBC re-formatting)

103.1 General. In accordance with Section 36-99 of the Code of Virginia, the USBC shall prescribe building regulations to be complied with in the construction and rehabilitation of buildings and structures, and the equipment therein.

103.1.1 Virginia Existing Building Code. Part II of the Virginia Uniform Statewide Building Code, also known as the "Virginia Existing Building Code," or the "VEBC" is applicable to construction and rehabilitation activities in existing buildings and structures, as those terms are defined in the VEBC, except where specifically addressed in the VCC.

103.2 When applicable to new construction. Construction for which a permit application is submitted to the local building department on or after the effective date of the 2012 edition of the code shall comply with the provisions of this code, except for permit applications submitted during a one-year period beginning on the effective date of the 2012 edition of the code. The applicant for a permit during such one-year period shall be permitted to choose whether to comply with the provisions of this code or the provisions of the edition of the code in effect immediately prior to the 2012 edition. This provision shall also apply to subsequent amendments to this code based on the effective date of such amendments. In addition, when a permit has been properly issued under a previous edition of this code, this code shall not require changes to the approved construction documents, design or construction of such a building or structure, provided the permit has not been suspended or revoked.

~~103.3 Change of occupancy. No change of occupancy shall be made in any structure when the current USBC requires a greater degree of accessibility, structural strength, fire protection, means of egress, ventilation or sanitation. When such a greater degree is required, the owner or the owner's agent shall comply with the following:~~

- ~~1. When involving Group I-2 or I-3, written application shall be made to the local building department for a new certificate of occupancy and the new certificate of occupancy shall be obtained prior to the new use of the structure. When impractical to achieve compliance with this code for the new occupancy classification, the building official shall consider modifications upon application and as provided for in Section 106.3. In addition, the applicable accessibility provisions of Section 1012.8 of Part II of the Virginia Uniform Statewide Building Code, also known as the "Virginia Rehabilitation Code," or the "VRC" shall be met.~~

~~**Exception:** This section shall not be construed to permit noncompliance with any applicable flood load or flood-resistant construction requirements of this code.~~

- ~~2. In other than Group I-2 or I-3, the provisions of the VRC for change of occupancy shall be met.~~

~~**[Being replaced by 103.1.1 above] 103.3 Existing buildings and structures.** Except as modified by Sections 103.3.1 and 103.3.2, the provisions of the VEBC shall be met for existing, historic, and moved buildings and structures, or portions thereof, including rehabilitation, reconstruction, alterations, repairs, change of occupancy, additions, and retrofit requirements. This section shall not be construed to permit noncompliance with any applicable flood load or flood-resistant construction requirements of this code.~~

~~**[Being moved to VEBC 102.2.1] 103.3.1 Change of occupancy to Group I-2 or I-3.** A change of occupancy to Group I-2 or I-3 shall comply with the provisions of this code and the applicable provisions of Section 410 of the VEBC. Written application shall be made to the local building department for a new certificate of occupancy and the new certificate of occupancy shall be obtained prior to the change of occupancy. When impractical to achieve compliance with this code for the new occupancy classification, the building official shall consider modifications upon application and as provided for in Section 106.3.~~

[Being moved to VEBC 102.2.2] 103.3.2 Group R-5 occupancies. The reconstruction, alteration or repair, or addition to Group R-5 existing buildings or structures, or portions thereof, shall be permitted to comply with this code and the following the following criteria:

1. Any reconstruction, alteration or repair shall not adversely affect the performance of the building or structure, or cause the building or structure to become unsafe or lower existing levels of health and safety.
2. Parts of the building or structure not being reconstructed, altered or repaired shall not be required to comply with the requirements of this code applicable to newly constructed buildings or structures.
3. The installation of material or equipment, or both, that is neither required nor prohibited shall only be required to comply with the provisions of this code relating to the safe installation of such material or equipment.
4. Material or equipment, or both, may be replaced in the same location with material or equipment of a similar kind or capacity.

Exception: Reconstructed decks, balconies, porches and similar structures located 30 inches (762 mm) or more above grade shall meet the current code provisions for structural loading capacity, connections and structural attachment. This requirement excludes the configuration and height of handrails and guardrails.

103.4 Additions. Additions to buildings and structures shall comply with the requirements of this code for new construction or shall comply with the VRC. An existing building or structure plus additions shall comply with the height and area provisions of Chapter 5 and the applicable provisions of Chapter 9. Further, this code shall not require changes to the design or construction of any portions of the building or structure not altered or affected by an addition, unless the addition has the effect of lowering the current level of safety.

Exceptions:

1. This section shall not be construed to permit noncompliance with any applicable flood load or flood-resistant construction requirements of this code.
2. When this code is used for compliance, existing structural elements carrying gravity loads shall be permitted to comply with Section 1103 of the International Existing Building Code.

103.6 Reconstruction, alteration, and repair in other occupancies. Reconstruction, alteration, and repair in occupancies other than Group R-5 shall comply with the VRC.

103.7 Retrofit requirements. The local building department shall enforce the provisions of Section 1701 of the VRC, which require certain existing buildings to be retro-fitted with fire protection systems and other safety equipment. Retroactive fire protection system requirements contained in the International Fire Code (IFC) shall not be applicable unless required for compliance with the provisions of Section 1701 of the VRC.

[Moved to VCC 113.3.1] 103.5.1 Equipment changes. Upon the replacement or new installation of any fuel-burning appliances or equipment in existing Group R-5 occupancies, an inspection or inspections shall be conducted to ensure that the connected vent or chimney systems comply with the following:

1. Vent or chimney systems are sized in accordance with the IRC.
2. Vent or chimney systems are clean, free of any obstruction or blockages, defects, or deterioration, and are in operable condition. Where not inspected by the local building department, persons performing such changes or installations shall certify to the building official that the requirements of Items 1 and 2 of this section are met.

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CHAPTER 1

ADMINISTRATION

SECTION 101 GENERAL

101.1 Short title. The Virginia Uniform Statewide Building Code, Part II, Existing Buildings, may be cited as the "Virginia Existing Building Code," or as the "VEBC."

101.2 Incorporation by reference. Chapters 2 - 16 of the 2015 International Existing Building Code, published by the International Code Council, Inc., are adopted and incorporated by reference to be an enforceable part of the VEBC. The term "IEBC" means the 2015 International Existing Building Code, published by the International Code Council, Inc. Any codes and standards referenced in the IEBC are also considered to be part of the incorporation by reference, except that such codes and standards are used only to the prescribed extent of each such reference.

101.3 Numbering system. A dual numbering system is used in the VEBC to correlate the numbering system of the Virginia Administrative Code with the numbering system of the IEBC. IEBC numbering system designations are provided in the catchlines of the Virginia Administrative Code sections and cross references between sections or chapters of the VEBC use only the IEBC numbering system designations. The term "chapter" is used in the context of the numbering system of the IEBC and may mean a chapter in the VEBC, a chapter in the IEBC or a chapter in a referenced code or standard, depending on the context of the use of the term. The term "chapter" is not used to designate a chapter of the Virginia Administrative Code, unless clearly indicated.

101.4 Arrangement of code provisions. The VEBC is comprised of the combination of (i) the provisions of Chapter 1, Administration, which are established herein, (ii) Chapters 2 - 16 of the IEBC, which are incorporated by reference in Section 101.2, and (iii) the changes to the text of the incorporated chapters of the IEBC that are specifically identified, including any new chapters added. The terminology "changes to the text of the incorporated chapters of the IEBC that are specifically identified, including any new chapters added" shall also be referred to as the "state amendments to the IEBC." Such state amendments to the IEBC are set out using corresponding chapter and section numbers of the IEBC numbering system. In addition, since Chapter 1 of the IEBC is not incorporated as part of the VEBC, any reference to a provision of Chapter 1 of the IEBC in the provisions of Chapters 2 - 16 of the IEBC is generally invalid. However, where the purpose of such a reference would clearly correspond to a provision of Chapter 1 established herein, then the reference may be construed to be a valid reference to such corresponding Chapter 1 provision.

101.5 Use of terminology and notes. The provisions of this code shall be used as follows:

1. The term "this code," or "the code," where used in the provisions of Chapter 1, in Chapters 2 - 16 of the IEBC, or in the state amendments to the IEBC, means the VEBC, unless the context clearly indicates otherwise.
2. The term "this code," or "the code," where used in a code or standard referenced in the VEBC, means that code or standard, unless the context clearly indicates otherwise.
3. The term "USBC" where used in this code, means the VCC, unless the context clearly indicates otherwise.
4. The use of notes in Chapter 1 is to provide information only and shall not be construed as changing the meaning of any code provision.
5. Notes in the IEBC, in the codes and standards referenced in the IEBC and in the state amendments to the IEBC, may modify the content of a related provision and shall be considered to be a valid part of the provision, unless the context clearly indicates otherwise.

6. References to International Codes and standards, where used in this code, include state amendments made to those International Codes and standards in the VCC.

Note: See Section 101.2 of the VCC for a list of major codes and standards referenced in the VCC.

101.6 Order of precedence. The provisions of this code shall be used as follows:

1. The provisions of Chapter 1 of this code supersede any provisions of Chapters 2 - 16 of the IEBC that address the same subject matter and impose differing requirements.
2. The provisions of Chapter 1 of this code supersede any provisions of the codes and standards referenced in the IEBC that address the same subject matter and impose differing requirements.
3. The state amendments to the IEBC supersede any provisions of Chapters 2 - 16 of the IEBC that address the same subject matter and impose differing requirements.
4. The state amendments to the IEBC supersede any provisions of the codes and standards referenced in the IEBC that address the same subject matter and impose differing requirements.
5. The provisions of Chapters 2 - 16 of the IEBC supersede any provisions of the codes and standards referenced in the IEBC that address the same subject matter and impose differing requirements.

101.7 Administrative provisions. The provisions of Chapter 1 establish administrative requirements, which include but are not limited to provisions relating to the scope and enforcement of the code. Any provisions of Chapters 2 - 16 of the IEBC or any provisions of the codes and standards referenced in the IEBC that address the same subject matter to a lesser or greater extent are deleted and replaced by the provisions of Chapter 1. Further, any administrative requirements contained in the state amendments to the IEBC shall be given the same precedence as the provisions of Chapter 1. Notwithstanding the above, where administrative requirements of Chapters 2 - 16 of the IEBC or of the codes and standards referenced in the IEBC are specifically identified as valid administrative requirements in Chapter 1 of this code or in the state amendments to the IEBC, then such requirements are not deleted and replaced.

Note: The purpose of this provision is to eliminate overlap, conflicts and duplication by providing a single standard for administrative, procedural and enforcement requirements of this code.

101.8 Definitions. The definitions of terms used in this code are contained in Chapter 2 along with specific provisions addressing the use of definitions. Terms may be defined in other chapters or provisions of the code and such definitions are also valid.

SECTION 102 PURPOSE AND SCOPE

102.1 Purpose. In accordance with § 36-99.01 of the Code of Virginia, the General Assembly of Virginia has declared that (i) there is an urgent need to improve the housing conditions of low and moderate income individuals and families, many of whom live in substandard housing, particularly in the older cities of the Commonwealth; (ii) there are large numbers of older residential buildings in the Commonwealth, both occupied and vacant, which are in urgent need of rehabilitation and must be rehabilitated if the state's citizens are to be housed in decent, sound, and sanitary conditions; and (iii) the application of those building code requirements currently in force to housing rehabilitation has sometimes led to the imposition of costly and time-consuming requirements that result in a significant reduction in the amount of rehabilitation activity taking place.

The General Assembly further declares that (i) there is an urgent need to improve the existing condition of many of the Commonwealth's stock of commercial properties, particularly in older cities; (ii) there are large numbers of older commercial buildings in the Commonwealth, both occupied and vacant, that are in urgent need of rehabilitation and that must be rehabilitated if the citizens of the Commonwealth are to be provided with decent, sound and sanitary work spaces; and (iii) the application of the existing building code to such rehabilitation has sometimes led to the imposition of costly and time-consuming requirements that result in a significant reduction in the amount of rehabilitation activity taking place.

102.2 Scope. ~~The provisions of this code shall control the rehabilitation, reconstruction, alteration, repair, change of occupancy, additions, and retrofit requirements of and to govern construction and rehabilitation activities in existing historic, or moved buildings and structures, or portions thereof, except as modified by Section 103.3 of the VCC.~~

~~1. The rehabilitation, reconstruction, alteration, and repair of existing buildings and structures, or portions thereof.~~

~~Exception: The use of the VCC for occupancies classified as Group R-5.~~

~~2. Additions to existing buildings and structures, or portions thereof.~~

~~Exception: The use of the VCC shall be permitted.~~

~~3. The change of occupancy to other than occupancies classified as Group I-2 or I-3.~~

~~Exception: The use of the VCC for change of occupancy to occupancies classified as Group R-5 shall be permitted.~~

~~4. 4. Retrofit provisions provided in Chapter 17.~~

[Came from VCC proposal 103.3.1] 102.2.1 Change of occupancy to Group I-2 or I-3. A change of occupancy to Group I-2 or I-3 shall comply with the provisions of the VCC. Written application shall be made to the local building department for a new certificate of occupancy and the new certificate of occupancy shall be obtained prior to the change of occupancy. When impractical to achieve compliance with this code for the new occupancy classification, the building official shall consider modifications upon application and as provided for in Section 106.3 of the VCC.

[Came from 2012 VCC 103.5] 102.2.2 Reconstruction, alteration or repair in Group R-5 occupancies. Compliance with this section shall be an acceptable alternative to compliance with this code at the discretion of the owner or owner's agent. The VCC may be used for the reconstruction, alteration or repair of Group R-5 buildings or structures subject to the following criteria:

1. Any reconstruction, alteration or repair shall not adversely affect the performance of the building or structure, or cause the building or structure to become unsafe or lower existing levels of health and safety.
2. Parts of the building or structure not being reconstructed, altered or repaired shall not be required to comply with the requirements of the VCC applicable to newly constructed buildings or structures.
3. The installation of material or equipment, or both, that is neither required nor prohibited shall only be required to comply with the provisions of the VCC relating to the safe installation of such material or equipment.
4. Material or equipment, or both, may be replaced in the same location with material or equipment of a similar kind or capacity.

Exceptions:

1. This section shall not be construed to permit noncompliance with any applicable flood load or flood-resistant construction requirements of this code the VCC.
2. Reconstructed decks, balconies, porches and similar structures located 30 inches (762 mm) or more above grade shall meet the current code provisions for structural loading capacity, connections and structural attachment. This requirement excludes the configuration and height of handrails and guardrails.
5. **[Came from 2012 VRC 1701.17]** In accordance with Section 36-99.2 of the Code of Virginia, any replacement glass installed in buildings constructed prior to the first edition of the USBC shall meet the quality and installation standards for glass installed in new buildings as are in effect at the time of installation. In addition, as a requirement of this code, the installation or replacement of glass in buildings constructed under any edition of the USBC shall be as required for new installations.

SECTION 103 APPLICATION OF CODE

103.1 General. All administrative provisions of the VCC, including but not limited to, requirements for permits, inspections and approvals by the local building department, provisions for appeals from decisions of the local building department and the issuance of modifications, are applicable to the use of this code, except where this code sets out differing requirements. Where there is a conflict between a general requirement and a specific requirement in the IEBC, the specific requirement shall govern.

103.1.1 Use of performance code. Compliance with the provisions of a nationally recognized performance code when approved as a modification shall be considered to constitute compliance with this code. All documents submitted as part of such consideration shall be retained in the permanent records of the local building department.

103.1.2 Preliminary meeting. When requested by a prospective permit applicant or when determined necessary by the code official, the code official shall meet with the prospective permit applicant prior to the application for a permit to discuss plans for the proposed work or change of occupancy in order to establish the specific applicability of the provisions of this code.

103.2 Change of occupancy. ~~No Prior to a change of occupancy shall be made in any structure when of the current USBC requires a greater degree of accessibility, structural strength, fire protection, means of egress, ventilation or sanitation building or structure,~~ the owner or the owner's agent shall make written application to the local building department for a new certificate of occupancy and shall obtain the new certificate of occupancy ~~prior to the new use of the structure.~~

When impractical to achieve compliance with this code for the new occupancy ~~classification,~~ the building official shall consider modifications upon application and as provided for in Section 106.3 of the VCC.

103.3 Retrofit requirements. ~~In accordance with Section 103.7 of the VCC~~ The local building department shall enforce the provisions of Section 1701 that require certain existing buildings to be retrofitted with fire protection systems and other safety equipment. Retroactive fire protection system requirements contained in the International Fire Code shall not be applicable unless required for compliance with the provisions of Section 1701.

103.4 Nonrequired equipment. The following criteria for nonrequired equipment is in accordance with Section 36–103 of the Code of Virginia. Building owners may elect to install partial or full fire alarms or other safety equipment that was not required by the edition of the VCC in effect at the time a building was constructed without meeting current requirements of the code, provided the installation does not create a hazardous condition. Permits for installation shall be obtained in accordance with the VCC. In addition, as a requirement of this code, when such nonrequired equipment is to be installed, the building official shall notify the appropriate fire official or fire chief.

103.4.1 Reduction in function or discontinuance of nonrequired fire protection systems. When a nonrequired fire protection system is to be reduced in function or discontinued, it shall be done in such a manner so as not to create a false sense of protection. Generally, in such cases, any features visible from interior areas shall be removed, such as sprinkler heads, smoke detectors, or alarm panels or devices, but any wiring or piping hidden within the construction of the building may remain. Approval of the proposed method of reduction or discontinuance shall be obtained from the building official.

103.5 Equipment changes. Upon the replacement or new installation of any fuel-burning appliances or equipment in existing buildings, an inspection or inspections shall be conducted ~~to ensure that~~ in accordance with Section 113.3.1 of the VCC. ~~the connected vent or chimney systems comply with the following:~~

- ~~1. Vent or chimney systems are sized in accordance with either the International Residential Code, the International Mechanical Code, or the International Fuel Gas Code, depending on which is applicable based on the fuel source and the occupancy classification of the structure.~~
- ~~2. Vent or chimney systems are clean, free of any obstruction or blockages, defects, or deterioration and are in operable condition.~~

~~Where not inspected by the local building department, persons performing such changes or installations shall certify to the building official that the requirements of Items 1 and 2 of this section are met~~

103.6 Requirements relating to maintenance. Any requirements of the IEBC requiring the maintenance of existing buildings or structures are invalid.

Note: Requirements for the maintenance of existing buildings and structures and for unsafe conditions are contained in Part III of the USBC, known as the Virginia Maintenance Code.

103.7 Use of Appendix A. Appendix A of the IEBC provides guidelines for the seismic retrofit of existing buildings. The use of this appendix is not mandatory but shall be permitted to be utilized at the option of an owner, the owner's agent or the RDP involved in a rehabilitation project. However, in no case shall the use of Appendix A be construed to authorize the lowering of existing levels of health or safety in buildings or structures being rehabilitated.

103.8 Use of Appendix B. Appendix B of the IEBC provides supplementary accessibility requirements for existing buildings and facilities. All applicable requirements of Appendix B shall be met in buildings and structures being rehabilitated.

103.9 Use of Resource A. Resource A of the IEBC provides guidelines for the evaluation of fire-resistance ratings of archaic materials and may be used in conjunction with rehabilitation projects.

103.10 Construction documents. Construction documents shall be submitted with the application for a permit and in accordance with Sections 103.10.1 and 103.10.2. The work proposed to be performed on an *existing building* or structure, shall be classified on the construction documents as *repairs, alterations, change of occupancy, addition, historic building, and/or moved building*. All *work areas* shall be identified on the construction documents. If the Proportional Compliance Method is selected, *Alterations* shall further be identified as Level 1, Level 2, and/or Level 3.

Exception: Construction documents or classification of the work does not need to be submitted or comply with Sections 103.10.1 or 103.10.2 when the building official determines the proposed work does not require such documents, classification, or identification.

103.10.1 Identification of compliance method. When work is proposed to be performed on an *existing building* or structure, the compliance method, as selected in accordance with Section 301.1, shall be identified on the construction documents,

103.10.2 Identification of work. The work proposed to be performed on an *existing building* or structure, shall be identified on the construction documents as *repairs, alterations, change of occupancy, addition, historic building, and/or moved building*. All *work areas* shall also be identified. If the Proportional Compliance Method is selected, *alterations* shall further be identified as Level 1, Level 2, and/or Level 3.

CHAPTER 2 DEFINITIONS

SECTION 201 GENERAL

201.1 Scope. Unless otherwise expressly stated, the following words and terms shall, for the purposes of this code, have the meanings shown in this chapter.

201.2 Interchangeability. Words used in the present tense include the future; words stated in the masculine gender include the feminine and neuter; the singular number includes the plural and the plural, the singular.

201.3 Terms defined in other codes. Where terms are not defined in this code and are defined in the other International Codes, such terms shall have the meanings ascribed to them in those codes, except that terms that are not defined in this code and that are defined in the VCC shall take precedence over other definitions.

201.4 Terms not defined. Where terms are not defined through the methods authorized by this chapter, such terms shall have ordinarily accepted meanings such as the context implies.

SECTION 202 GENERAL DEFINITIONS

ADDITION. An extension or increase in floor area, number of stories, or height of a building or structure.

ALTERATION. Any construction or renovation to an existing structure other than a repair or addition.

[Duplicated here from the VCC] BUILDING. A combination of materials, whether portable or fixed, having a roof to form a structure for the use or occupancy by persons, or property. The word "building" shall be construed as though followed by the words "or part or parts thereof" unless the context clearly requires a different meaning. "Building" shall not include roadway tunnels and bridges owned by the Virginia Department of Transportation, which shall be governed by construction and design standards approved by the Virginia Commonwealth Transportation Board.

For application of this code, each portion of a building that is completely separated from other portions by fire walls complying with Section 706 of the VCC shall be considered as a separate building (see Section 503.1 of the VCC).

CHANGE OF OCCUPANCY Either of the following shall be considered a change of occupancy where the current **USBC VCC** requires a greater degree of accessibility, structural strength, fire protection, means of egress, ventilation or sanitation as a result of such a change of occupancy than is existing in the current building or structure:

1. Any change in the occupancy classification of a building or structure.
2. Any change in the purpose of, or a change in the level of activity within, a building or structure.

NOTE: The use and occupancy classification of a building or structure, shall be determined in accordance with Chapter 3 of the VCC.

CODE OFFICIAL. The officer or other designated authority charged with the administration and enforcement of this code.

EQUIPMENT OR FIXTURE. Any plumbing, heating, electrical, ventilating, air conditioning, refrigerating, and fire protection equipment, and elevators, dumb waiters, escalators, boilers, pressure vessels and other mechanical facilities or installations that are related to building services. Equipment or fixture shall not include manufacturing, production, or process equipment, but shall include connections from building service to process equipment

EXISTING BUILDING. A building for which a legal certificate of occupancy has been issued under any edition of the USBC or approved by the building official when no legal certificate of occupancy exists, and that has been occupied for its intended use; or, a building built prior to the initial edition of the USBC.

EXISTING STRUCTURE. A structure (i) for which a legal building permit has been issued under any edition of the USBC; (ii) which has been previously approved; or, (iii) which was built prior to the initial edition of the USBC. For application of provisions in flood hazard areas, an existing structure is any building or structure for which the start of construction commenced before the effective date of the community's first flood plain management code, ordinance or standard.

HISTORIC BUILDING. Any building or structure that is one or more of the following:

1. Listed, or certified as eligible for listing, by the State Historic Preservation Officer or the Keeper of the National Register of Historic Places, in the National Register of Historic Places.
2. Designated as historic under an applicable state or local law.
3. Certified as a contributing resource within a National Register, state designated or locally designated historic district.

LOAD-BEARING ELEMENT. Any column, girder, beam, joist, truss, rafter, wall, floor or roof sheathing that supports any vertical load in addition to its own weight or any lateral load.

MOVED BUILDING OR STRUCTURE. An existing building or structure which is moved to a new location.

NONCOMBUSTIBLE MATERIAL. A material that, under the conditions anticipated, will not ignite or burn when subjected to fire or heat. Materials that pass ASTM E 136 are considered noncombustible materials.

PRIMARY FUNCTION. A primary function is a major activity for which the facility is intended. Areas that contain a primary function include, but are not limited to, the customer services lobby of a bank, the dining area of a cafeteria, the meeting rooms in a conference center, as well as offices and other work areas in which the activities of the public accommodation or other private entity using the facility are carried out. Mechanical rooms, boiler rooms, supply storage rooms, employee lounges or locker rooms, janitorial closets, entrances, corridors and restrooms are not areas containing a primary function.

REHABILITATION. Any work, as described by the categories of work defined herein, undertaken in an existing building.

REHABILITATION, SEISMIC. Work conducted to improve the seismic lateral force resistance of an existing building.

REPAIR. The reconstruction or renewal of any part of an existing building for the purpose of its maintenance or to correct damage.

REROOFING. The process of recovering or replacing an existing roof covering. See "Roof recover" and "Roof replacement."

ROOF RECOVER. The process of installing an additional roof covering over a prepared existing roof covering without removing the existing roof covering.

ROOF REPAIR. Reconstruction or renewal of any part of an existing roof for the purposes of its maintenance.

ROOF REPLACEMENT. The process of removing the existing roof covering, repairing any damaged substrate and installing a new roof covering.

SEISMIC LOADING. The forces prescribed herein, related to the response of the structure to earthquake motions, to be used in the analysis and design of the structure and its components.

[Duplicated here from the VCC] STRUCTURE. An assembly of materials forming a construction for occupancy or use including stadiums, gospel and circus tents, reviewing stands, platforms, stagings, observation towers, radio towers, water tanks, storage tanks (underground and aboveground), trestles, piers, wharves, swimming pools, amusement devices, storage bins, and other structures of this general nature but excluding water wells. The word "structure" shall be construed as though followed by the words "or part or parts thereof" unless the context clearly requires a different meaning. "Structure" shall not include roadway tunnels and bridges owned by the Virginia Department of Transportation, which shall be governed by construction and design standards approved by the Virginia Commonwealth Transportation Board.

SUBSTANTIAL DAMAGE. For the purpose of determining compliance with the flood provisions of this code, damage of any origin sustained by a structure whereby the cost of restoring the structure to its before-damaged condition would equal or exceed 50 percent of the market value of the structure before the damage occurred.

SUBSTANTIAL IMPROVEMENT. For the purpose of determining compliance with the flood provisions of this code, any improvement, including repair, reconstruction, rehabilitation, alteration, or addition, or other improvement of a building or structure, or a portion thereof, the cost of which equals or exceeds 50 percent of the market value of the building or structure before the improvement or repair is started. If the building or structure ~~or portion thereof~~ has sustained substantial damage, any improvements are considered substantial improvement regardless of the actual improvement performed. The term does not, however, include either:

1. Any project for improvement of a building or structure ~~or portion thereof~~ required to correct existing health, sanitary or safety code violations identified by the building official and that is the minimum necessary to assure safe living conditions; or
2. Any alteration of a historic structure, provided that the alteration will not preclude the building or structure's continued designation as a historic building or structure.

SUBSTANTIAL STRUCTURAL DAMAGE. A condition where one or both of the following apply:

1. In any story, the vertical elements of the lateral force-resisting system have suffered damage such that the lateral load-carrying capacity of the structure in any horizontal direction has been reduced by more than 33 percent from its predamage condition.
2. The capacity of any vertical gravity load-carrying component, or any group of such components, that supports more than 30 percent of the total area of the structure's floor(s) and roof(s) has been reduced more than 20 percent from its predamage condition and the remaining capacity of such affected elements, with respect to all dead and live loads, is less than 75 percent of that required by this code for new buildings of similar structure, purpose and location.

TECHNICALLY INFEASIBLE. An alteration of a facility that has little likelihood of being accomplished because the existing structural conditions require the removal or alteration of a load-bearing member that is an essential part of the structural frame, or because other existing physical or site constraints prohibit modification or addition of elements, spaces or features which are in full and strict compliance with the minimum requirements for new construction and which are necessary to provide accessibility.

WORK AREA. That intended room, space, or portion of a building or structure where a wall or walls are added, relocated, or removed. Work area excludes (i) the addition or elimination of any door or window; (ii) the reconfiguration or extension of any system; (iii) the installation of any additional equipment; (iv) the removal of finished flooring or ceiling materials; (v) adjacent rooms or other rooms, spaces or portions of the building or structure where incidental work entailed by the intended work must be performed; and, (vi) portions of the building or structure where work not initially intended is specifically required by this code.

CHAPTER 3

GENERAL PROVISIONS AND SPECIAL DETAILED REQUIREMENTS

SECTION 301 GENERAL

[Similar to IEBC 501.1] 301.1 Applicability. The applicable provisions of this chapter shall be used in conjunction with the requirements in this code, and shall apply to all construction and rehabilitation.

[Came from IEBC 302.5] 301.2 Occupancy and use. When determining the appropriate application of the referenced sections of this code, the occupancy and use of a building shall be determined in accordance with Chapter 3 of the VCC.

~~**301.4 Additional codes.** Alterations, repairs, additions and changes of occupancy to, or relocation of, existing buildings and structures shall comply with the provisions for alterations, repairs, additions and changes of occupancy or relocation, respectively, in this code and the International Energy Conservation Code, International Fire Code, International Fuel Gas Code, International Mechanical Code, International Plumbing Code, International Property Maintenance Code, International Private Sewage Disposal Code, International Residential Code and NFPA 70. Where provisions of the other codes conflict with provisions of this code, the provisions of this code shall take precedence.~~

SECTION 302 BUILDING MATERIALS AND SYSTEMS

[Came from IEBC 302.3] 302.1 Existing materials. Materials already in use in a building in compliance with requirements or approvals in effect at the time of their erection or installation shall be permitted to remain in use unless ~~determined by the building official to be unsafe~~ VCC would not permit their use in buildings or structures of similar occupancy, purpose and location.

[Came from IEBC 302.4] 302.2 New and replacement materials. Except as otherwise required or permitted by this code, materials permitted by the applicable code for new construction shall be used. Like materials shall be permitted for repairs and alterations, provided no ~~unsafe condition~~ hazard to life, health or property is created. Hazardous materials shall not be used where the ~~code for new construction~~ VCC would not permit their use in buildings or structures of similar occupancy, purpose and location.

[Came from IEBC 401.2.3] 302.3 Existing seismic force-resisting systems. Where the existing seismic force-resisting system is a type that can be designated ordinary, values of R , Ω_0 and C_d for the existing seismic force-resisting system shall be those specified by the VCC for an ordinary system unless it is demonstrated that the existing system will provide performance equivalent to that of a detailed, intermediate or special system.

SECTION 303 FIRE ESCAPES

[Came from IEBC 405 unless indicated otherwise]

303.1 Where permitted. Fire escapes shall be permitted only as provided for in Sections 303.1.1 through 303.1.4.

303.1.1 Existing fire escapes. Existing fire escapes shall continue to be accepted as a component in the means of egress in existing buildings only.

303.1.2 New fire escapes. Newly constructed fire escapes for existing buildings shall be permitted only where exterior stairs cannot be utilized due to lot lines limiting stair size or due to the sidewalks, alleys or roads at grade level. New fire escapes shall not incorporate ladders or access by windows.

Exception: Fire escapes that are replaced or repaired shall only be required to comply with Sections 303.3 and 303.4 if feasible, and if not feasible, to the greatest extent possible such that the replaced or repaired fire escape is not less safe than its existing condition. [**←Similar language used in IEBC 701.2**]

303.1.3 Limitations. Fire escapes shall comply with this section and shall not constitute more than 50 percent of the required number of exits nor more than 50 percent of the required exit capacity.

[Came from IEBC 805.3.1.2.] 303.1.4 Fire escapes required. For other than Group I-2, where more than one exit is required, ~~an existing or~~ newly constructed fire escapes complying with Section 303.6 shall be accepted as providing one of the required means of egress. Replacement fire escapes or existing fire escapes undergoing repairs shall comply with Sections 303.3 and 303.4 if feasible, and if not feasible, to the greatest extent possible.

303.2 Location. Where located on the front of the building and where projecting beyond the building line, the lowest landing shall not be less than 7 feet (2134 mm) or more than 12 feet (3658 mm) above grade, and shall be equipped with a counterbalanced stairway to the street. In alleyways and thoroughfares less than 30 feet (9144 mm) wide, the clearance under the lowest landing shall not be less than 12 feet (3658 mm).

303.3 Construction. The fire escape shall be designed to support a live load of 100 pounds per square foot (4788 Pa) and shall be constructed of steel or other approved noncombustible materials. Fire escapes constructed of wood not less than nominal 2 inches (51 mm) thick are permitted on buildings of Type V construction. Walkways and railings located over or supported by combustible roofs in buildings of Type III and IV construction are permitted to be of wood not less than nominal 2 inches (51 mm) thick.

303.4 Dimensions. Stairs shall be at least 22 inches (559 mm) wide with risers not more than, and treads not less than, 8 inches (203 mm) and landings at the foot of stairs not less than 40 inches (1016 mm) wide by 36 inches (914 mm) long, located not more than 8 inches (203 mm) below the door.

[Came from IEBC 805.3.1.2.1, #4] 303.5 Opening protectives. Openings within 10 feet (3048 mm) of newly constructed fire escape stairways shall be protected by fire assemblies having minimum 3/4 -hour fire-resistance ratings.

Exception: Opening protection shall not be required in buildings equipped throughout with an approved automatic sprinkler system.

[Came from IEBC 805.3.1.2.1] 303.6 Fire escape access and details. Newly constructed fire escapes shall comply with all of the following requirements:

1. Occupants shall have unobstructed access to the fire escape without having to pass through a room subject to locking.
2. Access to a new fire escape shall be through a door, except that windows shall be permitted to provide access from single dwelling units or sleeping units in Group R-1, R-2 and I-1 occupancies or to provide access from spaces having a maximum occupant load of 10 in other occupancy classifications.
 - 2.1. The window shall have a minimum net clear opening of 5.7 square feet (0.53 m²) or 5 square feet (0.46 m²) where located at grade.
 - 2.2. The minimum net clear opening height shall be 24 inches (610 mm) and net clear opening width shall be 20 inches (508 mm).

- 2.3. The bottom of the clear opening shall not be greater than 44 inches (1118 mm) above the floor.
- 2.4. The operation of the window shall comply with the operational constraints of the VCC.
3. **[Already covered in VEBC 303.1.2]** Newly constructed fire escapes shall be permitted only where exterior stairways cannot be utilized because of lot lines limiting the stairway size or because of the sidewalks, alleys, or roads at grade level.
4. **[Already covered in VEBC 303.5]** Openings within 10 feet (3048 mm) of fire escape stairways shall be protected by fire assemblies having minimum 3/4-hour fire-resistance ratings.
Exception: Opening protection shall not be required in buildings equipped throughout with an approved automatic sprinkler system.
3. In all buildings of Group E occupancy, up to and including the 12th grade, buildings of Group I occupancy, rooming houses and childcare centers, ladders of any type are prohibited on fire escapes used as a required means of egress.

SECTION 304

GLASS REPLACEMENT AND REPLACEMENT WINDOWS

[Came from VRC 1701.17] **304.1 Conformance.** ~~The installation or replacement of glass shall be as required for new installations.~~ In accordance with Section 36-99.2 of the Code of Virginia, any replacement glass installed in buildings constructed prior to the first edition of the USBC shall meet the quality and installation standards for glass installed in new buildings as are in effect at the time of installation. In addition, as a requirement of this code, the installation or replacement of glass in buildings constructed under any edition of the USBC shall be as required for new installations.

[Came from IEBC 406.2] **304.3 Replacement window opening control devices.** In Group R-2 or R-3 buildings containing dwelling units, window opening control devices complying with ASTM F 2090 shall be installed where an existing window is replaced and where all of the following apply to the replacement window:

1. The window is operable;
2. The window replacement includes replacement of the sash and the frame;
3. The top of the sill of the window opening is at a height less than 36 inches (915 mm) above the finished floor;
4. The window will permit openings that will allow passage of a 4-inch-diameter (102 mm) sphere when the window is in its largest opened position; and
5. The vertical distance from the top of the sill of the window opening to the finished grade or other surface below, on the exterior of the building, is greater than 72 inches (1829 mm).

The window opening control device, after operation to release the control device allowing the window to fully open, shall not reduce the minimum net clear opening area of the window unit to less than the area required by Section 1029.2 of the VCC.

Exceptions:

1. Operable windows where the top of the sill of the window opening is located more than 75 feet (22 860 mm) above the finished grade or other surface below, on the exterior of the room, space or building, and that are provided with window fall prevention devices that comply with ASTM F 2006.
2. Operable windows with openings that are provided with window fall prevention devices that comply with ASTM F 2090.

[Came from IEBC 406.3] 304.4 Replacement window emergency escape and rescue openings. Where windows are required to provide emergency escape and rescue openings in Group R-2 and R-3 occupancies, replacement windows shall be exempt from the requirements of Sections 1030.2, 1030.3 and 1030.5 provided the replacement window meets the following conditions:

1. The replacement window is the manufacturer's largest standard size window that will fit within the existing frame or existing rough opening. The replacement window shall be permitted to be of the same operating style as the existing window or a style that provides for an equal or greater window opening area than the existing window.
2. The replacement of the window is not part of a change of occupancy.

SECTION 305
SEISMIC FORCE-RESISTING SYSTEMS

[Came from IEBC 301]

305.1 General. Where this code requires consideration of the seismic force-resisting system of an existing building subject to repair, alteration, change of occupancy, addition or relocation of existing buildings, the seismic evaluation and design shall be based on Section 305.2 regardless of which compliance method is used.

305.2 Seismic evaluation and design procedures. The seismic evaluation and design shall be based on the procedures specified in the VCC or ASCE 41. The procedures contained in Appendix A of this code shall be permitted to be used as specified in Section 305.2.2.

305.2.1 Compliance with VCC-level seismic forces. Where compliance with the seismic design provisions of the VCC is required, the criteria shall be in accordance with one of the following:

1. One-hundred percent of the values in the VCC. Where the existing seismic force-resisting system is a type that can be designated as "Ordinary," values of R , Ω_0 and C_d used for analysis in accordance with Chapter 16 of the VCC shall be those specified for structural systems classified as "Ordinary" in accordance with Table 12.2-1 of ASCE 7, unless it can be demonstrated that the structural system will provide performance equivalent to that of a "Detailed," "Intermediate" or "Special" system.
2. ASCE 41, using a Tier 3 procedure and the two level performance objective in Table 305.2.1 for the applicable risk category.

TABLE 305.2.1
PERFORMANCE OBJECTIVES FOR USE IN ASCE 41 FOR COMPLIANCE WITH
VCC-LEVEL SEISMIC FORCES

RISK CATEGORY (Based on VCC Table 1604.5)	STRUCTURAL PERFORMANCE LEVEL FOR USE WITH BSE-1E EARTHQUAKE HAZARD LEVEL	STRUCTURAL PERFORMANCE LEVEL FOR USE WITH BSE-2N EARTHQUAKE HAZARD LEVEL
I	Life Safety (S-3)	Collapse Prevention (S-5)
II	Life Safety (S-3)	Collapse Prevention (S-5)
III	Damage Control (S-2)	Limited Safety (S-4)
IV	Immediate Occupancy (S-1)	Life Safety (S-3)

305.2.2 Compliance with reduced VCC-level seismic forces. Where seismic evaluation and design is permitted to meet reduced VCC seismic force levels, the criteria used shall be in accordance with one of the following:

1. The VCC using 75 percent of the prescribed forces. Values of R , Ω_0 and C_d used for analysis shall be as specified in Section 305.2.1 of this code.
2. Structures or portions of structures that comply with the requirements of the applicable chapter in Appendix A as specified in Items 2.1 through 2.5 and subject to the limitations of the respective Appendix A chapters shall be deemed to comply with this section.
 - 2.1. The seismic evaluation and design of unreinforced masonry bearing wall buildings in Risk Category I or II are permitted to be based on the procedures specified in Appendix Chapter A1.
 - 2.2. Seismic evaluation and design of the wall anchorage system in reinforced concrete and reinforced masonry wall buildings with flexible diaphragms in Risk Category I or II are permitted to be based on the procedures specified in Chapter A2.
 - 2.3. Seismic evaluation and design of cripple walls and sill plate anchorage in residential buildings of light-frame wood construction in Risk Category I or II are permitted to be based on the procedures specified in Chapter A3.
 - 2.4. Seismic evaluation and design of soft, weak, or open-front wall conditions in multiunit residential buildings of wood construction in Risk Category I or II are permitted to be based on the procedures specified in Chapter A4.
 - 2.5. Seismic evaluation and design of concrete buildings assigned to Risk Category I, II or III are permitted to be based on the procedures specified in Chapter A5.
3. ASCE 41, using the performance objective in Table 305.2.2 for the applicable risk category.

**TABLE 305.2.2
PERFORMANCE OBJECTIVES FOR USE IN ASCE 41 FOR COMPLIANCE WITH
REDUCED VCC-LEVEL SEISMIC FORCES**

RISK CATEGORY (Based on VCC Table 1604.5)	STRUCTURAL PERFORMANCE LEVEL FOR USE WITH BSE-1E EARTHQUAKE HAZARD LEVEL
I	Life Safety (S-3)
II	Life Safety (S-3)
III	Damage Control (S-2). See Note a
IV	Immediate Occupancy (S-1)

a. Tier 1 evaluation at the Damage Control performance level shall use the Tier 1 Life Safety checklists and Tier 1 Quick Check provisions midway between those specified for Life Safety and Immediate Occupancy performance

SECTION 306
GROUP B TEACHING AND RESEARCH LABORATORIES

306.1 Change of occupancy in existing Group B teaching and research laboratories. Where the use of new or different hazardous materials or a change in the amount of hazardous materials in existing Group B testing and research laboratories in educational occupancies above the 12th grade would constitute a change of occupancy, this section shall be permitted to be used as an acceptable alternative to compliance with change of occupancy requirements to permit the increased amounts of hazardous materials stipulated without the laboratories being classified as Group H. In addition, as set out in Section 5001.7 of the SFPC, approval under this section is contingent upon operational requirements in the SFPC being complied with and maintained.

306.1.1 Hazardous materials in existing Group B teaching and research laboratories. The percentage of maximum allowable quantities of hazardous materials per control area and the number of control areas permitted at each floor level within an existing building shall be permitted to comply with Table 306.1.1(1) in buildings equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1 of the VCC or shall be permitted to comply with Table 306.1.1(2) in buildings not equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1 of the VCC.

TABLE 306.1.1(1)

DESIGN AND NUMBER OF CONTROL AREAS IN EXISTING BUILDINGS EQUIPPED THROUGHOUT WITH AN AUTOMATIC SPRINKLER SYSTEM IN ACCORDANCE WITH SECTION 903.3.1.1 OF THE VCC WITH GROUP B TESTING AND RESEARCH LABORATORIES IN EDUCATIONAL OCCUPANCIES [ABOVE THE 12TH GRADE]

FLOOR LEVEL		PERCENTAGE OF THE MAXIMUM ALLOWABLE QUANTITY PER CONTROL AREA ^a	NUMBER OF CONTROL AREAS PER FLOOR	FIRE-RESISTANCE RATING FOR FIRE BARRIERS AND HORIZONTAL ASSEMBLIES IN HOURS ^b
Above grade plane	Higher than 20	5	1	2
	10-20	10	1	2
	7-9	25	2	2
	4-6	50	2	2
	3	75	3	1
	2	100	3	1
	1	100	4	1
Below grade plane	1	75	3	1
	2	50	2	1
	Lower than 2	Not allowed	Not allowed	Not allowed

a. Percentages shall be of the maximum allowable quantity per control area shown in Tables 307.1(1) and 307.1(2) of the **IBC VCC**, with all increases allowed in the notes to those tables.

b. Separation shall include fire barriers and horizontal assemblies as necessary to provide separation from other portions of the building.

TABLE 306.1.1(2)

DESIGN AND NUMBER OF CONTROL AREAS IN EXISTING BUILDINGS NOT EQUIPPED THROUGHOUT WITH AN AUTOMATIC SPRINKLER SYSTEM IN ACCORDANCE WITH SECTION 903.3.1.1 OF THE VCC WITH GROUP B TESTING AND RESEARCH LABORATORIES IN EDUCATIONAL OCCUPANCIES ABOVE THE 12TH GRADE

FLOOR LEVEL		PERCENTAGE OF THE MAXIMUM ALLOWABLE QUANTITY PER CONTROL AREA ^a	NUMBER OF CONTROL AREAS PER FLOOR	FIRE-RESISTANCE RATING FOR FIRE BARRIERS AND HORIZONTAL ASSEMBLIES IN HOURS ^b
Above grade plane	Higher than 9	5	1	2
	7-9	10	2	2
	4-6	25	2	2
	3	75	2	2
	2	100	3	1
	1	100	4	1
Below grade plane	1	75	3	1
	2	50	2	1
	Lower than 2	Not allowed	Not allowed	Not allowed

a. Percentages shall be of the maximum allowable quantity per control area shown in Tables 307.1(1) and 307.1(2) of the **IBC VCC**, excluding all increases allowed in the notes to those tables.

b. Separation shall include fire barriers and horizontal assemblies as necessary to provide separation from other portions of the building.

306.1.2 Automatic fire alarm and detection systems. An automatic fire alarm system shall be provided throughout the building in accordance with Section 907 of the VCC. An automatic fire detection system shall be provided in the control area in accordance with Section 907 of the VCC where pyrophics or Class 4 oxidizers are used and the building is not equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1 of the VCC.

306.1.3 System supervision and monitoring. Automatic fire detection systems shall be electronically supervised and monitored by an approved supervising station or, where approved, shall initiate an audible and visual signal at a constantly attended onsite location.

SECTION 307 REROOFING AND ROOF REPAIR

307.1 Reroofing. Materials and methods of application used for recovering or replacing an existing roof covering shall comply with this section and the applicable requirements of Chapter 15 of the **IBC VCC**.

Exceptions:

1. Roof replacement or roof recover of existing low-slope roof coverings shall not be required to meet the minimum design slope requirement of one-quarter unit vertical in 12 units horizontal (2-percent slope) in Section 1507 of the **IBC VCC** for roofs that provide positive roof drainage.
2. Recovering or replacing an existing roof covering shall not be required to meet the requirement for secondary (emergency overflow) drains or scuppers in Section 1503.4 of the **IBC VCC** for roofs that provide for positive roof drainage. For the purposes of this exception, existing secondary drainage or scupper systems required in accordance with the **IBC VCC** shall not be removed unless they are replaced by secondary drains or scuppers designed and installed in accordance with Section 1503.4 of the **IBC VCC**.

307.2 Structural and construction loads. Structural roof components shall be capable of supporting the roof-covering system and the material and equipment loads that will be encountered during installation of the system.

307.3 Roof replacement. Roof replacement shall include the removal of all existing layers of roof coverings down to the roof deck.

Exception: Where the existing roof assembly includes an ice barrier membrane that is adhered to the roof deck, the existing ice barrier membrane shall be permitted to remain in place and covered with an additional layer of ice barrier membrane in accordance with Section 1507 of the **IBC VCC**.

307.3.1 Roof recover. The installation of a new roof covering over an existing roof covering shall be permitted where any of the following conditions occur:

1. Complete and separate roofing systems, such as standing-seam metal roof systems, that are designed to transmit the roof loads directly to the building's structural system and that do not rely on existing roofs and roof coverings for support, shall not require the removal of existing roof coverings.
2. Metal panel, metal shingle and concrete and clay tile roof coverings shall be permitted to be installed over existing wood shake roofs when applied in accordance with Section 307.4.
3. The application of a new protective coating over an existing spray polyurethane foam roofing system shall be permitted without tear-off of existing roof coverings.
4. Where the new roof covering is installed in accordance with the roof covering manufacturer's approved instructions.

Exceptions. A roof recover shall not be permitted where any of the following conditions occur:

1. Where the existing roof or roof covering is water soaked or has deteriorated to the point that the existing roof or roof covering is not adequate as a base for additional roofing.
2. Where the existing roof covering is slate, clay, cement or asbestos-cement tile.
3. Where the existing roof has two or more applications of any type of roof covering.

307.4 Roof recovering. Where the application of a new roof covering over wood shingle or shake roofs creates a combustible concealed space, the entire existing surface shall be covered with gypsum board, mineral fiber, glass fiber or other approved materials securely fastened in place.

307.5 Reinstallation of materials. Existing slate, clay or cement tile shall be permitted for reinstallation, except that damaged, cracked or broken slate or tile shall not be reinstalled. Existing vent flashing, metal edgings, drain outlets, collars and metal counter-flashings shall not be reinstalled where rusted, damaged or deteriorated. Aggregate surfacing materials shall not be reinstalled.

307.6 Flashings. Flashings shall be reconstructed in accordance with approved manufacturer's installation instructions. Metal flashing to which bituminous materials are to be adhered shall be primed prior to installation.

307.7 Roof repair. Roof repairs shall comply with this section. Work on nondamaged components that is necessary for the required repair of damaged components shall be considered part of the roof repair and shall not be subject to the requirements of other parts of this code.

Exception: Routine maintenance required by this section, ordinary repairs exempt from permit in accordance with Section 108.2 of the VCC, and abatement of wear due to normal service conditions shall not be subject to the requirements for roof repairs in this section.

307.7.1 Building materials and systems. Building materials and systems shall comply with the requirements of Sections 307.7.1.1 and 307.7.1.2.

307.7.1.1 Existing materials. Materials already in use in a building in compliance with requirements or approvals in effect at the time of their erection or installation shall be permitted to remain in use unless determined by the building official to be unsafe.

307.7.1.2 New and replacement materials. Except as otherwise required or permitted by this code, materials permitted by the applicable code for new construction shall be used. Like materials shall be permitted for repairs, provided no hazard to life, health or property is created. Hazardous materials shall not be used where the code for new construction would not permit their use in buildings of similar occupancy, purpose and location.

CHAPTER 4

ACCESSIBILITY

[Came from IEBC 410 unless otherwise indicated]

SECTION 401 **GENERAL**

401.1 Scope. The applicable provisions of this chapter shall apply to maintenance, change of occupancy, additions and alterations to existing buildings, including those identified as historic buildings, all construction and rehabilitation.

401.2 Maintenance of facilities. A facility that is constructed or altered to be accessible shall be maintained accessible during occupancy.

SECTION 402 **CHANGE OF OCCUPANCY**

402.1 Change of occupancy. Existing buildings or structures that undergo a change of occupancy shall comply with this section.

Exception: Type B dwelling or sleeping units required by Section 1107 of the VCC 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.

[Came from Ron Clements' Chapter 10 proposal] 402.2 Partial change in occupancy. Where a portion of the building is changed to a new occupancy classification, additional accessible features are not required due to the change of occupancy.

[Came from Ron Clements' Chapter 10 proposal] 402.3 Complete change of occupancy. Where an entire building undergoes a change of occupancy classification, it shall have all of the following accessible features:

1. At least one accessible building entrance.
2. At least one accessible route from an accessible building entrance to primary function areas.
3. Signage complying with Section 1111 of the VCC.
4. Accessible parking, where parking is being provided.
5. At least one accessible passenger loading zone, when loading zones are provided.
6. At least one accessible route connecting accessible parking and accessible passenger loading zones to an accessible entrance.

Where it is technically infeasible to comply with the new construction standards for any of these requirements for a change of occupancy, the above items shall conform to the requirements to the maximum extent technically feasible.

Exception: The accessible features listed in Items 1 through 6 are not required for an accessible route to Type B units.

SECTION 403 **ADDITIONS**

[Came from IEBC 1105]

403.1 Additions. Accessibility provisions for new construction shall apply to additions. An addition that affects the accessibility to, or contains an area of, a primary function shall comply with the requirements in Section 410.7, as applicable.

403.2 Accessible dwelling units and sleeping units. Where Group I-1, I-2, I-3, R-1, R-2 or R-4 dwelling or sleeping units are being added, the requirements of Section 1107 of the VCC for accessible units apply only to the quantity of spaces being added.

403.3 Type A dwelling or sleeping units. Where more than 20 Group R-2 dwelling or sleeping units are being added, the requirements of Section 1107 of the VCC for Type A units and Chapter 9 of the VCC for visible alarms apply only to the quantity of the spaces being added.

403.4 Type B dwelling or sleeping units. Where four or more Group I-1, I-2, R-1, R-2, R-3 or R-4 dwelling or sleeping units are being added, the requirements of Section 1107 of the VCC for Type B units and Chapter 9 of the VCC for visible alarms apply only to the quantity of spaces being added.

SECTION 404 **ALTERATIONS**

[Came from IEBC 410.3] 404.1 General. An alteration of an existing facility shall not impose a requirement for greater accessibility than that which would be required for new construction. Alterations shall not reduce or have the effect of reducing accessibility of a facility or portion of a facility.

[Came from IEBC 410.6] 404.2 Alterations. A facility that is altered shall comply with the applicable provisions in this section and Chapter 11 of the VCC, [except as modified by Sections 404.3 and 404.4](#), unless technically infeasible. Where compliance with this section is technically infeasible, the alteration shall provide access to the maximum extent technically feasible.

Exceptions:

1. The altered element or space is not required to be on an accessible route, unless required by Section 404.3.
2. Accessible means of egress required by Chapter 10 of the VCC are not required to be provided in existing facilities.
3. The alteration to Type A individually owned dwelling units within a Group R-2 occupancy shall be permitted to meet the provision for a Type B dwelling unit.
4. Type B dwelling or sleeping units required by Section 1107 of the VCC 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.

[Came from IEBC 410.7] 404.3 Alterations affecting an area containing a primary function. Where an alteration affects the accessibility to, or contains an area of primary function, the route to the primary function area shall be accessible. The accessible route to the primary function area shall include toilet facilities and drinking fountains that shall also be accessible to and useable by individuals with disabilities, serving the area of primary function.

Exceptions:

1. The costs of providing the accessible route are not required to exceed 20 percent of the costs of the alterations affecting the area of primary function.
2. This provision does not apply to alterations limited solely to windows, hardware, operating controls, electrical outlets and signs.
3. This provision does not apply to alterations limited solely to mechanical systems, electrical systems, installation or alteration of fire protection systems and abatement of hazardous materials.
4. This provision does not apply to alterations undertaken for the primary purpose of increasing the accessibility of a facility.
5. This provision does not apply to altered areas limited to Type B dwelling and sleeping units.

[Came from IEBC 410.8] 404.4 Scoping for alterations. The provisions of Sections 404.4.1 through 404.4.14 shall apply to alterations to existing buildings and facilities.

404.4.1 Entrances. Where an alteration includes alterations to an entrance, and the facility has an accessible entrance on an accessible route, the altered entrance is not required to be accessible unless required by Section 404.3. Signs complying with Section 1111 of the VCC shall be provided.

Exception: Where an *alteration* includes alterations to an entrance, and the *facility* has an *accessible* entrance, the altered entrance is not required to be *accessible*, unless required by Section 410.7. Signs complying with Section 1111 of the VCC shall be provided.

404.4.2 Elevators. Altered elements of existing elevators shall comply with ASME A17.1/CSA B44 and ICC A117.1. Such elements shall also be altered in elevators programmed to respond to the same hall call control as the altered elevator.

404.4.3 Platform lifts. Platform (wheelchair) lifts complying with ICC A117.1 and installed in accordance with ASME A18.1 shall be permitted as a component of an accessible route.

404.4.4 Stairways and escalators. In alterations, change of occupancy or additions where an escalator or stairway is added where none existed previously and major structural modifications are necessary for installation, an accessible route shall be provided between the levels served by the escalator or stairways in accordance with Section 1104.4 of the VCC.

404.4.5 Ramps. Where steeper slopes than allowed by Section 1012.2 of the VCC are necessitated by space limitations, the slope of ramps in or providing access to existing facilities shall comply with Table 404.4.5.

**TABLE 404.4.5
RAMPS**

SLOPE	MAXIMUM RISE
Steeper than 1:10 but not steeper than 1:8	3 inches
Steeper than 1:12 but not steeper than 1:10	6 inches

For SI: 1 inch = 25.4 mm

404.4.6 Accessible dwelling or sleeping units. Where Group I-1, I-2, I-3, R-1, R-2 or R-4 dwelling or sleeping units are being altered, the requirements of Section 1107 of the VCC for Accessible units apply only to the quantity of the spaces being altered.

404.4.7 Type A dwelling or sleeping units. Where more than 20 Group R-2 dwelling or sleeping units are being altered, the requirements of Section 1107 of the VCC for Type A units and Chapter 9 of the VCC for visible alarms apply only to the quantity of the spaces being altered.

404.4.8 Type B dwelling or sleeping units. Where four or more Group I-1, I-2, R-1, R-2, R-3 or R-4 dwelling or sleeping units are being altered and where the work area is greater than 50 percent of the aggregate area of the building, the requirements of Section 1107 of the VCC for Type B units and Chapter 9 of the VCC for visible Alarms apply only to the quantity of the spaces being altered.

[Came from IEBC 906.2, Exception] Exception: Group I-1, I-2, R-2, R-3 and R-4 dwelling or sleeping units where the first certificate of occupancy was issued before March 15, 1991 are not required to provide Type B dwelling or sleeping units

404.4.9 Jury boxes and witness stands. In alterations, accessible wheelchair spaces are not required to be located within the defined area of raised jury boxes or witness stands and shall be permitted to be located outside these spaces where ramp or lift access poses a hazard by restricting or projecting into a required means of egress.

404.4.10 Toilet rooms. Where it is technically infeasible to alter existing toilet and bathing rooms to be accessible, an accessible family or assisted-use toilet or bathing room constructed in accordance with Section 1109.2.1 of the VCC is permitted. The family or assisted-use toilet or bathing room shall be located on the same floor and in the same area as the existing toilet or bathing rooms. At the inaccessible toilet and bathing rooms, provide directional signs indicating the location of the nearest family or assisted-use toilet room or bathing room. These directional signs shall include the International Symbol of Accessibility and sign characters shall meet the visual character requirements in accordance with ICC A117.1.

404.4.11 Dressing, fitting and locker rooms. Where it is technically infeasible to provide accessible dressing, fitting or locker rooms at the same location as similar types of rooms, one accessible room on the same level shall be provided. Where separate-sex facilities are provided, accessible rooms for each sex shall be provided. Separate sex facilities are not required where only unisex rooms are provided.

404.4.12 Fuel dispensers. Operable parts of replacement fuel dispensers shall be permitted to be 54 inches (1370 mm) maximum, measuring from the surface of the vehicular way where fuel dispensers are installed on existing curbs.

404.4.13 Thresholds. The maximum height of thresholds at doorways shall be 3/4 inch (19.1 mm). Such thresholds shall have beveled edges on each side.

404.4.14 Amusement rides. Where the structural or operational characteristics of an amusement ride are altered to the extent that the amusement ride's performance differs from that specified by the manufacturer or the original design, the amusement ride shall comply with requirements for new construction in Section 1110.4.8 of the VCC.

[Came from IEBC 705.1.5] 404.4.15 Dining areas. An accessible route to raised or sunken dining areas or to outdoor seating areas is not required provided that the same services and decor are provided in an accessible space usable by any occupant and not restricted to use by people with a disability.

SECTION 405
HISTORIC BUILDINGS
[Came from IEBC 410.9]

405.1 General. These provisions shall apply to facilities designated as historic buildings or structures that undergo alterations or a change of occupancy, unless technically infeasible. Where compliance with the requirements for accessible routes, entrances or toilet rooms would threaten or destroy the historic significance of the facility, ~~as determined by the applicable governing authority,~~ the alternative requirements of Sections 405.1.1 through 405.1.4 for that element shall be permitted.

Exception: Type B dwelling or sleeping units required by Section 1107 of the VCC are not required to be provided in historical buildings.

405.1.1 Site arrival points. At least one accessible route from a site arrival point to an accessible entrance shall be provided.

405.1.2 Multilevel buildings and facilities. An accessible route from an accessible entrance to public spaces on the level of the accessible entrance shall be provided.

405.1.3 Entrances. At least one main entrance shall be accessible.

Exceptions:

1. If a main entrance cannot be made accessible, an accessible nonpublic entrance that is unlocked while the building is occupied shall be provided; or
2. If a main entrance cannot be made accessible, a locked accessible entrance with a notification system or remote monitoring shall be provided.

Signs complying with Section 1111 of the VCC shall be provided at the primary entrance and the accessible entrance.

405.1.4 Toilet and bathing facilities. Where toilet rooms are provided, at least one accessible family or assisted-use toilet room complying with Section 1109.2.1 of the VCC shall be provided.

CHAPTER 5

REPAIRS

SECTION 501 GENERAL

501.1 Scope. **[Came from IEBC 502.1]** Repairs, including the patching or restoration or replacement of damaged materials, elements, equipment or fixtures for the purpose of maintaining such components in good or sound condition with respect to existing loads or performance requirements, shall comply with the requirements of this chapter. **[Came from IEBC 601.1]** Repairs to historic buildings need only comply with Chapter 9. Portions of the existing building or structure not being repaired shall not be required to comply with the requirements of this code applicable to newly constructed buildings or structures. **[Came from IEBC 404.1]** Work on nondamaged components that is necessary for the required repair of damaged components shall be considered part of the repair and shall not be subject to the provisions of Chapter 6, 7 or 8. Routine maintenance required by Section 302, ordinary repairs exempt from permit in accordance with Section 108.2 of the VCC, and abatement of wear due to normal service conditions shall not be subject to the requirements for repairs in this section.

Exception: Repairs complying with the requirements of the building code under which the building or structure or the affected portions thereof was built, or as previously approved by the building official, shall be considered in compliance with the provisions of this code, unless the building or structure or the affected portions thereof is undergoing a substantial structural alteration as described in Section 604.7.1. New structural members added as part of the alteration or repairs shall comply with the VCC. Repairs of existing buildings in flood hazard areas shall comply with Section 503.

[Came from IEBC 601.2] **501.2 Conformance.** The work shall not make the building less conforming than it was before the repair was undertaken. Repairs shall be done in a manner that maintains the following:

1. Level of fire protection that is existing.
2. Level of protection that is existing for the means of egress.
3. Level of accessibility that is existing.

SECTION 502 STRUCTURAL

[Came from IEBC 606.1] **502.1 General.** Structural repairs shall be in compliance with this section and Section 501.2. ~~Regardless of the extent of structural or nonstructural damage, dangerous conditions shall be eliminated.~~ Regardless of the scope of repair, new structural members and connections used for repair or rehabilitation shall comply with the detailing provisions of the VCC for new buildings of similar structure, purpose and location.

502.2 Repairs to damaged buildings. Repairs to damaged buildings shall comply with this section.

[Came from IEBC 404 unless indicated otherwise→]

502.2.1 Less than substantial structural damage. For damage less than substantial structural damage, repairs shall be allowed that restore the building to its predamage state. New structural members and connections used for this repair shall comply with the detailing provisions of the VCC for new buildings of similar structure, purpose and location.

502.2.2 Substantial structural damage to vertical elements of the lateral force-resisting system.

A building that has sustained substantial structural damage to the vertical elements of its lateral force-resisting system shall be evaluated in accordance with Section 502.2.2.1, and either repaired in accordance with Section 502.2.2.2 or repaired and rehabilitated in accordance with Section 502.2.2.3, depending on the results of the evaluation.

Exceptions:

1. Buildings assigned to Seismic Design Category A, B, or C whose substantial structural damage was not caused by earthquake need not be evaluated or rehabilitated for load combinations that include earthquake effects.
2. One- and two-family dwellings need not be evaluated or rehabilitated for load combinations that include earthquake effects.

502.2.2.1 Evaluation. The building shall be evaluated by a registered design professional, and the evaluation findings shall be submitted to the building official. The evaluation shall establish whether the damaged building, if repaired to its predamage state, would comply with the provisions of the VCC for load combinations that include wind or earthquake effects, except that the seismic forces shall be the reduced VCC-level seismic forces.

Wind loads for this evaluation shall be those prescribed in Section 1609 of the VCC. Earthquake loads for this evaluation, if required, shall be permitted to be 75 percent of those prescribed in Section 1613 of the VCC. Alternatively, compliance with ASCE 41, using the performance objective in Table 305.2.2 for the applicable risk category, shall be deemed to meet the earthquake evaluation requirement.

502.2.2.2 Extent of repair for compliant buildings. If the evaluation establishes that the building in its predamage condition complies with the provisions of Section 502.2.2.1, then repairs shall be permitted that restore the building to its predamage state.

502.2.2.3 Extent of repair for noncompliant buildings. If the evaluation does not establish that the building in its predamage condition complies with the provisions of Section 502.2.2.1, then the building shall be rehabilitated to comply with the provisions of this section. The wind loads for the repair shall be as required by the building code in effect at the time of original construction, unless the damage was caused by wind, in which case the wind loads shall be in accordance with the VCC. The earthquake loads for this rehabilitation design shall be those required by the building code in effect at the time of original construction, but not less than the reduced VCC-level seismic forces. New structural members and connections required by this rehabilitation design shall comply with the detailing provisions of the VCC for new buildings of similar structure, purpose and location. Alternatively, compliance with ASCE 41, using the performance objective in Table 305.2.2 for the applicable risk category, shall be deemed to meet the earthquake rehabilitation requirement.

502.2.3 Substantial structural damage to gravity load-carrying components. Gravity load-carrying components that have sustained substantial structural damage shall be rehabilitated to comply with the applicable provisions for dead and live loads in the VCC. Snow loads shall be considered if the substantial structural damage was caused by or related to snow load effects. Existing gravity load-carrying structural elements shall be permitted to be designed for live loads approved prior to the damage. If the approved live load is less than that required by Section 1607 of the VCC, the area designed for the nonconforming live load shall be posted with placards of approved design indicating the approved live load. Nondamaged gravity load-carrying components that receive dead, live or snow loads from rehabilitated components shall also be rehabilitated if required to comply with the design loads of the rehabilitation design, or shown to have the capacity to carry the design loads of the rehabilitation design. New structural members and connections required by this rehabilitation design

shall comply with the detailing provisions of the VCC for new buildings of similar structure, purpose and location.

502.2.3.1 Lateral force-resisting elements. Regardless of the level of damage to gravity elements of the lateral force-resisting system, if substantial structural damage to gravity load-carrying components was caused primarily by wind or earthquake effects, then the building shall be evaluated in accordance with Section 502.2.2.1 and, if noncompliant, rehabilitated in accordance with Section 502.2.2.3.

Exceptions:

1. Buildings assigned to Seismic Design Category A, B, or C whose substantial structural damage was not caused by earthquake need not be evaluated or rehabilitated for load combinations that include earthquake effects.
2. One- and two-family dwellings need not be evaluated or rehabilitated for load combinations that include earthquake effects.

[Addressed and moved to 503] 502.2.4 Flood hazard areas. In flood hazard areas, buildings or structures that have sustained substantial damage shall be brought into compliance with Section 1612 of the International Building Code, or Section R322 of the International Residential Code, as applicable.

**SECTION 503
FLOOD HAZARD AREAS
[Came from IEBC 404.5]**

503.1 Flood hazard areas. For buildings and structures, in flood hazard areas established in Section 1612.3 of the VCC, or Section R322 of the International Residential Code, as applicable, any repair that constitutes substantial improvement or repair of substantial damage of the existing building or structure shall comply with the flood design requirements for new construction and all aspects of the existing building or structure shall be brought into compliance with the requirements for new construction for flood design.

For buildings and structures in flood hazard areas established in Section 1612.3 of the VCC, or Section R322 of the International Residential Code, as applicable, any repairs do not constitute substantial improvement or repair of substantial damage of the existing building or structure are not required to comply with the flood design requirements for new construction.

**SECTION 504
ELECTRICAL
[Came from IEBC 607]**

504.1 Material. Existing electrical wiring and equipment undergoing repair shall be allowed to be repaired or replaced with like material.

504.1.1 Receptacles. Replacement of electrical receptacles shall comply with the applicable requirements of Section 406.4(D) of NFPA 70.

504.1.2 Plug fuses. Plug fuses of the Edison-base type shall be used for replacements only where there is no evidence of over fusing or tampering per applicable requirements of Section 240.51(B) of NFPA 70.

504.1.3 Nongrounding-type receptacles. For replacement of nongrounding-type receptacles with grounding-type receptacles and for branch circuits that do not have an equipment grounding conductor in the branch circuitry, the grounding conductor of a grounding-type receptacle outlet shall be permitted to be grounded to any accessible point on the grounding electrode system or to any accessible point on the grounding electrode conductor in accordance with Section 250.130(C) of NFPA 70.

504.1.4 Group I-2 receptacles. Non-“hospital grade” receptacles in patient bed locations of Group I-2 shall be replaced with “hospital grade” receptacles, as required by NFPA 99 and Article 517 of NFPA 70.

504.1.5 Grounding of appliances. Frames of electric ranges, wall-mounted ovens, counter-mounted cooking units, clothes dryers and outlet or junction boxes that are part of the existing branch circuit for these appliances shall be permitted to be grounded to the grounded circuit conductor in accordance with Section 250.140 of NFPA 70.

SECTION 505 MECHANICAL

[Came from IEBC 608]

505.1 General. Existing mechanical systems undergoing repair shall not make the building less conforming than it was before the repair was undertaken.

505.2 Mechanical draft systems for manually fired appliances and fireplaces. A mechanical draft system shall be permitted to be used with manually fired appliances and fireplaces where such a system complies with all of the following requirements:

1. The mechanical draft device shall be listed and installed in accordance with the manufacturer’s installation instructions.
2. A device shall be installed that produces visible and audible warning upon failure of the mechanical draft device or loss of electrical power at any time that the mechanical draft device is turned on. This device shall be equipped with a battery backup if it receives power from the building wiring.
3. A smoke detector shall be installed in the room with the appliance or fireplace. This device shall be equipped with a battery backup if it receives power from the building wiring.

SECTION 506 PLUMBING

[Came from IEBC 609]

506.1 Materials. Plumbing materials and supplies shall not be used for repairs that are prohibited in the International Plumbing Code.

506.2 Water closet replacement. The maximum water consumption flow rates and quantities for all replaced water closets shall be 1.6 gallons (6 L) per flushing cycle.

Exception: Blowout-design water closets [3.5 gallons (13 L) per flushing cycle].

CHAPTER 6

ALTERATIONS

SECTION 601 GENERAL

[Came from IBC 403.1] **601.1 General.** Except as provided by **Section 905.1** or this chapter, alterations to any building or structure shall comply with the requirements of the VCC for new construction. Alterations shall be such that the existing building or structure is no less conforming to the provisions of the VCC than the existing building or structure was prior to the alteration.

Exceptions:

1. ~~An~~ **Any stairway replacing an** existing stairway shall not be required to comply with the requirements of Section 1011 of the VCC where the existing space and construction does not allow a reduction in pitch or slope.
2. Handrails otherwise required to comply with Section 1011.11 of the VCC shall not be required to comply with the requirements of Section 1014.6 of the VCC regarding full extension of the handrails where such extensions would be hazardous due to plan configuration.
3. **[Came from IBC 701.2]** Where the current level of safety or sanitation is proposed to be reduced, the portion altered shall conform to the requirements of the VCC.
4. **Alterations complying with the requirements of the building code under which the building or structure or the affected portions thereof was built, or as previously approved by the building official, shall be considered in compliance with the provisions of this code, unless the building or structure or the affected portions thereof is undergoing a substantial structural alteration as described in Section 604.7.1. New structural members added as part of the alteration or repairs shall comply with the VCC. Alterations of existing buildings in flood hazard areas shall comply with Section 601.3.**

601.2 Levels of alterations. Alterations to any building or structure shall be classified as the following:

[Came from IBC 503.1, 504.1, and 505.1→]

601.2.1 Level 1. Level 1 alterations include the removal and replacement or the covering of existing materials, elements, equipment, or fixtures using new materials, elements, equipment, or fixtures that serve the same purpose. Level 1 alterations shall comply with the **applicable** provisions Section 602.

601.2.2 Level 2. Level 2 alterations include the addition or elimination of any door or window, the reconfiguration or extension of any system, or the installation of any additional equipment; and shall apply where the work area is less than 50 percent of the building area. Level 2 alterations shall comply with the **applicable** provisions Sections 602 and 603.

601.2.3 Level 3. Level 3 alterations apply where the work area exceeds 50 percent of the building area. Level 3 alterations shall comply with the **applicable** provisions Sections 602, 603, and 604.

601.2.3.1 Special provisions. A building separated horizontally in compliance with VCC Section 510.2 shall be considered as separate and distinct buildings for the purpose of determining building area used for application of Section 601.2.3.

[Came from IBC 701.3] **601.3 Flood hazard areas.** In flood hazard areas, alterations that constitute substantial improvement shall require that the building comply with Section 1612 of the VCC, or Section R322 of the International Residential Code, as applicable,

[Came from IEBC 708.1, 811.1, and 908.1] 601.4 Energy conservation. Level 1, 2, and 3 alterations to existing buildings or structures are permitted without requiring the entire building or structure to comply with the energy requirements of the International Energy Conservation Code or International Residential Code. The alterations shall conform to the energy requirements of the International Energy Conservation Code or International Residential Code as they relate to new construction only.

[Bob Orr proposal] Exception: Except for window and door openings, like materials, assemblies or thicknesses shall be permitted for alterations involving the exterior building thermal envelope, provided no hazard to life, health or property is created. Hazardous materials shall not be used where the code for new construction would not permit their use in buildings of similar occupancy, purpose and location.

601.5 Accessibility. Accessibility shall be provided in accordance with applicable provisions of Section 404.

~~**[NON-CONSENSUS] 601.6 Smoke alarms in existing portions of a building.** Where an addition is made to a building or structure of a Group R or I-1 occupancy, the existing building shall be provided with smoke alarms in accordance with Section 1103.8 of the International Fire Code.~~

SECTION 602 LEVEL 1 ALTERATIONS

[Came from IEBC Chapter 7 unless indicated otherwise]

602.1 Scope. Level 1 alterations as described in Section 601.2.1 shall comply with the requirements of this section. Level 1 alterations to historic buildings shall comply with this chapter, except as modified in Chapter 12.

~~**[Moved to 601.3] 602.2 Flood hazard areas.** In flood hazard areas, alterations that constitute substantial improvement shall require that the building comply with Section 1612 of the VCC, or Section R322 of the International Residential Code, as applicable~~

[Consolidation of IEBC 703.1 and 704.1] 602.2 Conformance. Alterations shall be done in a manner that maintains the following:

1. Level of fire protection that is existing.
2. Level of protection that is existing for the means of egress.

602.3 Building elements and materials. Building elements and materials shall comply with the applicable provisions of Sections 302 and 602.3.1 through 602.3.5.

602.3.1 Interior finishes. All newly installed interior wall and ceiling finishes shall comply with Chapter 8 of the VCC.

602.3.2 Interior floor finish. New interior floor finish, including new carpeting used as an interior floor finish material, shall comply with Section 804 of the VCC.

602.3.3 Interior trim. All newly installed interior trim materials shall comply with Section 806 of the VCC.

~~**[Sections 702.4 (window opening control devices) and 702.5 (emergency escape and rescue openings) were relocated to Section 304.3 and 304.4]**~~

602.3.4 Materials and methods. All new work shall comply with the materials and methods requirements in the VCC, International Energy Conservation Code, International Mechanical Code, and International Plumbing Code, as applicable, that specify material standards, detail of installation and connection, joints, penetrations, and continuity of any element, component, or system in the building.

602.3.5 International Fuel Gas Code. The following sections of the International Fuel Gas Code shall constitute the fuel gas materials and methods requirements for Level 1 alterations.

1. All of Chapter 3, entitled "General Regulations," except Sections 303.7 and 306.
2. All of Chapter 4, entitled "Gas Piping Installations," except Sections 401.8 and 402.3.
 - 2.1. Sections 401.8 and 402.3 shall apply when the work being performed increases the load on the system such that the existing pipe does not meet the size required by code. Existing systems that are modified shall not require resizing as long as the load on the system is not increased and the system length is not increased even if the altered system does not meet code minimums.
3. All of Chapter 5, entitled "Chimneys and Vents."
4. All of Chapter 6, entitled "Specific Appliances."

[Section 705 (accessibility) was relocated to Section 404; and Section 706 (reroofing) is covered under Section 307]

SECTION 603 LEVEL 2 ALTERATIONS

[Came from IEBC Chapter 8 unless indicated otherwise]

603.1 Scope. Level 2 alterations as described in Section 601.2.2 shall comply with the requirements of this section.

Exception: Buildings in which the alteration is exclusively the result of compliance with the accessibility requirements of Section 404.3 shall be permitted to comply with Section 602.

603.2 Level 1 alteration compliance. In addition to the requirements of this section, all work shall comply with the applicable requirements of Section 602.

603.3 Compliance. All new construction elements, components, systems, and spaces shall comply with the requirements of the VCC.

Exceptions:

1. Windows may be added without requiring compliance with the light and ventilation requirements of the VCC.
2. Newly installed electrical equipment shall comply with the requirements of Section 603.8.
3. The length of dead-end corridors in newly constructed spaces shall only be required to comply with the provisions of Section 603.6.5.
4. The minimum ceiling height of the newly created habitable and occupiable spaces and corridors shall be 7 feet (2134 mm).

603.4 Special use and occupancy. Alteration of buildings classified as special use and occupancy as described in the International Building Code shall comply with the requirements of Section 801.1 and the scoping provisions of Chapter 1 where applicable.

603.4 Building elements and materials. The requirements of Section 603.4 are limited to work areas in which Level 2 alterations are being performed and shall apply beyond the work area where specified.

603.4.1 Vertical openings. Existing vertical openings shall comply with the provisions of Sections 603.4.1, 603.5.2 and 603.4.3.

603.4.1.1 Existing vertical openings. All Existing interior vertical openings connecting two or more floors shall be enclosed with approved assemblies having a fire-resistance rating of not less than 1 hour with approved opening protectives.

Exceptions:

1. Where vertical opening enclosure is not required by the VCC or the International Fire Code.
2. Interior vertical openings other than stairways may be blocked at the floor and ceiling of the work area by installation of not less than 2 inches (51 mm) of solid wood or equivalent construction.
3. The enclosure shall not be required where:
 - 3.1. Connecting the main floor and mezzanines; or
 - 3.2. All of the following conditions are met:
 - 3.2.1. The communicating area has a low hazard occupancy or has a moderate hazard occupancy that is protected throughout by an automatic sprinkler system.
 - 3.2.2. The lowest or next to the lowest level is a street floor.
 - 3.2.3. The entire area is open and unobstructed in a manner such that it may be assumed that a fire in any part of the interconnected spaces will be readily obvious to all of the occupants.
 - 3.2.4. Exit capacity is sufficient to provide egress simultaneously for all occupants of all levels by considering all areas to be a single floor area for the determination of required exit capacity.
 - 3.2.5. Each floor level, considered separately, has at least one half of its individual required exit capacity provided by an exit or exits leading directly out of that level without having to traverse another communicating floor level or be exposed to the smoke or fire spreading from another communicating floor level.
4. In Group A occupancies, a minimum 30-minute enclosure shall be provided to protect all vertical openings not exceeding three stories.
5. In Group B occupancies, a minimum 30-minute enclosure shall be provided to protect all vertical openings not exceeding three stories. This enclosure, or the enclosure specified in Section 603.4.1.1, shall not be required in the following locations:
 - 5.1. Buildings not exceeding 3,000 square feet (279 m²) per floor.
 - 5.2. Buildings protected throughout by an approved automatic fire sprinkler system.
6. In Group E occupancies, the enclosure shall not be required for vertical openings not exceeding three stories when the building is protected throughout by an approved automatic fire sprinkler system.

7. In Group F occupancies, the enclosure shall not be required in the following locations:
 - 7.1. Vertical openings not exceeding three stories.
 - 7.2. Special purpose occupancies where necessary for manufacturing operations and direct access is provided to at least one protected stairway.
 - 7.3. Buildings protected throughout by an approved automatic sprinkler system.
8. In Group H occupancies, the enclosure shall not be required for vertical openings not exceeding three stories where necessary for manufacturing operations and every floor level has direct access to at least two remote enclosed stairways or other approved exits.
9. In Group M occupancies, a minimum 30-minute enclosure shall be provided to protect all vertical openings not exceeding three stories. This enclosure, or the enclosure specified in Section 603.4.1.1, shall not be required in the following locations:
 - 9.1. Openings connecting only two floor levels.
 - 9.2. Occupancies protected throughout by an approved automatic sprinkler system.
10. In Group R-1 occupancies, the enclosure shall not be required for vertical openings not exceeding three stories in the following locations:
 - 10.1. Buildings protected throughout by an approved automatic sprinkler system.
 - 10.2. Buildings with less than 25 dwelling units or sleeping units where every sleeping room above the second floor is provided with direct access to a fire escape or other approved second exit by means of an approved exterior door or window having a sill height of not greater than 44 inches (1118 mm) and where:
 - 10.2.1. Any exit access corridor exceeding 8 feet (2438 mm) in length that serves two means of egress, one of which is an unprotected vertical opening, shall have at least one of the means of egress separated from the vertical opening by a 1-hour fire barrier; and
 - 10.2.2. The building is protected throughout by an automatic fire alarm system, installed and supervised in accordance with the VCC.
11. In Group R-2 occupancies, a minimum 30-minute enclosure shall be provided to protect all vertical openings not exceeding three stories. This enclosure, or the enclosure specified in Section 603.4.1.1, shall not be required in the following locations:
 - 11.1. Vertical openings not exceeding two stories with not more than four dwelling units per floor.
 - 11.2. Buildings protected throughout by an approved automatic sprinkler system.

11.3. Buildings with not more than four dwelling units per floor where every sleeping room above the second floor is provided with direct access to a fire escape or other approved second exit by means of an approved exterior door or window having a sill height of not greater than 44 inches (1118 mm) and the building is protected throughout by an automatic fire alarm system complying with Section 603.5.4.

12. One- and two-family dwellings.
13. Group S occupancies where connecting not more than two floor levels or where connecting not more than three floor levels and the structure is equipped throughout with an approved automatic sprinkler system.
14. Group S occupancies where vertical opening protection is not required for open parking garages and ramps.

603.4.1.2 Supplemental shaft and floor opening enclosure requirements. Where the work area on any floor exceeds 50 percent of that floor area, the enclosure requirements of Section 603.4.1 shall apply to vertical openings other than stairways throughout the floor.

Exception: Vertical openings located in tenant spaces that are entirely outside the work area.

603.4.1.3 Supplemental stairway enclosure requirements. Where the work area on any floor exceeds 50 percent of that floor area, stairways that are part of the means of egress serving the work area shall, at a minimum, be enclosed with smoke-tight construction on the highest work area floor and all floors below.

Exception: Where stairway enclosure is not required by the VCC or the International Fire Code

603.4.2 Smoke compartments. In Group I-2 occupancies where the work area is on a story used for sleeping rooms for more than 30 patients, the story shall be divided into not less than two compartments by smoke barrier walls in accordance with Section 407.5 of the VCC as required for new construction.

603.4.3 Interior finish. The interior finish of walls and ceilings in exits and corridors in any work area shall comply with the requirements of the VCC.

Exception: Existing interior finish materials that do not comply with the interior finish requirements of the VCC shall be permitted to be treated with an approved fire-retardant coating in accordance with the manufacturer's instructions to achieve the required rating.

603.4.3.1 Supplemental interior finish requirements. Where the work area on any floor exceeds 50 percent of the floor area, Section 603.4.3 shall also apply to the interior finish in exits and corridors serving the work area throughout the floor.

Exception: Interior finish within tenant spaces that are entirely outside the work area.

603.4.4 Guards. The requirements of Sections 603.4.4.1 and 603.4.4.2 shall apply in all work areas.

603.4.4.1 Minimum requirement. Every portion of a floor, such as a balcony or a loading dock, that is more than 30 inches (762 mm) above the floor or grade below and is not provided with guards, or those in which the existing guards are judged to be in danger of collapsing, shall be provided with guards.

603.4.4.2 Design. Where there are no guards or where existing guards must be replaced, the guards shall be designed and installed in accordance with the VCC.

603.4.5 Fire-resistance ratings. Where approved by the code official, buildings where an automatic sprinkler system installed in accordance with Section 903.3.1.1 or 903.3.1.2 of the VCC has been added, and the building is now sprinklered throughout, the required fire-resistance ratings of building elements and materials shall be permitted to meet the requirements of the current building code. ~~The building is required to meet the other applicable requirements of the International Building Code.~~

~~Plans, investigation and evaluation reports, and other data shall be submitted indicating which building elements and materials the applicant is requesting the code official to review and approve for determination of applying the current building code fire-resistance ratings. Any special construction features, including fire-resistance-rated assemblies and smoke-resistive assemblies, conditions of occupancy, means of egress conditions, fire-code deficiencies, approved modifications or approved alternative materials, design and methods of construction, and equipment applying to the building that impact required fire-resistance ratings shall be identified in the evaluation reports submitted.~~

603.5 Fire protection. The requirements of Section 603.5 shall be limited to work areas in which Level 2 alterations are being performed, and where specified they shall apply throughout the floor on which the work areas are located or otherwise beyond the work area.

603.5.1 Corridor ratings. Where an approved automatic sprinkler system is installed throughout the story, the required fire-resistance rating for any corridor located on the story shall be permitted to be reduced in accordance with the VCC. In order to be considered for a corridor rating reduction, such system shall provide coverage for the stairway landings serving the floor and the intermediate landings immediately below.

603.5.2 Automatic sprinkler system. Automatic sprinkler systems shall be provided in accordance with the requirements of Sections 603.5.2.1 through 603.5.2.5. Installation requirements shall be in accordance with the VCC.

603.5.2.1 High-rise buildings. In high-rise buildings, work areas that have exits or corridors shared by more than one tenant or that have exits or corridors serving an occupant load greater than 30 shall be provided with automatic sprinkler protection in the entire work area where the work area is located on a floor that has a sufficient sprinkler water supply system from an existing standpipe or a sprinkler riser serving that floor.

603.5.2.1.1 Supplemental automatic sprinkler system requirements. Where the work area on any floor exceeds 50 percent of that floor area, Section 603.5.2.1 shall apply to the entire floor on which the work area is located.

Exception: Occupied tenant spaces that are entirely outside the work area.

603.5.2.2 Groups A, B, E, F-1, H, I, M, R-1, R-2, R-4, S-1 and S-2. In buildings with occupancies in Groups A, B, E, F-1, H, I, M, R-1, R-2, R-4, S-1 and S-2, work areas that have exits or corridors shared by more than one tenant or that have exits or corridors serving an occupant load greater than 30 shall be provided with automatic sprinkler protection where all of the following conditions occur:

1. The work area is required to be provided with automatic sprinkler protection in accordance with the VCC as applicable to new construction; and
2. The work area exceeds 50 percent of the floor area.

Exception: If the building does not have sufficient municipal water supply for design of a fire sprinkler system available to the floor without installation of a new fire pump, work areas shall be protected by an automatic smoke detection system throughout all occupiable spaces other than sleeping units or individual dwelling units that activates the occupant notification system in accordance with Sections 907.4, 907.5 and 907.6 of the VCC.

603.5.2.2.1 Mixed uses. In work areas containing mixed uses, one or more of which requires automatic sprinkler protection in accordance with Section 603.5.2.2, such protection shall not be required throughout the work area provided that the uses requiring such protection are separated from those not requiring protection by fire-resistance-rated construction having a minimum 2-hour rating for Group H and a minimum 1-hour rating for all other occupancy groups.

603.5.2.3 Windowless stories. Work located in a windowless story, as determined in accordance with the VCC, shall be sprinklered where the work area is required to be sprinklered under the provisions of the VCC for newly constructed buildings and the building has a sufficient municipal water supply without installation of a new fire pump.

603.5.2.4 Other required automatic sprinkler systems. In buildings and areas listed in Table 903.2.11.6 of the VCC, work areas that have exits or corridors shared by more than one tenant or that have exits or corridors serving an occupant load greater than 30 shall be provided with an automatic sprinkler system under the following conditions:

1. The work area is required to be provided with an automatic sprinkler system in accordance with the VCC applicable to new construction; and
2. The building has sufficient municipal water supply for design of an automatic sprinkler system available to the floor without installation of a new fire pump.

603.5.2.5 Supervision. Fire sprinkler systems required by this section shall be supervised by one of the following methods:

1. Approved central station system in accordance with NFPA 72;
2. Approved proprietary system in accordance with NFPA 72;
3. Approved remote station system of the jurisdiction in accordance with NFPA 72; or
4. When approved by the code official, approved local alarm service that will cause the sounding of an alarm in accordance with NFPA 72.

Exception: Supervision is not required for the following:

1. Underground gate valve with roadway boxes.
2. Halogenated extinguishing systems.
3. Carbon dioxide extinguishing systems.
4. Dry- and wet-chemical extinguishing systems.
5. Automatic sprinkler systems installed in accordance with NFPA 13R where a common supply main is used to supply both domestic and automatic sprinkler systems and a separate shutoff valve for the automatic sprinkler system is not provided.

603.5.3 Standpipes. Where the work area includes exits or corridors shared by more than one tenant and is located more than 50 feet (15 240 mm) above or below the lowest level of fire department access, a standpipe system shall be provided. Standpipes shall have an approved fire department connection with hose connections at each floor level above or below the lowest level of fire department access. Standpipe systems shall be installed in accordance with the VCC.

Exceptions:

1. No pump shall be required provided that the standpipes are capable of accepting delivery by fire department apparatus of a minimum of 250 gallons per minute (gpm) at 65 pounds per square inch (psi) (946 L/m at 448KPa) to the topmost floor in buildings equipped throughout with an automatic sprinkler system or a minimum of 500 gpm at 65 psi (1892 L/m at 448KPa) to the topmost floor in all other buildings. Where the standpipe terminates below the topmost floor, the standpipe shall be designed to meet (gpm/psi) (L/m/KPa) requirements of this exception for possible future extension of the standpipe.
2. The interconnection of multiple standpipe risers shall not be required.

603.5.4 Fire alarm and detection. An approved fire alarm system shall be installed in accordance with Sections 603.5.4.1 through 603.5.4.3. Where automatic sprinkler protection is provided in accordance with Section 603.5.2 and is connected to the building fire alarm system, automatic heat detection shall not be required.

An approved automatic fire detection system shall be installed in accordance with the provisions of this code and NFPA 72. Devices, combinations of devices, appliances, and equipment shall be approved. The automatic fire detectors shall be smoke detectors, except that an approved alternative type of detector shall be installed in spaces such as boiler rooms, where products of combustion are present during normal operation in sufficient quantity to actuate a smoke detector.

603.5.4.1 Fire alarm requirements. A fire alarm system shall be installed in accordance with Sections 603.5.4.1.1 through 603.5.4.1.7 [and Sections 1103.7 and 1103.8 of the IFC](#). Existing alarm-notification appliances shall be automatically activated throughout the building. Where the building is not equipped with a fire alarm system, alarm-notification appliances within the work area shall be provided and automatically activated.

Exceptions:

1. Occupancies with an existing, previously approved fire alarm system.
2. Where selective notification is permitted, alarm-notification appliances shall be automatically activated in the areas selected.

603.5.4.1.1 Group E. ~~A fire alarm system shall be installed in w~~Work areas of ~~classified as~~ Group E occupancies ~~as required by the International Fire Code for existing Group E occupancies.~~

603.5.4.1.2 Group I-1. ~~A fire alarm system shall be installed in w~~Work areas of ~~classified as~~ Group I-1 residential care/assisted living facilities ~~as required by the International Fire Code for existing Group I-1 occupancies.~~

603.5.4.1.3 Group I-2. ~~A fire alarm system shall be installed t~~Throughout ~~occupancies classified as~~ Group I-2 occupancies ~~as required by the International Fire Code.~~

603.5.4.1.4 Group I-3. ~~A fire alarm system shall be installed in w~~Work areas of ~~classified as~~ Group I-3 occupancies ~~as required by the International Fire Code.~~

603.5.4.1.5 Group R-1. ~~A fire alarm system shall be installed in~~ Occupancies ~~classified as~~ Group R-1 occupancies ~~as required by the International Fire Code for existing Group R-1 occupancies.~~

603.5.4.1.6 Group R-2. ~~A fire alarm system shall be installed in w~~Work areas of ~~classified as~~ Group R-2 apartment buildings ~~as required by the International Fire Code for existing Group R-2 occupancies.~~

~~603.5.4.1.7 Group R-4. A fire alarm system shall be installed in w~~Work areas of classified as Group R-4 residential care/assisted living facilities as required by the International Fire Code for existing Group R-4 occupancies.

603.5.4.2 Supplemental fire alarm system requirements. Where the work area on any floor exceeds 50 percent of that floor area, Section 603.5.4.1 shall apply throughout the floor.

Exception: Alarm-initiating and notification appliances shall not be required to be installed in tenant spaces outside of the work area.

603.5.4.3 Smoke alarms. Individual sleeping units and individual dwelling units in any work area in Group R and I-1 occupancies shall be provided with smoke alarms in accordance with the International Fire Code.

Exception: Interconnection of smoke alarms outside of the work area shall not be required.

[Switched – used to be 805.2] 603.6 Means of egress. The means of egress shall comply with the requirements of Section 603.6.

Exceptions:

1. Where the work area and the means of egress serving it complies with NFPA 101.
2. Means of egress conforming to the requirements of the building code under which the building was constructed shall be considered compliant means of egress.

[Switched – used to be 805.1] 603.6.1 General. The requirements of this section shall be limited to work areas that include exits or corridors shared by more than one tenant within the work area in which Level 2 alterations are being performed, and where specified they shall apply throughout the floor on which the work areas are located or otherwise beyond the work area.

603.6.2 Number of exits. The number of exits shall be in accordance with Sections 603.6.2.1 through 603.6.2.3.

603.6.2.1 Minimum number. Every story utilized for human occupancy on which there is a work area that includes exits or corridors shared by more than one tenant within the work area shall be provided with the minimum number of exits based on the occupancy and the occupant load in accordance with the VCC. In addition, the exits shall comply with Sections 603.6.2.1.1 and 303.

603.6.2.1.1 Single-exit buildings. Only one exit is required from buildings and spaces of the following occupancies:

1. In Group A, B, E, F, M, U and S occupancies, a single exit is permitted in the story at the level of exit discharge when the occupant load of the story does not exceed 50 and the exit access travel distance does not exceed 75 feet (22 860 mm).
2. Group B, F-2, and S-2 occupancies not more than two stories in height that are not greater than 3,500 square feet per floor (326 m²), when the exit access travel distance does not exceed 75 feet (22 860 mm). The minimum fire-resistance rating of the exit enclosure and of the opening protection shall be 1 hour.
3. Open parking structures where vehicles are mechanically parked.
4. In Group R-4 occupancies, the maximum occupant load excluding staff is 16.

5. Groups R-1 and R-2 not more than two stories in height, when there are not more than four dwelling units per floor and the exit access travel distance does not exceed 50 feet (15 240 mm). The minimum fire-resistance rating of the exit enclosure and of the opening protection shall be 1 hour.
6. In multilevel dwelling units in buildings of occupancy Group R-1 or R-2, an exit shall not be required from every level of the dwelling unit provided that one of the following conditions is met:
 - 6.1. The travel distance within the dwelling unit does not exceed 75 feet (22 860 mm); or
 - 6.2. The building is not more than three stories in height and all third-floor space is part of one or more dwelling units located in part on the second floor; and no habitable room within any such dwelling unit shall have a travel distance that exceeds 50 feet (15 240 mm) from the outside of the habitable room entrance door to the inside of the entrance door to the dwelling unit.
7. In Groups R-2, H-4, H-5 and I occupancies and in rooming houses and child care centers, a single exit is permitted in a one-story building with a maximum occupant load of 10 and the exit access travel distance does not exceed 75 feet (22 860 mm). In dwelling units within Group R-2 buildings, an occupant load of 12 shall be permitted to be substituted for the occupant load established above and, in addition, staff of such family day homes shall not be counted for the purposes of establishing occupant loads.
8. In buildings of Group R-2 occupancy that are equipped throughout with an automatic fire sprinkler system, a single exit shall be permitted from a basement or story below grade if every dwelling unit on that floor is equipped with an approved window providing a clear opening of at least 5 square feet (0.47 m²) in area, a minimum net clear opening of 24 inches (610 mm) in height and 20 inches (508 mm) in width, and a sill height of not more than 44 inches (1118 mm) above the finished floor.
9. In buildings of Group R-2 occupancy of any height with not more than four dwelling units per floor; with a smoke-proof enclosure or outside stairway as an exit; and with such exit located within 20 feet (6096 mm) of travel to the entrance doors to all dwelling units served thereby.
10. In buildings of Group R-3 occupancy equipped throughout with an automatic fire sprinkler system, only one exit shall be required from basements or stories below grade.

[Moved to 303] 603.6.2.1.2 Fire escapes required. For other than Group I-2, where more than one exit is required, an existing or newly constructed fire escape complying with Section 603.6.2.1.2.1 shall be accepted as providing one of the required means of egress.

603.6.2.1.2.1 Fire escape access and details. Fire escapes shall comply with all of the following requirements:

1. Occupants shall have unobstructed access to the fire escape without having to pass through a room subject to locking.

2. Access to a new fire escape shall be through a door, except that windows shall be permitted to provide access from single dwelling units or sleeping units in Group R-1, R-2 and I-1 occupancies or to provide access from spaces having a maximum occupant load of 10 in other occupancy classifications.

2.1. The window shall have a minimum net clear opening of 5.7 square feet (0.53 m²) or 5 square feet (0.46 m²) where located at grade.

2.2. The minimum net clear opening height shall be 24 inches (610 mm) and net clear opening width shall be 20 inches (508 mm).

2.3. The bottom of the clear opening shall not be greater than 44 inches (1118 mm) above the floor.

2.4. The operation of the window shall comply with the operational constraints of the International Building Code.

3. Newly constructed fire escapes shall be permitted only where exterior stairways cannot be utilized because of lot lines limiting the stairway size or because of the sidewalks, alleys, or roads at grade level.

4. Openings within 10 feet (3048 mm) of fire escape stairways shall be protected by fire assemblies having minimum 3/4-hour fire-resistance ratings.

Exception: Opening protection shall not be required in buildings equipped throughout with an approved automatic sprinkler system.

5. In all buildings of Group E occupancy, up to and including the 12th grade, buildings of Group I occupancy, rooming houses and childcare centers, ladders of any type are prohibited on fire escapes used as a required means of egress.

603.6.2.1.2.2 Construction. The fire escape shall be designed to support a live load of 100 pounds per square foot (4788 Pa) and shall be constructed of steel or other approved noncombustible materials. Fire escapes constructed of wood not less than nominal 2 inches (51 mm) thick are permitted on buildings of Type V construction. Walkways and railings located over or supported by combustible roofs in buildings of Types III and IV construction are permitted to be of wood not less than nominal 2 inches (51 mm) thick.

603.6.2.1.2.3 Dimensions. Stairways shall be at least 22 inches (559 mm) wide with risers not more than, and treads not less than, 8 inches (203 mm). Landings at the foot of stairways shall be not less than 40 inches (1016 mm) wide by 36 inches (914 mm) long and located not more than 8 inches (203 mm) below the door.

603.6.2.2 Mezzanines. Mezzanines in the work area and with an occupant load of more than 50 or in which the common path of egress travel distance to an exit or exit access doorway exceeds 75 feet (22 860 mm) shall have access to at least two independent means of egress.

Exception: Two independent means of egress are not required where the travel distance to an exit does not exceed 100 feet (30 480 mm) and the building is protected throughout with an automatic sprinkler system.

603.6.3 Egress doorways. Egress doorways in any work area shall comply with Sections 603.6.3.1 through 603.6.3.5.

603.6.3.1 Two egress doorways required. Work areas shall be provided with two egress doorways in accordance with the requirements of Sections 603.6.3.1.1 and 603.6.3.1.2.

603.6.3.1.1 Occupant load and travel distance. In any work area, all rooms and spaces having an occupant load greater than 50 or in which the common path of egress travel distance to an exit or exit access doorway exceeds 75 feet (22 860 mm) shall have a minimum of two egress doorways.

Exceptions:

1. Storage rooms having a maximum occupant load of 10.
2. Where the work area is served by a single exit in accordance with Section 603.6.2.1.1.

603.6.3.1.2 Group I-2. In buildings of Group I-2 occupancy, any patient sleeping room or suite of patient rooms greater than 1,000 square feet (93 m²) within the work area shall have a minimum of two egress doorways.

603.6.3.2 Door swing. In the work area and in the egress path from any work area to the exit discharge, all egress doors serving an occupant load greater than 50 shall swing in the direction of exit travel.

603.6.3.2.1 Supplemental requirements for door swing. Where the *work area* exceeds 50 percent of the floor area, door swing shall comply with Section 603.6.3.2 throughout the floor.

Exception: Means of egress within or serving only a tenant space that is entirely outside the *work area*.

603.6.3.3 Door closing. In any *work area*, all doors opening onto an exit passageway at grade or an exit stairway shall be self-closing or automatic-closing by listed closing devices.

Exceptions:

1. Where exit enclosure is not required by the VCC.
2. Means of egress within or serving only a tenant space that is entirely outside the *work area*.

603.6.3.3.1 Supplemental requirements for door closing. Where the *work area* exceeds 50 percent of the floor area, doors shall comply with Section 603.6.3.3 throughout the exit stairway from the *work area* to, and including, the level of exit discharge.

603.6.3.4 Panic hardware. In any *work area*, and in the egress path from any *work area* to the exit discharge, in buildings ~~or portions thereof~~ of Group A assembly occupancies with an occupant load greater than 100, all required exit doors equipped with latching devices shall be equipped with approved panic hardware.

603.6.3.4.1 Supplemental requirements for panic hardware. Where the *work area* exceeds 50 percent of the floor area, panic hardware shall comply with Section 603.6.3.4 throughout the floor.

Exception: Means of egress within a tenant space that is entirely outside the *work area*.

603.6.3.5 Emergency power source in Group I-3. Power operated sliding doors or power-operated locks for swinging doors shall be operable by a manual release mechanism at the door. Emergency power shall be provided for the doors and locks in accordance with Section 2702 of the VCC.

Exceptions:

1. Emergency power is not required in facilities with 10 or fewer locks complying with the exception to Section 408.4.1 of the VCC.
2. Emergency power is not required where remote mechanical operating releases are provided.

603.6.4 Openings in corridor walls. Openings in corridor walls in any *work area* shall comply with Sections 603.6.4.1 through 603.6.4.4.

Exception: Openings in corridors where such corridors are not required to be rated in accordance with the VCC.

603.6.4.1 Corridor doors. Corridor doors in the *work area* shall not be constructed of hollow core wood and shall not contain louvers. All dwelling unit or sleeping unit corridor doors in work areas in buildings of Groups R-1, R-2, and I-1 shall be at least 13/8-inch (35 mm) solid core wood or approved equivalent and shall not have any glass panels, other than approved wired glass or other approved glazing material in metal frames. All dwelling unit or sleeping unit corridor doors in *work areas* in buildings of Groups R-1, R-2, and I-1 shall be equipped with approved door closers. All replacement doors shall be 13/4-inch (44 mm) solid bonded wood core or approved equivalent, unless the existing frame will accommodate only a 13/8-inch (35 mm) door.

Exceptions:

1. Corridor doors within a dwelling unit or sleeping unit.
2. Existing doors meeting the requirements of *Guidelines on Fire Ratings of Archaic Materials and Assemblies* (IEBC Resource A) for a rating of 15 minutes or more shall be accepted as meeting the provisions of this requirement.
3. Existing doors in buildings protected throughout with an approved automatic sprinkler system shall be required only to resist smoke, be reasonably tight fitting, and shall not contain louvers.
4. In group homes with a maximum of 15 occupants and that are protected with an approved automatic detection system, closing devices may be omitted.
5. Door assemblies having a fire protection rating of at least 20 minutes.

603.6.4.2 Transoms. In all buildings of Group I-1, I-2, R-1 and R-2 occupancies, all transoms in corridor walls in work areas shall be either glazed with 1/4-inch (6.4 mm) wired glass set in metal frames or other glazing assemblies having a fire protection rating as required for the door and permanently secured in the closed position or sealed with materials consistent with the corridor construction.

603.6.4.3 Other corridor openings. In any *work area*, unless otherwise protected or fire-resistant rated in accordance with Section 716 of the VCC, any other sash, grille, or opening in a corridor and any window in a corridor not opening to the outside air shall be sealed with materials consistent with the corridor construction.

603.6.4.3.1 Supplemental requirements for other corridor opening. Where the *work area* exceeds 50 percent of the floor area, Section 603.6.4.3 shall be applicable to all corridor windows, grills, sashes, and other openings on the floor.

Exception: Means of egress within or serving only a tenant space that is entirely outside the *work area*.

603.6.4.4 Supplemental requirements for corridor openings. Where the *work area* on any floor exceeds 50 percent of the floor area, the requirements of Sections 603.6.4.1 through 603.6.4.3 shall apply throughout the floor.

603.6.5 Dead-end corridors. Dead-end corridors in any *work area* shall not exceed 35 feet (10 670 mm).

Exceptions:

1. Where dead-end corridors of greater length are permitted by the VCC.
2. In other than Group A and H occupancies, the maximum length of an existing dead-end corridor shall be 50 feet (15 240 mm) in buildings equipped throughout with an automatic fire alarm system installed in accordance with the VCC.
3. In other than Group A and H occupancies, the maximum length of an existing dead-end corridor shall be 70 feet (21 356 mm) in buildings equipped throughout with an automatic sprinkler system installed in accordance with the VCC.
4. In other than Group A and H occupancies, the maximum length of an existing, newly constructed, or extended dead-end corridor shall not exceed 50 feet (15 240 mm) on floors equipped with an automatic sprinkler system installed in accordance with the VCC.

603.6.6 Means-of-egress lighting. Means-of-egress lighting shall be in accordance with this section, as applicable.

603.6.6.1 Artificial lighting required. Means of egress in all work areas shall be provided with artificial lighting in accordance with the requirements of the VCC.

603.6.6.2 Supplemental requirements for means-of-egress lighting. Where the *work area* on any floor exceeds 50 percent of that floor area, means of egress throughout the floor shall comply with Section 603.6.6.1.

Exception: Means of egress within or serving only a tenant space that is entirely outside the *work area*.

603.6.7 Exit signs. Exit signs shall be in accordance with this section, as applicable.

603.6.7.1 Work areas. Means of egress in all work areas shall be provided with exit signs in accordance with the requirements of the VCC.

603.6.7.2 Supplemental requirements for exit signs. Where the *work area* on any floor exceeds 50 percent of that floor area, means of egress throughout the floor shall comply with Section 603.6.7.1.

Exception: Means of egress within a tenant space that is entirely outside the *work area*.

603.6.8 Handrails. The requirements of Sections 603.6.8.1 and 603.6.8.2 shall apply to handrails from the *work area* floor to, and including, the level of exit discharge.

603.6.8.1 Minimum requirement. Every required exit stairway that is part of the means of egress for any *work area* and that has three or more risers and is not provided with at least one handrail, or in which the existing handrails are judged to be in danger of collapsing, shall be provided with handrails for the full length of the stairway on at least one side. All exit stairways with a required egress width of more than 66 inches (1676 mm) shall have handrails on both sides.

603.6.8.2 Design. Handrails required in accordance with Section 603.6.8.1 shall be designed and installed in accordance with the provisions of the VCC.

[Already covered under 601.1] 603.6.9 Refuge areas. Where alterations affect the configuration of an area utilized as a refuge area, the capacity of the refuge area shall not be reduced below that required in Sections 603.6.9.1 and 603.6.9.2.

[The level to which is must be maintained should not be compared of the new/current code – but should be maintained under the code in which it was built] 603.6.9.1

Capacity. The required capacity of refuge areas shall be in accordance with Sections 603.6.9.1.1 through 603.6.9.1.3.

603.6.9.1.1 Group I-2. In Group I-2 occupancies, the required capacity of the refuge areas for smoke compartments in accordance with Section 407.5.1 of the *International Building Code* shall be maintained.

603.6.9.1.2 Group I-3. In Group I-3 occupancies, the required capacity of the refuge areas for smoke compartments in accordance with Section 408.6.2 of the *International Building Code* shall be maintained.

603.6.9.1.3 Ambulatory care. In ambulatory care facilities required to be separated by Section 422.2 of the *International Building Code*, the required capacity of the refuge areas for smoke compartments in accordance with Section 422.4 of the *International Building Code* shall be maintained.

603.6.9.2 Horizontal exits. The required capacity of the refuge area for horizontal exits in accordance with Section 1026.4 of the *International Building Code* shall be maintained.

603.6.9 Guards. The requirements of Sections 603.6.9.1 and 603.6.9.2 shall apply to guards from the *work area* floor to, and including, the level of exit discharge but shall be confined to the egress path of any *work area*.

603.6.9.1 Minimum requirement. Every open portion of a stairway, landing, or balcony that is more than 30 inches (762 mm) above the floor or grade below and is not provided with guards, or those portions in which existing guards are judged to be in danger of collapsing, shall be provided with guards.

603.6.9.2 Design. Guards required in accordance with Section 603.6.9.1 shall be designed and installed in accordance with the VCC.

[Moved to 404] 603.7 Accessibility. A building, facility, or element that is altered shall comply with this section and Section 705.

806.2 Stairways and escalators in existing buildings. In alterations where an escalator or stairway is added where none existed previously, an accessible route shall be provided in accordance with Sections 1104.4 and 1104.5 of the *International Building Code*

603.7 Structural. Structural elements and systems within buildings undergoing Level 2 alterations shall comply with Sections 603.7.1 through 603.7.5.

603.7.1 New structural elements. New structural elements in alterations, including connections and anchorage, shall comply with the VCC.

603.7.2 Minimum design loads. The minimum design loads on existing elements of a structure that do not support additional loads as a result of an alteration shall be the loads applicable at the time the building was constructed.

[Came from IEBC 403.3] 603.7.3 Existing structural elements carrying gravity loads. Any existing gravity load-carrying structural element for which an alteration causes an increase in design gravity load of more than 5 percent shall be strengthened, supplemented, replaced or otherwise altered as needed to carry the increased gravity load required by the VCC for new structures. Any existing gravity load-carrying structural element whose gravity load-carrying capacity is decreased as part of the alteration shall be shown to have the capacity to resist the applicable design gravity loads required by the VCC for new structures.

[Came from IEBC 807.4, Exception 2] Exception: Buildings of Group R occupancy with not more than five dwelling or sleeping units used solely for residential purposes where the existing building and its alteration comply with the conventional light-frame construction methods of the VCC or the provisions of the International Residential Code.

[Came from IEBC 403.3.1] 603.7.3.1 Design live load. Where the alteration does not result in increased design live load, existing gravity load-carrying structural elements shall be permitted to be evaluated and designed for live loads approved prior to the alteration. If the approved live load is less than that required by Section 1607 of the VCC, the area designed for the nonconforming live load shall be posted with placards of approved design indicating the approved live load. Where the alteration does result in increased design live load, the live load required by Section 1607 of the VCC shall be used.

[Came from IEBC 403.4] 603.7.4 Existing structural elements resisting lateral loads. Except as permitted by Section 603.7.5, where the alteration increases design lateral loads in accordance with Section 1609 or 1613 of the VCC, or where the alteration results in a prohibited structural irregularity as defined in ASCE 7, or where the alteration decreases the capacity of any existing lateral load-carrying structural element, the structure of the altered building or structure shall be shown to meet the requirements of Sections 1609 and 1613 of the VCC. For purposes of this section, compliance with ASCE 41, using a Tier 3 procedure and the two-level performance objective in Table 305.2.2 for the applicable risk category, shall be deemed to meet the requirements of Section 1613 of the VCC.

Exception: Any existing lateral load-carrying structural element whose demand-capacity ratio with the alteration considered is not more than 10 percent greater than its demand-capacity ratio with the alteration ignored shall be permitted to remain unaltered. For purposes of calculating demand-capacity ratios, the demand shall consider applicable load combinations with design lateral loads or forces in accordance with VCC Sections 1609 and 1613. Reduced VCC level seismic forces in accordance with Section 305.2.2 shall be permitted. For purposes of this exception, comparisons of demand-capacity ratios and calculation of design lateral loads, forces and capacities shall account for the cumulative effects of additions and alterations since original construction.

[Came from IEBC 807.6] 603.7.5 Voluntary lateral force-resisting system alterations. Alterations of existing structural elements and additions of new structural elements that are initiated for the purpose of increasing the lateral force-resisting strength or stiffness of an existing structure and that are not required by other sections of this code shall not be required to be designed for forces conforming to the VCC, provided that an engineering analysis is submitted to show that:

1. The capacity of existing structural elements required to resist forces is not reduced;
2. The lateral loading to existing structural elements is not increased either beyond its capacity or more than 10 percent;
3. New structural elements are detailed and connected to the existing structural elements as required by the VCC;
4. New or relocated nonstructural elements are detailed and connected to existing or new structural elements as required by the VCC; and
5. A dangerous condition as defined in this code is not created. Voluntary alterations to lateral force-resisting systems conducted in accordance with Appendix A and the referenced standards of this code shall be permitted.

[Came from IEBC 403.9] 603.7.6 Voluntary seismic improvements. Alterations to existing structural elements or additions of new structural elements that are not otherwise required by this chapter and are initiated for the purpose of improving the performance of the seismic force-resisting system of an existing structure or the performance of seismic bracing or anchorage of existing nonstructural elements shall be permitted, provided that an engineering analysis is submitted demonstrating the following:

1. The altered structure and the altered nonstructural elements are no less conforming to the provisions of the VCC with respect to earthquake design than they were prior to the *alteration*.
2. New structural elements are detailed as required for new construction.
3. New or relocated nonstructural elements are detailed and connected to existing or new structural elements as required for new construction.
4. The alterations do not create a structural irregularity as defined in ASCE 7 or make an existing structural irregularity more severe.

603.8 Electrical. Electrical elements and systems within buildings undergoing Level 2 alterations shall comply with Sections 603.8.1 through 603.8.3.

603.8.1 New installations. All newly installed electrical equipment and wiring relating to work done in any work area shall comply with all applicable requirements of NFPA 70 except as provided for in Section 603.8.3.

603.8.2 Existing installations. Existing wiring in all work areas in Group A-1, A-2, A-5, H and I occupancies shall be upgraded to meet the materials and methods requirements of Section 602.3.

603.8.3 Residential occupancies. In Group R-2, R-3, R-4 and R-5 occupancies and buildings regulated by the International Residential Code, the requirements of Sections 603.8.3.1 through 603.8.3.7 shall be applicable only to work areas located within a dwelling unit.

603.8.3.1 Enclosed areas. All enclosed areas, other than closets, kitchens, basements, garages, hallways, laundry areas, utility areas, storage areas and bathrooms shall have a minimum of two duplex receptacle outlets or one duplex receptacle outlet and one ceiling or wall-type lighting outlet.

603.8.3.2 Kitchens. Kitchen areas shall have a minimum of two duplex receptacle outlets.

603.8.3.3 Laundry areas. Laundry areas shall have a minimum of one duplex receptacle outlet located near the laundry equipment and installed on an independent circuit.

603.8.3.4 Ground fault circuit interruption. Newly installed receptacle outlets shall be provided with ground fault circuit interruption as required by NFPA 70.

603.8.3.5 Minimum lighting outlets. At least one lighting outlet shall be provided in every bathroom, hallway, stairway, attached garage, and detached garage with electric power, and to illuminate outdoor entrances and exits.

603.8.3.6 Utility rooms and basements. At least one lighting outlet shall be provided in utility rooms and basements where such spaces are used for storage or contain equipment requiring service.

603.8.3.7 Clearance for equipment. Clearance for electrical service equipment shall be provided in accordance with the NFPA 70.

603.9 Mechanical. All work areas intended for occupancy and all spaces converted to habitable or occupiable space in any work area shall be provided with natural or mechanical ventilation in accordance with the International Mechanical Code.

Exception: Existing mechanical ventilation systems shall comply with the requirements of Section 603.9.1.

603.9.1 Altered existing systems. In mechanically ventilated spaces, existing mechanical ventilation systems that are altered, reconfigured, or extended shall provide not less than 5 cubic feet per minute (cfm) (0.0024 m³/s) per person of outdoor air and not less than 15 cfm (0.0071 m³/s) of ventilation air per person; or not less than the amount of ventilation air determined by the Indoor Air Quality Procedure of ASHRAE 62.

603.9.2 Local exhaust. All newly introduced devices, equipment, or operations that produce airborne particulate matter, odors, fumes, vapor, combustion products, gaseous contaminants, pathogenic and allergenic organisms, and microbial contaminants in such quantities as to affect adversely or impair health or cause discomfort to occupants shall be provided with local exhaust.

603.10 Plumbing. Where the occupant load of the story is increased by more than 20 percent, plumbing fixtures for the story shall be provided in quantities specified in the International Plumbing Code based on the increased occupant load.

[Moved to 601.4] 603.11 Energy conservation. Level 2 alterations to existing buildings or structures are permitted without requiring the entire building or structure to comply with the energy requirements of the International Energy Conservation Code or International Residential Code. The alterations shall conform to the energy requirements of the International Energy Conservation Code or International Residential Code as they relate to new construction only.

SECTION 604
LEVEL 3 ALTERATIONS

[Came from IEBC Chapter 9 unless indicated otherwise]

604.1 Scope. Level 3 alterations as described in Section 601.2.3 shall comply with the requirements of this section.

Exception: Buildings in which the alteration is exclusively the result of compliance with the accessibility requirements of Section 404.3 shall be permitted to comply with Section 602.

604.2 Level 1 and Level 2 alterations compliance. In addition to the requirements of this section, work shall comply with the applicable requirements of Sections 602 and 603. The requirements of Sections 603.4, 603.5 and 603.6 shall apply within all work areas whether or not they include exits and corridors shared by more than one tenant and regardless of the occupant load.

Exceptions:

- ~~1. The requirements of Sections 603.4, 603.5 and 603.6 shall apply within all work areas whether or not they include exits and corridors shared by more than one tenant and regardless of the occupant load. [Moved to 604.2 above]~~
2. Buildings in which the alteration affecting exits or shared egress access is exclusively the result of compliance with the accessibility requirements of Section 404.3 shall not be required to comply with this section.

604.3 Special use and occupancy. The following special uses and occupancies shall comply with the requirements of Section 603.6 except as specifically required in Sections 604.3.1 and 604.3.2.

604.3.1 High-rise buildings. Any building having occupied floors more than 75 feet (22 860 mm) above the lowest level of fire department vehicle access shall comply with the requirements of Sections 604.3.1.1 and 604.3.1.2.

604.3.1.1 Recirculating air or exhaust systems. When a floor is served by a recirculating air or exhaust system with a capacity greater than 15,000 cubic feet per minute (701 m³/s), that system shall be equipped with approved smoke and heat detection devices installed in accordance with the International Mechanical Code.

604.3.1.2 Elevators. Where there is an elevator or elevators for public use, at least one elevator serving the work area shall comply with this section. Existing elevators with a travel distance of 25 feet (7620 mm) or more above or below the main floor or other level of a building and intended to serve the needs of emergency personnel for fire-fighting or rescue purposes shall be provided with emergency operation in accordance with ASME A17.3. New elevators shall be provided with Phase I emergency recall operation and Phase II emergency in-car operation in accordance with ASME A17.1.

604.3.2 Boiler and furnace equipment rooms. Boiler and furnace equipment rooms adjacent to or within Groups I-1, I-2, I-4, R-1, R-2 and R-4 occupancies shall be enclosed by 1-hour fire-resistance-rated construction.

Exceptions:

1. Steam boiler equipment operating at pressures of 15 pounds per square inch gauge (psig) (103.4 KPa) or less is not required to be enclosed.
2. Hot water boilers operating at pressures of 170 psig (1171 KPa) or less are not required to be enclosed.
3. Furnace and boiler equipment with 400,000 British thermal units (Btu) (4.22 × 10⁸ J) per hour input rating or less is not required to be enclosed.

4. Furnace rooms protected with an automatic sprinkler system are not required to be enclosed.

604.4 Building elements and materials. Building elements and materials shall comply with the requirements of Section 603.6 except as specifically required in Sections 604.4.1 through 604.4.3.

604.4.1 Existing stairways. Existing stairways that are part of the means of egress shall be enclosed in accordance with Section 603.4.1.1, and its exceptions if applicable, from the highest work area floor to, and including, the level of exit discharge and all floors below.

604.4.2 Fire partitions separation in Group R-3. ~~Fire separation in Group R-3 occupancies shall be in accordance with Section 604.4.2.1.~~ **604.4.2.1 Separation required.** Where the work area is in any attached dwelling unit in Group R-3 or any multiple single-family dwelling (townhouse), walls separating the dwelling units that are not continuous from the foundation to the underside of the roof sheathing shall be constructed to provide a continuous fire separation using construction materials consistent with the existing wall or complying with the requirements for new structures. All work shall be performed on the side of the dwelling unit wall that is part of the work area.

Exception: Where alterations or repairs do not result in the removal of wall or ceiling finishes exposing the structure, walls are not required to be continuous through concealed floor spaces.

604.4.3 Interior finish. Interior finish in exits serving the work area shall comply with Section 603.4.3 between the highest floor on which there is a work area to the floor of exit discharge.

604.5 Fire protection. Fire protection shall comply with the requirements of Section 603.6 except as specifically required in Sections 604.5.1 and 604.5.2.

604.5.1 Automatic sprinkler systems. An automatic sprinkler system shall be provided in a work area where required by Section 603.5.2 or this section.

604.5.1.1 High-rise buildings. An automatic sprinkler system shall be provided in work areas where the high-rise building has a sufficient municipal water supply for the design and installation of an automatic sprinkler system at the site.

604.5.1.2 Rubbish and linen chutes. Rubbish and linen chutes located in the work area shall be provided with automatic sprinkler system protection or an approved automatic fire-extinguishing system where protection of the rubbish and linen chute would be required under the provisions of the VCC for new construction.

604.5.1.3 Upholstered furniture or mattresses. Work areas shall be provided with an automatic sprinkler system in accordance with the VCC where any of the following conditions exist:

1. A Group F-1 occupancy used for the manufacture of upholstered furniture or mattresses exceeds 2,500 square feet (232 m²).
2. A Group M occupancy used for the display and sale of upholstered furniture or mattresses exceeds 5,000 square feet (464 m²). **[DO WE NEED TO DELETE?]**
3. A Group S-1 occupancy used for the storage of upholstered furniture or mattresses exceeds 2,500 square feet (232 m²).

604.5.2 Fire alarm and detection systems. Fire alarm and detection shall be provided throughout the work area in accordance with Section 907 of the International Building Code VCC as required for new construction.

604.5.2.1 Manual fire alarm systems. Where required by the VCC, a manual fire alarm system shall be provided throughout the work area. Alarm notification appliances shall be provided on such floors and shall be automatically activated as required by the VCC.

Exceptions:

1. Alarm-initiating and notification appliances shall not be required to be installed in tenant spaces outside of the work area.
2. Visual alarm notification appliances are not required, except where an existing alarm system is upgraded or replaced or where a new fire alarm system is installed.

604.5.2.2 Automatic fire detection. Where required by the VCC for new buildings, automatic fire detection systems shall be provided throughout the work area.

604.6 Means of egress. The means of egress shall comply with the requirements of Section 603.6 except as specifically required in Sections 604.6.1 and 604.6.2.

604.6.1 Means-of-egress lighting. Means of egress from the highest work area floor to the floor of exit discharge shall be provided with artificial lighting within the exit enclosure in accordance with the requirements of the VCC.

604.6.2 Exit signs. Means of egress from the highest work area floor to the floor of exit discharge shall be provided with exit signs in accordance with the requirements of the VCC.

604.7 Structural. Structural alterations shall comply with the requirements of Section 603.6 except as specifically required in Sections 604.7.1 and 604.7.2.

[Already covered under 603.7 →]

~~**604.7.1 New structural elements.** New structural elements shall comply with Section 807.2.~~

~~**604.7.2 Existing structural elements carrying gravity loads.** Existing structural elements carrying gravity loads shall comply with Section 807.4.~~

~~**604.7.3 Existing structural elements resisting lateral loads.** All existing elements of the lateral force-resisting system shall comply with this section.~~

Exceptions:

1. ~~Buildings of Group R occupancy with no more than five dwelling or sleeping units used solely for residential purposes that are altered based on the conventional light-frame construction methods of the International Building Code or in compliance with the provisions of the International Residential Code.~~
2. ~~Where such alterations involve only the lowest story of a building and the change of occupancy provisions of Chapter 7 do not apply, only the lateral force-resisting components in and below that story need comply with this section.~~

~~**604.7.3.1 Evaluation and analysis.** An engineering evaluation and analysis that establishes the structural adequacy of the altered structure shall be prepared by a registered design professional and submitted to the code official.~~

604.7.1 Substantial structural alteration. Where more than 30 percent of the total floor and roof areas of the building or structure have been or are proposed to be involved in structural alteration within a 5-year period, the evaluation and analysis shall demonstrate that the lateral load-resisting system of the altered building or structure complies with the International Building Code for wind loading and with reduced International Building Code-level seismic forces in accordance with Section 305.2.2. The areas to be counted toward the 30 percent shall be those areas tributary to the vertical load-carrying components, such as joists, beams, columns, walls and other structural components that have been or will be removed, added or altered, as well as areas such as mezzanines, penthouses, roof structures and in-filled courts and shafts.

[Similar requirements in 2012 IEBC 706 that were previously deleted in Proposed Regulations →]

604.7.3.2 Seismic Design Category F. Where the building is assigned to Seismic Design Category F, the evaluation and analysis shall demonstrate that the lateral load-resisting system of the altered building or structure complies with reduced International Building Code-level seismic forces in accordance with Section 305.2.2 and with the wind provisions applicable to a limited structural alteration.

604.7.3.3 Wall anchors for concrete and masonry buildings. For any building assigned to Seismic Design Category D, E or F with a structural system consisting of concrete or reinforced masonry walls with a flexible roof diaphragm and any building assigned to Seismic Design Category C, D, E or F with a structural system consisting of unreinforced masonry walls with any type of roof diaphragm, the alteration work shall include installation of wall anchors at the roof line to resist the reduced International Building Code-level seismic forces in accordance with Section 305.2.2, unless an evaluation demonstrates compliance of existing wall anchorage.

604.7.3.4 Bracing for unreinforced masonry parapets. Parapets constructed of unreinforced masonry in buildings assigned to Seismic Design Category C, D, E or F shall have bracing installed as needed to resist the reduced International Building Code-level seismic forces in accordance with Section 305.2.2, unless an evaluation demonstrates compliance of such items.

604.7.2 Limited structural alteration. Where the work does not involve a substantial structural alteration and the building is not assigned to Seismic Design Category F, the existing elements of the lateral load-resisting system shall comply with Section 807.5.

[Moved to 601.4] 604.8 Energy conservation. Level 3 alterations to existing buildings or structures are permitted without requiring the entire building or structure to comply with the energy requirements of the International Energy Conservation Code or International Residential Code. The alterations shall conform to the energy requirements of the International Energy Conservation Code or International Residential Code as they relate to new construction only.

CHAPTER 7 CHANGE OF OCCUPANCY

SECTION 701 GENERAL

701.1 Scope. The provisions of this chapter shall apply where a change of occupancy occurs, except as modified by Section 906 for historic buildings. Compliance with the current VCC for the change of occupancy shall only be required as prescribed in this chapter. **[Came from IEBC 407.1.1]** Compliance shall be only as necessary to meet the specific provisions of the applicable International Codes and is not intended to require the entire building be brought into compliance.

Exception: Compliance with the provisions of Chapter 14 shall be permitted in lieu of complying with this chapter for a change of occupancy.

701.2 Work undertaken in connection with a change of occupancy. Any repairs, alterations, or additions undertaken in connection with a change of occupancy shall conform to the applicable requirements for the work as classified in this code and as modified by this chapter.

SECTION 702 SPECIAL USE AND OCCUPANCY

702.1 Compliance with the building code. Where a building undergoes a change of occupancy to one of the special use or occupancy categories described in Chapter 4 of the VCC, the building shall comply with all of the requirements of Chapter 4 of the VCC applicable to the special use or occupancy.

702.2 Incidental Uses. Where a portion of a building undergoes a change of occupancy to one of the incidental uses listed in ~~the Incidental Uses section in chapter 5~~ **Table 509** of the VCC, the incidental use shall comply with the applicable requirements ~~of Section 509~~ of the VCC ~~Incidental Uses section~~.

SECTION 703 BUILDING ELEMENTS AND MATERIALS

703.1 Interior finish. In areas of the building undergoing a change of occupancy classification, the interior finish of walls and ceilings shall comply with the requirements of the VCC for the new occupancy classification.

703.2 Enclosure of vertical openings. When a change of occupancy classification is made to a higher hazard category as shown in Table 705.2, protection of existing vertical openings shall be in accordance with Sections 703.2.1 through 703.2.3.

703.2.1 Stairways. Interior stairways shall be protected as required by Section 705.1.

703.2.2 Other vertical openings. Interior vertical openings, other than stairways, within the area of the change of occupancy shall be protected as required by the VCC.

Exceptions:

1. Existing 1-hour interior shaft enclosures shall be accepted where a higher rating is required.
2. Vertical openings, other than stairways, in buildings of other than Group I occupancy and connecting less than six stories shall not be required to be enclosed are permitted if the entire building is provided with an approved automatic sprinkler system

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

**SECTION 704
FIRE PROTECTION**

704.1 Fire protection systems. Fire protection systems shall be provided in accordance with Sections 704.2 and 704.3.

704.2 Fire sprinkler system. Where a building undergoes a change in of occupancy that requires an automatic fire sprinkler system to be provided based on the new occupancy in accordance with Chapter 9 of the VCC, such system shall be provided throughout the area where the change of occupancy occurs.

704.3 Fire alarm and detection system. Where a building undergoes a change in of occupancy that requires a fire alarm and detection system to be provided based on the new occupancy in accordance with Chapter 9 of the VCC, such system shall be provided throughout the area where the change of occupancy occurs. Existing alarm notification appliances shall be automatically activated throughout the building. Where the building is not equipped with a fire alarm system, alarm notification appliances shall be provided throughout the area where the change of occupancy occurs in accordance with Section 907 of the VCC as required for new construction.

**SECTION 705
MEANS OF EGRESS**

705.1 General. Means of egress in buildings undergoing a change of occupancy shall comply with this Section.

705.2 Means of egress, hazards. Hazard categories in regard to life safety and means of egress shall be in accordance with Table 705.2.

**TABLE 705.2
MEANS OF EGRESS HAZARD CATEGORIES**

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

705.3 Means of egress for change to higher hazard category. When a change of occupancy classification is made to a higher hazard category (lower number) as shown in Table 705.2, the means of egress serving the area of the change of occupancy shall comply with the requirements of Chapter 10 of the VCC.

Exceptions:

1. Existing interior stairways are permitted to be enclosed in accordance with Section 603.4.1.1 from the highest floor where the change of occupancy classification occurs to, and including, the level of exit discharge and all floors below.
2. An enclosure shall not be required for openings serving only one adjacent floor and that are not connected with corridors or stairways serving other floors.
3. Unenclosed existing stairways need not be enclosed in a continuous vertical shaft if each story is separated from other stories by 1-hour fire resistance rated construction or approved wired glass set in steel frames and all exit corridors are sprinklered. The openings between the corridor and the occupant space shall have at least one sprinkler head above the openings on the tenant side. The sprinkler system shall be permitted to be supplied from the domestic water supply systems, provided the system is of adequate pressure, capacity, and sizing for the combined domestic and sprinkler requirements.
4. Existing corridor walls constructed on both sides of wood lath and plaster in good condition or 1/2 -inch-thick (12.7 mm) gypsum wallboard shall be permitted. Such walls shall either terminate at the underside of a ceiling of equivalent construction or extend to the underside of the floor or roof next above.
5. Existing corridor doorways, transoms and other corridor openings are permitted to comply with the requirements in Sections 603.6.4.1, 603.6.4.2 and 603.6.4.3 regardless of work areas.
6. Existing dead-end corridors are permitted to comply with the requirements in Section 603.6.5 regardless of work areas.
7. An existing operable window with clear opening area no less than 4 square feet (0.38 m²) and minimum opening height and width of 22 inches (559 mm) and 20 inches (508 mm), respectively, shall be accepted as an emergency escape and rescue opening.
8. Regardless of work areas, existing handrails are permitted to comply with the requirements of Section 603.6.8 and existing guards are permitted to comply with the requirements of Section 603.6.10.
9. Fire escapes in compliance with Section 303.
10. Existing stairways are not required to be altered to meet current tread depth and riser height requirements.

705.4 Means of egress for change of use occupancy to equal or lower hazard category or without a change in classification. When a change of occupancy classification is made to an equal or lesser hazard category (higher number) as shown in Table 705.2 or a change of occupancy without a change of classification is made, the means of egress shall be deemed acceptable provided the means of egress serving the area of the change of occupancy meets the egress capacity and occupant load based means of egress provisions in Chapter 10 of the VCC for the new occupancy.

**SECTION 706
HEIGHTS AND AREAS**

706.1 General. Heights and areas of buildings and structures undergoing a change of occupancy classification shall comply with this Section.

706.2 Heights and areas, hazards. Hazard categories in regard to height and area shall be in accordance with Table 706.2.

**TABLE 706.2
HEIGHTS AND AREAS HAZARD CATEGORIES**

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

706.3 Height and area for change to higher hazard category. When a change of occupancy classification is made to a higher hazard category as shown in Table 706.2, heights and areas of buildings and structures shall comply with the requirements of Chapter 5 of the VCC for the new occupancy classification.

Exception: For high-rise buildings constructed in compliance with a previously issued permit, the type of construction reduction specified in Section 403.2.1 of the VCC is permitted. This shall include the reduction for columns. The high-rise building is required to be equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1 of the VCC.

706.3.1 Fire wall alternative. In other than Groups H, F-1 and S-1, fire barriers and horizontal assemblies constructed in accordance with Sections 707 and 711, respectively, of the VCC shall be permitted to be used in lieu of fire walls to subdivide the building into separate buildings for the purpose of complying with the area limitations required for the new occupancy where all of the following conditions are met:

1. The buildings are protected throughout with an automatic sprinkler system in accordance with Section 903.3.1.1 of the International Fire Building Code.
2. The maximum allowable area between fire barriers, horizontal assemblies, or any combination thereof shall not exceed the maximum allowable area determined in accordance with Chapter 5 of the VCC without an increase allowed for an automatic sprinkler system in accordance with Section 506 of the VCC.
3. The fire-resistance rating of the fire barriers and horizontal assemblies shall be not less than that specified for fire walls in Table 706.4 of the VCC.

Exception: Where horizontal assemblies are used to limit the maximum allowable area, the required fire-resistance rating of the horizontal assemblies shall be permitted to be reduced by 1 hour provided the height and number of stories increases allowed for an automatic sprinkler system by Section 504 of the VCC are not used for the buildings.

706.4 Height and area for change to equal or lesser hazard category. When a change of occupancy classification is made to an equal or lesser hazard category as shown in Table 706.2, the height and area of the existing building shall be deemed acceptable.

706.5 Fire barriers. When a change of occupancy classification is made to a higher hazard category as shown in Table 706.2, fire barriers in separated mixed use buildings shall comply with the fire-resistance requirements of the VCC.

Exception: Where the fire barriers are required to have a 1-hour fire-resistance rating, existing wood lath and plaster in good condition or existing 1/2-inch-thick (12.7 mm) gypsum wallboard shall be permitted.

SECTION 707 EXTERIOR WALL FIRE-RESISTANCE RATINGS

707.1 Exterior wall fire-resistance ratings, hazards. Hazard categories in regard to fire-resistance ratings of exterior walls shall be in accordance with Table 707.1.

**TABLE 707.1
EXPOSURE OF EXTERIOR WALLS HAZARD CATEGORIES**

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

707.2 Exterior wall rating for change of occupancy classification to a higher hazard category. When a change of occupancy classification is made to a higher hazard category as shown in Table 707.1, exterior walls shall have fire resistance and exterior opening protectives as required by the VCC.

Exception: A 2-hour fire-resistance rating shall be allowed where the building does not exceed three stories in height and is classified as one of the following groups: A-2 and A-3 with an occupant load of less than 300, B, F, M or S.

707.3 Exterior wall rating for change of occupancy classification to an equal or lesser hazard category. When a change of occupancy classification is made to an equal or lesser hazard category as shown in Table 707.1, existing exterior walls, including openings, shall be accepted.

707.4 Opening protectives. Openings in exterior walls shall be protected as required by the VCC. Where openings in the exterior walls are required to be protected because of their distance from the lot line, the sum of the area of such openings shall not exceed 50 percent of the total area of the wall in each story.

Exceptions:

1. Where the VCC permits openings in excess of 50 percent.
2. Protected openings shall not be required in buildings of Group R occupancy that do not exceed three stories in height and that are located not less than 3 feet (914 mm) from the lot line.
3. Where exterior opening protectives are required, an automatic sprinkler system throughout may be substituted for opening protection.
4. Exterior opening protectives are not required when the change of occupancy group is to an equal or lower hazard classification in accordance with Table 707.1.

SECTION 708 ELECTRICAL AND LIGHTING

708.1 Special occupancies. Where a building undergoes a change of occupancy to one of the following special occupancies as described in NFPA 70, the electrical wiring and equipment of the building that contains the proposed occupancy shall comply with the applicable requirements of NFPA 70:

1. Hazardous locations.
2. Commercial garages, repair, and storage.
3. Aircraft hangars.
4. Gasoline dispensing and service stations.
5. Bulk storage plants.
6. Spray application, dipping, and coating processes.
7. Health care facilities.
8. Places of assembly.
9. Theaters, audience areas of motion picture and television studios, and similar locations.
10. Motion picture and television studios and similar locations.
11. Motion picture projectors.
12. Agricultural buildings.

708.2 Service upgrade. When a new occupancy is required to have a higher electrical load demand per NFPA 70 and the service cannot accommodate the increased demand, the service shall be upgraded to meet the requirements of NFPA 70 for the new occupancy.

708.3 Number of electrical outlets. Where a building undergoes a change of occupancy, the number of electrical outlets shall comply with NFPA 70 for the new occupancy.

708.4 Lighting. Lighting shall comply with the requirements of the VCC for the new occupancy.

SECTION 709 MECHANICAL AND VENTILATION

709.1 Mechanical and ventilation requirements. Where a building undergoes a change of occupancy such that the new occupancy is subject to different kitchen exhaust requirements or to increased ventilation requirements in accordance with the International Mechanical Code, the new occupancy shall comply with the respective International Mechanical Code provisions.

SECTION 710 PLUMBING

710.1 Increased demand. Where the occupancy a building undergoes a change of an existing building or part of an existing building is changed occupancy such that the new occupancy is subject to increased or different plumbing fixture requirements or to increased water supply requirements in accordance with the International Plumbing Code, the new occupancy shall comply with the intent of the respective International Plumbing Code provisions.

Exception: In other than Group R or I occupancies or child care facilities classified as group E, where the occupant load is increased by 20 percent or less in the area where the change of occupancy occurs, additional plumbing fixtures required based on the increased occupant load in quantities specified in the International Plumbing Code.

710.2 Interceptor required. If the new occupancy will produce grease or oil-laden wastes, interceptors shall be provided as required in the International Plumbing Code.

710.3 Chemical wastes. If the new occupancy will produce chemical wastes, the following shall apply:

1. If the existing piping is not compatible with the chemical waste, the waste shall be neutralized prior to entering the drainage system, or the piping shall be changed to a compatible material.
2. No chemical waste shall discharge to a public sewer system without the approval of the sewage authority.

SECTION 711 STRUCTURAL

711.1 Gravity loads. Buildings subject to a change of occupancy where such change in the nature of occupancy results in higher uniform or concentrated loads based on Table 1607.1 of the VCC shall comply with the gravity load provisions of the VCC.

Exception: Structural elements whose stress is not increased by more than 5 percent.

711.2 Snow and wind loads. Buildings and structures subject to a change of occupancy where such change in the nature of occupancy results in higher wind or snow risk categories based on Table 1604.5 of the VCC shall be analyzed and shall comply with the applicable wind or snow load provisions of the VCC.

Exception: Where the new occupancy with a higher risk category is less than or equal to 10 percent of the total building floor area. The cumulative effect of the area of occupancy changes shall be considered for the purposes of this exception.

711.3 Seismic loads. Existing buildings with a change of occupancy shall comply with the seismic provisions of Sections 711.3.1 and 711.3.2.

711.3.1 Compliance with VCC-level seismic forces. Where a building is subject to a change of occupancy that results in the building being assigned to a higher risk category based on Table 1604.5 of the VCC, the building shall comply with the requirements for VCC-level seismic forces as specified in Section 305.2.1 for the new risk category.

Exceptions:

1. Specific detailing provisions required for a new structure are not required to be met where it can be shown that an equivalent level of performance and seismic safety is obtained for the applicable risk category based on the provision for reduced VCC-level seismic forces as specified in Section 305.2.2.

2. Where the area of the new occupancy with a higher hazard category is less than or equal to 10 percent of the total building floor area and the new occupancy is not classified as Risk Category IV. For the purposes of this exception, buildings occupied by two or more occupancies not included in the same risk category, shall be subject to the provisions of Section 1604.5.1 of the VCC. The cumulative effect of the area of occupancy changes shall be considered for the purposes of this exception.
3. Unreinforced masonry bearing wall buildings in Risk Category III when assigned to Seismic Design Category A or B shall be allowed to be strengthened to meet the requirements of Appendix Chapter A1 of this code [Guidelines for the Seismic Retrofit of Existing Buildings (GSREB)].

711.3.2 Access to Risk Category IV. Where a change of occupancy is such that compliance with Section 711.3.1 is required and the building is assigned to Risk Category IV, the operational access to the building shall not be through an adjacent structure, unless that structure conforms to the requirements for Risk Category IV structures. Where operational access is less than 10 feet (3048 mm) from either an interior lot line or from another structure, access protection from potential falling debris shall be provided by the owner of the Risk Category IV structure.

SECTION 712 ACCESSIBILITY

712.1 General. Existing buildings that undergo a change of occupancy classification shall comply with Section 402.

1012.1 Complete change of occupancy. Where an entire building undergoes a change of occupancy classification, it shall have all of the following accessible features:

1. At least one accessible building entrance.
2. At least one accessible route from an accessible building entrance to primary function areas.
3. Signage complying with Section 1111 of the International Building Code.
4. Accessible parking, where parking is provided.
5. At least one accessible passenger loading zone, where loading zones are provided.
6. At least one accessible route connecting accessible parking and accessible passenger loading zones to an accessible entrance.

Where it is technically infeasible to comply with the new construction standards for any of these requirements for a change of group or occupancy, the above items shall conform to the requirements to the maximum extent technically feasible.

Exception: The accessible features listed in Items 1 through 6 are not required for an accessible route to Type B units.

1012.2 Partial change in occupancy. Where a portion of the building is changed to a new occupancy classification additional accessible features are not required due to the change of occupancy.

CHAPTER 8 ADDITIONS

SECTION 801 GENERAL

801.1 Scope. [Came from IEBC 1101.1] Additions to any building or structure shall comply with the requirements of the VCC for new construction without requiring the existing building or structure to comply with any requirements of those codes or of these provisions, except as required by this chapter. Where an addition impacts the existing building or structure, that portion shall comply with this code. [Came from IBC 503.1] Where a fire wall that complies with Section 706 of the VCC is provided between the addition and the existing building, the addition shall be considered a separate building.

801.2 Creation or extension of nonconformity. [Came from IEBC 1101.2] An addition shall not create or extend any nonconformity in the existing building to which the addition is being made with regard to accessibility, structural strength, fire safety, means of egress, or the capacity of mechanical, plumbing, or electrical systems. [Came from IEBC 402.1] Alterations to the existing building or structure, shall be made to ensure so that the existing building or structure, together with the addition are no less conforming to the provisions of the VCC than the existing building or structure was prior to the addition.

[Came from IEBC 1101.3] **801.3 Other work.** Any repair or alteration work within an existing building to which an addition is being made shall comply with the applicable requirements for the work as classified in this code.

SECTION 802 HEIGHTS AND AREAS [Came from IEBC 1102]

802.1 Height limitations. No addition shall increase the height of an existing building beyond that permitted under the applicable provisions of Chapter 5 of the VCC for new buildings.

802.2 Area limitations. No addition shall increase the area of an existing building beyond that permitted under the applicable provisions of Chapter 5 of the VCC for new buildings unless fire separation as required by the VCC is provided.

Exception: In-filling of floor openings and nonoccupiable appendages such as elevator and exit stairway shafts shall be permitted beyond that permitted by the VCC.

802.3 Fire protection systems. Existing fire areas increased by the addition shall comply with Chapter 9 of the VCC.

SECTION 803 STRUCTURAL

[Came from IEBC 1103.1] **803.1 Compliance with the VCC.** Additions to existing buildings or structures are new construction and shall comply with the VCC.

[Came from IEBC 402.3] **803.2 Existing structural elements carrying gravity load.** Any existing gravity load-carrying structural element for which an addition and its related alterations cause an increase in design gravity load of more than 5 percent shall be strengthened, supplemented, replaced or otherwise altered as needed to carry the increased gravity load required by the VCC for new structures. Any existing gravity load-carrying structural element whose gravity load-carrying capacity is decreased shall be considered an altered element subject to the requirements of Section 603.7.3. Any existing element that will form part of the lateral load path for any part of the addition shall be considered an existing lateral load-carrying structural element subject to the requirements of Section 803.3.

[Came from IEBC 1103.2, Exception 2] **Exception:** Buildings of Group R occupancy with no more than five dwelling units or sleeping units used solely for residential purposes where the existing building and the addition comply with the conventional light-frame construction methods of the VCC or the provisions of the International Residential Code.

[Came from IEBC 402.3.1] **803.2.1 Design live load.** Where the addition does not result in increased design live load, existing gravity load-carrying structural elements shall be permitted to be evaluated and designed for live loads approved prior to the addition. If the approved live load is less than that required by Section 1607 of the VCC, the area designed for the nonconforming live load shall be posted with placards of approved design indicating the approved live load. Where the addition does result in increased design live load, the live load required by Section 1607 of the VCC shall be used.

[Came from IEBC 402.4] **803.3 Existing structural elements carrying lateral load.** Where the addition is structurally independent of the existing structure, existing lateral load-carrying structural elements shall be permitted to remain unaltered. Where the addition is not structurally independent of the existing structure, the existing structure and its addition acting together as a single structure shall be shown to meet the requirements of Sections 1609 and 1613 of the VCC. For purposes of this section, compliance with ASCE 41, using a Tier 3 procedure and the two-level performance objective in Table 305.2.1 for the applicable risk category, shall be deemed to meet the requirements of Section 1613.

Exceptions:

1. Any existing lateral load-carrying structural element whose demand-capacity ratio with the addition considered is not more than 10 percent greater than its demand-capacity ratio with the addition ignored shall be permitted to remain unaltered. For purposes of this exception, comparisons of demand-capacity ratios and calculation of design lateral loads, forces and capacities shall account for the cumulative effects of additions and alterations since original construction. For purposes of calculating demand capacity ratios, the demand shall consider applicable load combinations involving VCC-level seismic forces in accordance with Section 305.2.1.
2. **[Came from IEBC 1103.3, Exception 1]** Buildings of Group R occupancy with no more than five dwelling or sleeping units used solely for residential purposes where the existing building and the addition comply with the conventional light-frame construction methods of the VCC or the provisions of the International Residential Code.

[Came from IEBC 1103.3.3] **803.4 Voluntary addition of structural elements to improve the lateral force-resisting system.** Voluntary addition of structural elements to improve the lateral force-resisting system of an existing building shall comply with Section 603.7.5.

[Came from IEBC 1103.4] **803.5 Snow drift loads.** Any structural element of an existing building subjected to additional loads from the effects of snow drift as a result of an addition shall comply with the VCC.

Exceptions:

1. Structural elements whose stress is not increased by more than 5 percent.
2. Buildings of Group R occupancy with no more than five dwelling units or sleeping units used solely for residential purposes where the existing building and the addition comply with the conventional light-frame construction methods of the VCC or the provisions of the International Residential Code.

SECTION 804
FLOOD HAZARD AREAS
[Came from IEBC 1103.5]

804.1 Flood hazard areas. *Additions and foundations in flood hazard areas shall comply with the following requirements:*

1. For horizontal *additions* that are structurally interconnected to the *existing building*:
 - 1.1. If the *addition* and all other proposed work, when combined, constitute *substantial improvement*, the *existing building* and the *addition* shall comply with Section 1612 of the *International Building Code*, or Section R322 of the *International Residential Code*, as applicable.
 - 1.2. If the *addition* constitutes *substantial improvement*, the *existing building* and the *addition* shall comply with Section 1612 of the *International Building Code*, or Section R322 of the *International Residential Code*, as applicable.
2. For horizontal *additions* that are not structurally interconnected to the *existing building*:
 - 2.1. The *addition* shall comply with Section 1612 of the *International Building Code*, or Section R322 of the *International Residential Code*, as applicable.
 - 2.2. If the *addition* and all other proposed work, when combined, constitute *substantial improvement*, the *existing building* and the *addition* shall comply with Section 1612 of the *International Building Code*, or Section R322 of the *International Residential Code*, as applicable.
3. For vertical *additions* and all other proposed work that, when combined, constitute *substantial improvement*, the *existing building* shall comply with Section 1612 of the *International Building Code*, or Section R322 of the *International Residential Code*, as applicable.
4. For a raised or extended foundation, if the foundation work and all other proposed work, when combined, constitute *substantial improvement*, the *existing building* shall comply with Section 1612 of the *International Building Code*, or Section R322 of the *International Residential Code*, as applicable.
5. For a new foundation or replacement foundation, the foundation shall comply with Section 1612 of the *International Building Code* or Section R322 of the *International Residential Code*, as applicable.

[NON-CONSENSUS]

SECTION 805
SMOKE ALARMS IN OCCUPANCY GROUPS R AND I-1

805.1 Smoke alarms in existing portions of a building. Where an addition is made to a building or structure of a Group R or I-1 occupancy, the existing building shall be provided with smoke alarms as required by Section 1103.8 of the International Fire Code or Section R314 of the International Residential Code as applicable.

[Moved to Section 403 of this proposal]

SECTION 806
ACCESSIBILITY

1105.1 Minimum requirements. Accessibility provisions for new construction shall apply to additions. An addition that affects the accessibility to, or contains an area of, *primary function* shall comply with the requirements of Sections 705, 806 and 906, as applicable.

1105.2 Accessible dwelling units and sleeping units. Where Group I-1, I-2, I-3, R-1, R-2 or R-4 dwelling or sleeping units are being added, the requirements of Section 1107 of the *International Building Code* for accessible units apply only to the quantity of spaces being added.

1105.3 Type A dwelling or sleeping units. Where more than 20 Group R-2 dwelling or sleeping units are being added, the requirements of Section 1107 of the *International Building Code* for Type A units and Chapter 9 of the *International Building Code* for visible alarms apply only to the quantity of the spaces being added.

1105.4 Type B dwelling or sleeping units. Where four or more Group I-1, I-2, R-1, R-2, R-3 or R-4 dwelling or sleeping units are being added, the requirements of Section 1107 of the *International Building Code* for Type B units and Chapter 9 of the *International Building Code* for visible alarms apply only to the quantity of spaces being added.

[Not necessary – 801.1 already requires compliance with the VCC, which references IECC and IRC]

SECTION 807
ENERGY CONSERVATION

807.1 Minimum requirements. Additions to existing buildings shall conform to the energy requirements of the International Energy Conservation Code or International Residential Code as they relate to new construction.

CHAPTER 9

HISTORIC BUILDINGS

SECTION 901 GENERAL

901.1 Scope. [Came from IEBC 1201.1] It is the intent of this chapter to provide means for the preservation of historic buildings. [Came from IEBC 408.1] The provisions of this code ~~that require improvements relative relating to a building's existing condition or, in the case of repairs, that require improvements relative to a building's pre-damage condition; construction involving historic buildings~~ shall not be mandatory ~~for historic buildings unless specifically required by this section such construction constitutes a distinct life safety hazard.~~ Accessibility shall be provided in accordance with Section 405.

901.2 Report. The code official shall be permitted to require that a historic building undergoing repair, alteration or change of occupancy be investigated and evaluated by an RDP or other qualified person or agency as a condition of determining compliance with this code.

[Came from IEBC 1201.3] **901.3 Special occupancy exceptions—museums.** When a building in Group R-3 is also used for Group A, B, or M purposes such as museum tours, exhibits, and other public assembly activities, or for museums less than 3,000 square feet (279 m²), the code official may determine that the occupancy is Group B when life-safety conditions can be demonstrated in accordance with Section 901.2. Adequate means of egress in such buildings, which may include a means of maintaining doors in an open position to permit egress, a limit on building occupancy to an occupant load permitted by the means of egress capacity, a limit on occupancy of certain areas or floors, or supervision by a person knowledgeable in the emergency exiting procedures, shall be provided.

SECTION 902 FLOOD HAZARD AREAS

[Came from IEBC 1201.4]

902.1 Flood hazard areas. In *flood hazard areas*, if all proposed work, including repairs, work required because of a *change of occupancy*, and *alterations*, constitutes *substantial improvement*, then the *existing building* shall comply with Section 1612 of the *International Building Code*, or Section R322 of the *International Residential Code*, as applicable.

Exception: If an *historic building* will continue to be an *historic building* after the proposed work is completed, then the proposed work is not considered a *substantial improvement*. For the purposes of this exception, an *historic building* is:

1. Listed or preliminarily determined to be eligible for listing in the National Register of Historic Places;
2. Determined by the Secretary of the U.S. Department of Interior as contributing to the historical significance of a registered historic district or a district preliminarily determined to qualify as an historic district; or
3. Designated as historic under a state or local historic preservation program that is approved by the Department of Interior.

SECTION 903 REPAIRS

[Came from IEBC 1202]

903.1 General. Repairs to any portion of an historic building or structure shall be permitted with original or like materials and original methods of construction, subject to the provisions of this chapter. Hazardous materials, such as asbestos and lead-based paint, shall not be used where the code for new construction would not permit their use in buildings of similar occupancy, purpose and location.

~~903.2 Unsafe conditions. Conditions determined by the code official to be unsafe shall be remedied. No work shall be required beyond what is required to remedy the unsafe conditions.~~

903.2 Relocated Moved buildings. Foundations of ~~relocated moved~~ historic buildings and structures shall comply with the VCC. ~~Relocated Moved~~ historic buildings shall otherwise be considered an historic building for the purposes of this code. ~~Relocated Moved~~ historic buildings and structures shall be sited so that exterior wall and opening requirements comply with the VCC or with the compliance alternatives of this code.

903.3 Replacement. Replacement of existing or missing features using original materials shall be permitted. Partial replacement for repairs that match the original in configuration, height, and size shall be permitted. Replacement glazing in hazardous locations shall comply with the safety glazing requirements of Chapter 24 of the VCC.

Exception: Glass block walls, louvered windows, and jalousies repaired with like materials.

SECTION 904 FIRE SAFETY

[Came from IEBC 1203]

904.1 Scope. Except as provided in Section 901, historic buildings undergoing alterations, changes of occupancy, or that are moved shall comply with this section.

904.2 General. Every historic building that does not conform to the construction requirements specified in this code for the occupancy or use and that constitutes a distinct fire hazard as defined herein shall be provided with an approved automatic fire-extinguishing system as determined appropriate by the code official. However, an automatic fire-extinguishing system shall not be used to substitute for, or act as an alternative to, the required number of exits from any facility.

904.3 Means of egress. Existing door openings and corridor and stairway widths less than those specified elsewhere in this code may be approved shall be permitted, provided that, in the opinion of the code official, there is sufficient width and height for a person to pass through the opening or traverse the means of egress. When approved by the code official, The front or main exit doors need not swing in the direction of the path of exit travel, provided that other approved means of egress having sufficient capacity to serve the total occupant load are provided.

904.4 Transoms. In fully sprinklered buildings of Group R-1, R-2 or R-3 occupancy, existing transoms in corridors and other fire-resistance-rated walls may be maintained if fixed in the closed position. A sprinkler shall be installed on each side of the transom.

904.5 Interior finishes. The existing finishes of walls and ceilings shall be accepted when it is demonstrated that they are the historic finishes.

904.6 Stairway enclosure. In buildings of three stories or less, exit enclosure construction shall limit the spread of smoke by the use of tight-fitting doors and solid elements. Such elements are not required to have a fire-resistance rating.

904.7 One-hour fire-resistant assemblies. Where 1-hour fire-resistance-rated construction is required by these provisions, it need not be provided, regardless of construction or occupancy, where the existing wall and ceiling finish is wood or metal lath and plaster.

904.8 Glazing in fire-resistance-rated systems. Historic glazing materials are permitted in interior walls required to have a 1-hour fire-resistance rating where the opening is provided with approved smoke seals and the area affected is provided with an automatic sprinkler system.

904.9 Stairway railings. Grand stairways shall be accepted without complying with the handrail and guard requirements. Existing handrails and guards at all stairways shall be permitted to remain, provided they are not structurally dangerous.

904.10 Guards. Guards shall comply with Sections 904.10.1 and 904.10.2.

904.10.1 Height. Existing guards shall comply with the requirements of Section 604.

904.10.2 Guard openings. The spacing between existing intermediate railings or openings in existing ornamental patterns shall be accepted. Missing elements or members of a guard may be replaced in a manner that will preserve the historic appearance of the building or structure.

904.11 Exit signs. Where exit sign or egress path marking location would damage the historic character of the building, alternative exit signs are permitted with approval of the code official. Alternative signs shall identify the exits and egress path.

904.12 Automatic fire-extinguishing systems. Every historical building that cannot be made to conform to the construction requirements specified in the VCC for the occupancy or use and that constitutes a distinct fire hazard shall be deemed to be in compliance if provided with an approved automatic fire-extinguishing system.

Exception: When the code official approves an alternative life-safety system.

SECTION 905 ALTERATIONS

[Came from IEBC 1204.1] 905.1 Accessibility requirements General. The provisions of Chapter 6, as applicable, shall apply to facilities designated as historic structures that undergo alterations, unless technically infeasible. **[Moved to 405]** ~~Where compliance with the requirements for accessible routes, entrances or toilet rooms would threaten or destroy the historic significance of the building or facility, as determined by the code official, the alternative requirements of Sections 1204.1.1 through 1204.1.4 for that element shall be permitted.~~

Exception: ~~Type B dwelling or sleeping units required by Section 1107 of the *International Building Code* are not required to be provided in historical buildings.~~

905.1.1 Site arrival points. ~~At least one accessible route from a site arrival point to an accessible entrance shall be provided.~~

905.1.2 Multilevel buildings and facilities. ~~An accessible route from an accessible entrance to public spaces on the level of the accessible entrance shall be provided.~~

905.1.3 Entrances. ~~At least one main entrance shall be accessible.~~

Exceptions:

- ~~1. If a main entrance cannot be made accessible, an accessible nonpublic entrance that is unlocked while the building is occupied shall be provided; or~~
- ~~2. If a main entrance cannot be made accessible, a locked accessible entrance with a notification system or remote monitoring shall be provided.~~

905.1.4 Toilet and bathing facilities. Where toilet rooms are provided, at least one accessible family or assisted-use toilet room complying with Section 1109.2.1 of the *International Building Code* shall be provided.

SECTION 906 CHANGE OF OCCUPANCY [Came from IEBC 1205]

906.1 General. Historic buildings undergoing a change of occupancy shall comply with the applicable provisions of Chapter 7, except as specifically permitted in this chapter. When Chapter 7 requires compliance with specific requirements of Chapter 6 and when those requirements are subject to the exceptions in Section 903, the same exceptions shall apply to this section.

906.2 Building area. The allowable floor area for historic buildings undergoing a change of occupancy shall be permitted to exceed by 20 percent the allowable areas specified in Chapter 5 of the VCC.

906.3 Location on property. Historic structures undergoing a change of use to a higher hazard category in accordance with Section 707.1 may use alternative methods to comply with the fire-resistance and exterior opening protective requirements. Such alternatives shall comply with Section 901.2.

906.4 Occupancy separation. Required occupancy separations of 1 hour may be omitted when the building is provided with an approved automatic sprinkler system throughout.

906.5 Roof covering. Regardless of occupancy or use group, Roof-covering materials not less than Class C, when tested in accordance with ASTM E 108 or UL 790, shall be permitted where a fire-retardant roof covering is required.

906.6 Means of egress. Existing door openings and corridor and stairway widths less than those that would be acceptable for non-historic buildings under these provisions shall be **approved permitted**, provided **that, in the opinion of the code official**, there is sufficient width and height for a person to pass through the opening or traverse the exit and that the capacity of the exit system is adequate for the occupant load, or where other operational controls to limit occupancy are approved by the code official.

906.7 Door swing. **When approved by the code official**, Existing front doors need not swing in the direction of exit travel, provided that other approved exits having sufficient capacity to serve the total occupant load are provided.

906.8 Transoms. In corridor walls required by these provisions to be fire-resistance rated, existing transoms may be maintained if fixed in the closed position, and fixed wired glass set in a steel frame or other approved glazing shall be installed on one side of the transom.

Exception: Transoms conforming to Section 904.4 shall be accepted.

906.9 Finishes. Where interior finish materials are required to have a flame spread index of Class C or better, when tested in accordance with ASTM E 84 or UL 723, existing nonconforming materials shall be surfaced with approved fire-retardant paint or finish.

Exception: Existing nonconforming materials need not be surfaced with an approved fire-retardant paint or finish where the building is equipped throughout with an automatic sprinkler system installed in accordance with the VCC and the nonconforming materials can be substantiated as being historic in character.

906.10 One-hour fire-resistant assemblies. Where 1-hour fire-resistance-rated construction is required by these provisions, it need not be provided, regardless of construction or occupancy, where the existing wall and ceiling finish is wood lath and plaster.

906.11 Stairways and guards. Existing stairways shall comply with the requirements of **these provisions**. The code official shall grant alternatives for stairways and guards if alternative stairways are found to be acceptable or are judged to meet the intent of these provisions. Existing stairways shall comply with Section 904.

Exception: For buildings less than 3,000 square feet (279 m²), existing conditions are permitted to remain at all stairways and guards.

906.12 Exit signs. ~~The code official may accept alternative exit sign locations~~ Where ~~such~~ exit signs would damage the historic character of the building or structure, **alternative locations shall be permitted**. Such signs shall identify the exits and exit path.

906.13 Exit stair live load. Existing ~~historic~~ stairways in buildings changed to a Group R-1 or R-2 occupancy shall be **accepted permitted** where it can be shown that the stairway can support a 75-pounds-per-square-foot (366 kg/m²) live load.

906.14 Natural light. When ~~it is determined by the code official that compliance with~~ the natural light requirements of Section 709.1 will lead to loss of historic character or historic materials in the building, the existing level of natural lighting shall be considered acceptable.

[Moved to 405] 1205.15 Accessibility requirements. ~~The provisions of Section 1012.8 shall apply to facilities designated as historic structures that undergo a change of occupancy, unless technically infeasible. Where compliance with the requirements for accessible routes, ramps, entrances, or toilet rooms would threaten or destroy the historic significance of the building or facility, as determined by the authority having jurisdiction, the alternative requirements of Sections 1204.1.1 through 1204.1.4 for those elements shall be permitted.~~

Exception: ~~Type B dwelling or sleeping units required by Section 1107 of the International Building Code are not required to be provided in historical buildings.~~

SECTION 907 STRUCTURAL

[Came from IEBC 1206]

907.1 General. Historic buildings shall comply with the applicable structural provisions for the work as classified in Section 103.10.

Exception: The code official shall be authorized to accept existing floors and approve operational controls that limit the live load on any such floor.

~~**907.2 Dangerous conditions.** Conditions determined by the code official to be dangerous shall be remedied. No work shall be required beyond what is required to remedy the dangerous condition~~

CHAPTER 10

MOVED BUILDINGS AND STRUCTURES

SECTION 1001 GENERAL

1001.1 Scope. This chapter provides requirements for moved buildings and structures.

[Came from IEBC 1301.2] 1001.2 Conformance. ~~The building shall be safe for human occupancy as determined by the International Fire Code and the International Property Maintenance Code.~~ Any repair, alteration, or change of occupancy undertaken within the moved building or structure shall comply with the requirements of this code applicable to the work being performed. Any field-fabricated elements shall comply with the requirements of the VCC or the International Residential Code as applicable.

[Came from IEBC 1302.7] 1001.3 Required inspection and repairs. The code official shall be authorized to inspect, or to require approved professionals to inspect at the expense of the owner, the various structural parts of a ~~relocated~~ moved building or structure to verify that structural components and connections have not sustained structural damage. Any repairs required by the code official as a result of such inspection shall be made prior to the final approval.

SECTION 1002 REQUIREMENTS

[Came from IEBC 1302]

1002.1 Location on the lot. The building or structure shall be located on the lot in accordance with the requirements of the VCC or the International Residential Code as applicable.

1002.2 Foundation. The foundation system of ~~relocated~~ moved buildings and structures shall comply with the VCC or the International Residential Code as applicable.

1002.2.1 Connection to the foundation. The connection of the ~~relocated~~ moved building or structure to the foundation shall comply with the VCC or the International Residential Code as applicable.

1002.3 Wind loads. Buildings and structures shall comply with VCC or International Residential Code wind provisions at the new location as applicable.

Exceptions:

1. Detached one- and two-family dwellings and Group U occupancies where wind loads at the new location are not higher than those at the previous location.
2. Structural elements whose stress is not increased by more than 10 percent.

1002.4 Seismic loads. Buildings and structures shall comply with VCC or International Residential Code seismic provisions at the new location as applicable.

Exceptions:

1. Structures in Seismic Design Categories A and B and detached one- and two-family dwellings in Seismic Design Categories A, B and C where the seismic loads at the new location are not higher than those at the previous location.
2. Structural elements whose stress is not increased by more than 10 percent.

1002.5 Snow loads. Buildings and structures shall comply with VCC or International Residential Code snow loads as applicable where snow loads at the new location are higher than those at the previous location.

Exception: Structural elements whose stress is not increased by more than 5 percent.

1002.6 Flood hazard areas. If ~~relocated or~~ moved into a flood hazard area, buildings and structures shall comply with Section 1612 of the VCC, or Section R322 of the International Residential Code, as applicable.

CHAPTER 11
RETROFIT REQUIREMENTS

[NO CHANGES]

CHAPTER 12

CONSTRUCTION SAFEGUARDS

[NO CHANGES OTHER THAN BELOW]

1204.1 Where required. All structures under construction, alteration, or demolition shall be provided with not less than one approved portable fire extinguisher in accordance with Section 906 of the International [Fire Building Code](#) and sized for not less than ordinary hazard as follows:

1. At each stairway on all floor levels where combustible materials have accumulated.
2. In every storage and construction shed.
3. Additional portable fire extinguishers shall be provided where special hazards exist including, but not limited to, the storage and use of flammable and combustible liquids.

CHAPTER 13
REFERENCED STANDARDS

[NO CHANGES]

CHAPTER 14

COMPLIANCE ALTERNATIVE – CHANGE OF OCCUPANCY

SECTION 1401 GENERAL

[Came from IEBC Chapter 14]

1401.1 Scope. The provisions of this chapter are intended to maintain or increase the current degree of public safety, health and general welfare in existing buildings or structures, ~~or portions thereof,~~ while permitting ~~repairs, alterations, additions and~~ changes of occupancy without requiring full compliance with Chapters ~~7 5~~ through ~~10~~, except where compliance with other provisions of this code is specifically required in this chapter.

~~1401.1.1 Compliance with other methods.~~ Alterations, repairs, additions and changes of occupancy to existing structures shall comply with the provisions of this chapter or with one of the methods provided in Section 301.1.

~~1401.2 Applicability.~~ Work involving rehabilitation, additions, alterations or changes of occupancy shall be made to conform to the requirements of this chapter or the provisions of Chapters 5 through 13. The provisions in Sections 1401.2.1 through 1401.2.5 shall apply to existing occupancies that will continue to be, or are proposed to be, ~~changed to or from~~ in Groups A, B, E, F, I-2, M, R, S and U. These provisions shall not apply to buildings with occupancies in Group H or I-1, I-3 or I-4.

Exception: The provisions of this chapter shall not apply to ~~changes of occupancy involving buildings with occupancies in~~ Group ~~H or I-2~~.

1401.1.1 Complete change in of occupancy. Where an ~~entire~~ existing building ~~is changed to~~ ~~undergoes~~ a ~~new change of~~ occupancy ~~classification and this section is applicable,~~ the ~~applicable~~ provisions of this chapter for the new occupancy shall be used to determine compliance with this code.

Exception: Plumbing, mechanical and electrical systems in buildings undergoing a change of occupancy shall be subject to any applicable requirements of Chapter 7.

1401.1.2 Partial change in of occupancy. Where a portion of the building ~~is changed to~~ ~~undergoes~~ a ~~new occupancy classification~~ ~~change of occupancy~~ and that portion is separated from the remainder of the building with fire barrier or horizontal assemblies having a fire-resistance rating as required by Table 508.4 of the VCC or Section R317 of the International Residential Code for the separate occupancies, or with approved compliance alternatives, the portion changed shall be made to conform to the provisions of this chapter.

Where a portion of the building ~~is changed to~~ ~~undergoes~~ a ~~new occupancy classification~~ ~~change of occupancy~~ and that portion is not separated from the remainder of the building with fire barriers or horizontal assemblies having a fire-resistance rating as required by Table 508.4 of the VCC or Section R317 of the International Residential Code for the separate occupancies, or with approved compliance alternatives, the provisions of this chapter which apply to each occupancy shall apply to the entire building. Where there are conflicting provisions, those requirements which ~~secure are~~ the ~~greater public safety~~ ~~most restrictive~~ shall apply to the entire building or structure.

~~1401.1.3 Additions.~~ Additions to existing buildings ~~the International Building Code, International Residential Code, and this code for new construction.~~ The combined height and area of the existing building and the new addition shall not exceed the height and area allowed by Chapter 5 of the International Building Code. Where a fire wall that complies with Section 706 of the International Building Code is provided between the addition and the existing building, the addition shall be considered a separate building.

~~1401.1.4 Alterations and repairs.~~ An existing building or portion thereof that does not comply with the requirements of this code for new construction shall not be altered or repaired in such a manner that results in the building being less safe or sanitary than such building is currently. If, in the alteration or repair, the current level of safety or sanitation is to be reduced, the portion altered or repaired shall conform to the requirements of Chapters 2 through 12 and Chapters 14 through 33 of the International Building Code.

1401.2 Accessibility requirements. All portions of the buildings proposed for change of occupancy ~~and all alterations~~ to existing buildings ~~or structures~~, shall conform to the applicable accessibility provisions of Chapter 4.

1401.3 Acceptance. For ~~repairs, alterations, additions, and~~ changes of occupancy to existing buildings that are evaluated in accordance with this ~~section chapter~~, compliance with this ~~section chapter~~ shall be accepted by the code official.

~~1401.3.1 Hazards.~~ Where the code official determines that an unsafe condition exists as provided for in Section 115, such unsafe condition shall be abated in accordance with Section 115.

~~1401.3.2 Compliance with other codes.~~ Buildings that are evaluated in accordance with this section shall comply with the International Fire Code and International Property Maintenance Code.

1401.3.1 Compliance with flood hazard provisions. In flood hazard areas, buildings ~~or structures~~ that are evaluated in accordance with this ~~section chapter~~ shall comply with Section 1612 of the VCC, or Section R322 of the International Residential Code, as applicable if the work covered by this ~~section chapter~~ constitutes substantial improvement.

1401.4 Investigation and evaluation. For proposed work covered by this chapter, the building owner shall cause the *existing building* to be investigated and evaluated in accordance with the provisions of Sections 1401.4 through 1401.9.

1401.4.1 Structural analysis. The owner shall have a structural analysis of the *existing building* made to determine adequacy of structural systems for the proposed *alteration, addition or change of occupancy*. The analysis shall demonstrate that the building with the work completed is capable of resisting the loads specified in Chapter 16 of the VCC.

1401.4.2 Submittal. The results of the investigation and evaluation as required in Section 1401.4, along with proposed compliance alternatives, shall be submitted to the *code official*.

1401.4.3 Determination of compliance. The *code official* shall determine whether the *existing building*, with the proposed ~~addition, alteration, or~~ *change of occupancy*, complies with the provisions of this section in accordance with the evaluation process in Sections 1401.5 through 1401.9.

1401.5 Evaluation. The evaluation shall be comprised of three categories: fire safety, means of egress, and general safety, as defined in Sections 1401.5.1 through 1401.5.3.

1401.5.1 Fire safety. Included within the fire safety category are the structural fire resistance, automatic fire detection, fire alarm, automatic sprinkler system and fire suppression system features of the *facility*.

1401.5.2 Means of egress. Included within the means of egress category are the configuration, characteristics, and support features for means of egress in the *facility*.

1401.5.3 General safety. Included within the general safety category are the fire safety parameters and the means-of-egress parameters.

1401.6 Evaluation process. The evaluation process specified herein shall be followed in its entirety to evaluate *existing buildings* in Groups A, B, E, F, M, R, S and U. For existing buildings in Group I-2, the evaluation process specified herein shall be followed and applied to each and every individual smoke compartment. Table 1401.7 shall be utilized for tabulating the results of the evaluation. References to other sections of this code indicate that compliance with those sections is required in order to gain credit in the evaluation herein outlined. In applying this section to a building with mixed occupancies, where the separation between the mixed occupancies does not qualify for any category indicated in Section 1401.6.16, the score for each occupancy shall be determined, and the lower score determined for each section of the evaluation process shall apply to the entire building, or to each smoke compartment for Group I-2 occupancies.

Where the separation between the mixed occupancies qualifies for any category indicated in Section 1401.6.16, the score for each occupancy shall apply to each portion, or smoke compartment of the building based on the occupancy of the space.

1401.6.2 Building area. The value for building area shall be determined by the formula in Section 1401.6.2.2. Section 506 of the VCC and the formula in Section 1401.6.2.1 shall be used to determine the allowable area of the building. Subtract the actual building area from the allowable area and divide by 1,200 square feet (112 m²). Enter the area value and its sign (positive or negative) in Table 1401.7 under Safety Parameter 1401.6.2, Building Area, for fire safety, means of egress and general safety. In determining the area value, the maximum permitted positive value for area is 50 percent of the fire safety score as listed in Table 1401.8, Mandatory Safety Scores. Group I-2 occupancies shall be scored zero.

1401.6.4 Tenant and dwelling unit separations. Evaluate the fire-resistance rating of floors and walls separating tenants, including dwelling units, and not evaluated under Sections 1401.6.3 and 1401.6.5. Group I-2 occupancies shall evaluate the rating of the separations between patient sleeping rooms.

1401.6.7 HVAC systems. Evaluate the ability of the HVAC system to resist the movement of smoke and fire beyond the point of origin. Under the categories in Section 1401.6.7.1, determine the appropriate value and enter that value into Table 1401.7 under Safety Parameter 1401.6.7, HVAC Systems, for fire safety, means of egress, and general safety. Facilities in Group I-2 occupancies meeting Categories a, b or c shall be considered to fail the evaluation.

1401.6.8 Automatic fire detection. Evaluate the smoke detection capability based on the location and operation of automatic fire detectors in accordance with Section 907 of the VCC and the *International Mechanical Code*. Under the categories and occupancies in Table 1401.6.8, determine the appropriate value and enter that value into Table 1401.7 under Safety Parameter 1401.6.8, Automatic Fire Detection, for fire safety, means of egress, and general safety. Facilities in Group I-2 occupancies meeting Category a, b or c shall be considered to fail the evaluation.

1401.6.8.1 Categories. The categories for automatic fire detection are:

1. Category a—None.
2. Category b—Existing smoke detectors in HVAC systems and maintained in accordance with the *International Fire Code*.
3. Category c—Smoke detectors in HVAC systems. The detectors are installed in accordance with the requirements for new buildings in the *International Mechanical Code*.
4. Category d—Smoke detectors throughout all floor areas other than individual sleeping units, tenant spaces and dwelling units.
5. Category e—Smoke detectors installed throughout the floor area.
6. Category f—Smoke detectors in corridors only.

1401.6.14 Elevator control. Evaluate the passenger elevator equipment and controls that are available to the fire department to reach all occupied floors. Emergency recall and in-car operation of elevators shall be provided in accordance with the International Fire Code building code under which the building or the affected portion thereof was constructed or previously approved. Under the categories and occupancies in Table 1401.5.14, determine the appropriate value and enter that value into Table 1401.7 under Safety Parameter 1401.5.14, Elevator Control, for fire safety, means of egress and general safety. The values shall be zero for a single-story building.

1401.6.14.1 Categories. The categories for elevator controls are:

1. Category a—No elevator.
2. Category b—Any elevator without Phase I emergency recall operation and Phase II emergency in-car operation.
3. Category c—All elevators with Phase I emergency recall operation and Phase II emergency in-car operation as required by the International Fire Code building code under which the building or the affected portion thereof was constructed or previously approved.
4. Category d—All meet Category c; or Category b where permitted to be without Phase I emergency recall operation and Phase II emergency in-car operation; and at least one elevator that complies with new construction requirements serves all occupied floors.

1401.6.16 Mixed occupancies. Where a building has two or more occupancies that are not in the same occupancy classification, the separation between the mixed occupancies shall be evaluated in accordance with this section. Where there is no separation between the mixed occupancies or the separation between mixed occupancies does not qualify for any of the categories indicated in Section 1401.6.16.1, the building shall be evaluated as indicated in Section 1401.6, and the value for mixed occupancies shall be zero. Under the categories and occupancies in Table 1401.6.16, determine the appropriate value and enter that value into Table 1401.7 under Safety Parameter 1401.6.16, Mixed Occupancies, for fire safety and general safety. For buildings without mixed occupancies, the value shall be zero. Facilities in Group I-2 occupancies meeting Category a shall be considered to fail the evaluation.

1401.6.17 Automatic sprinklers. Evaluate the ability to suppress a fire based on the installation of an automatic sprinkler system in accordance with Section 903.3.1.1 of the VCC. “Required sprinklers” shall be based on the requirements of this code. Under the categories and occupancies in Table 1401.6.17, determine the appropriate value and enter that value into Table 1401.7 under Safety Parameter 1401.6.17, Automatic Sprinklers, for fire safety, means of egress divided by 2, and general safety. High-rise buildings defined in Chapter 2 of the VCC that undergo a *change of occupancy* to Group R shall be equipped throughout with an automatic sprinkler system in accordance with Section 403 of the VCC and Chapter 9 of the VCC. Facilities in Group I-2 occupancies meeting Category a, b, c or f shall be considered to fail the evaluation.

1401.6.20 Smoke compartmentation. Evaluate the smoke compartments for compliance with Section 407.5 of the VCC. Under the categories and occupancies in Table 1401.6.20, determine the appropriate smoke compartmentation value (SCV) and enter that value into Table 1401.7 under Safety Parameter 1401.6.20, Smoke Compartmentation, for fire safety, means of egress and general safety. Facilities in Group I-2 occupancies meeting Category b or c shall be considered to fail the evaluation.

R-102.2 cdpVA-15

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2012 Virginia Construction Code

103.1.1 Virginia Existing Building Code Part II of the Virginia Uniform Statewide Building Code, also known as the "Virginia Existing Building Code," or the "VEBC" is applicable to construction and rehabilitation activities in existing buildings and structures, as those terms are defined in the VEBC, except where specifically addressed in the VCC.

~~103.3 Change of occupancy.~~

~~No change of occupancy shall be made in any structure when the current USBC requires a greater degree of accessibility, structural strength, fire protection, means of egress, ventilation or sanitation. When such a greater degree is required, the owner or the owner's agent shall comply with the following:~~

- ~~1. When involving Group I 2 or I 3, written application shall be made to the local building department for a new certificate of occupancy and the new certificate of occupancy shall be obtained prior to the new use of the structure. When impractical to achieve compliance with this code for the new occupancy classification, the building official shall consider modifications upon application and as provided for in Section [106.3](#). In addition, the applicable accessibility provisions of Section 1012.8 of Part II of the *Virginia Uniform Statewide Building Code*, also known as the "*Virginia Rehabilitation Code*," or the "VRC" shall be met.~~

~~**Exception:** This section shall not be construed to permit noncompliance with any applicable flood load or flood resistant construction requirements of this code.~~

- ~~2. In other than Group I 2 or I 3, the provisions of the VRC for change of occupancy shall be met.~~

~~103.4 Additions.~~

~~Additions to buildings and structures shall comply with the requirements of this code for new construction or shall comply with the VRC. An existing building or structure plus additions shall comply with the height and area provisions of Chapter [5](#) and the applicable provisions of Chapter [9](#). Further, this code shall not require changes to the design or construction of any portions of the building or structure not altered or affected by an addition, unless the addition has the effect of lowering the current level of safety.~~

~~Exceptions:~~

- ~~1. This section shall not be construed to permit noncompliance with any applicable flood load or flood resistant construction requirements of this code.~~
- ~~2. When this code is used for compliance, existing structural elements carrying gravity loads shall be permitted to comply with Section [1103](#)~~

~~103.5 Reconstruction, alteration or repair in Group R-5 occupancies.~~

~~The following criteria is applicable to reconstruction, alteration or repair of Group R-5 buildings or structures:~~

- ~~1. Any reconstruction, alteration or repair shall not adversely affect the performance of the building or structure, or cause the building or structure to become unsafe or lower existing levels of health and safety.~~
- ~~2. Parts of the building or structure not being reconstructed, altered or repaired shall not be required to comply with the requirements of this code applicable to newly constructed buildings or structures.~~
- ~~3. The installation of material or equipment, or both, that is neither required nor prohibited shall only be required to comply with the provisions of this code relating to the safe installation of such material or equipment.~~
- ~~1. Material or equipment, or both, may be replaced in the same location with material or equipment of a similar kind or capacity.~~

~~Exceptions:~~

- ~~1. This section shall not be construed to permit noncompliance with any applicable flood load or flood resistant construction requirements of this code.~~
- ~~2. Reconstructed decks, balconies, porches and similar structures located 30 inches (762 mm) or more above grade shall meet the current code provisions for structural loading capacity, connections and structural attachment. This requirement excludes the configuration and height of handrails and guardrails.~~
- ~~3. Compliance with the VRC shall be an acceptable alternative to compliance with this section at the discretion of the owner or owner's agent.~~

~~103.6 Reconstruction, alteration, and repair in other occupancies.~~

~~Reconstruction, alteration, and repair in occupancies other than Group R-5 shall comply with the VRC.~~

~~103.7 Retrofit requirements.~~

~~The local building department shall enforce the provisions of Section [1701](#) of the VRC, which require certain existing buildings to be retrofitted with fire protection systems and other safety equipment. Retroactive fire protection system requirements contained in the *International Fire Code* (IFC) shall not be applicable unless required for compliance with the provisions of Section [1701](#) of the VRC.~~

113.3 Minimum inspections.

The following minimum inspections shall be conducted by the building official when applicable to the construction or permit:

1. Inspection of footing excavations and reinforcement material for concrete footings prior to the placement of concrete.
2. Inspection of foundation systems during phases of construction necessary to assure compliance with this code.
3. Inspection of preparatory work prior to the placement of concrete.
4. Inspection of structural members and fasteners prior to concealment.
5. Inspection of electrical, mechanical and plumbing materials, equipment and systems prior to concealment.
6. Inspection of energy conservation material prior to concealment.
7. Final inspection.

~~103.5.1113.3.1~~ Equipment changes.

Upon the replacement or new installation of any fuel-burning appliances or equipment in existing Group R-5 occupancies, an inspection or inspections shall be conducted to ensure that the connected vent or chimney systems comply with the following:

1. Vent or chimney systems are sized in accordance with the IRC.
2. Vent or chimney systems are clean, free of any obstruction or blockages, defects or deterioration and are in operable condition. Where not inspected by the local building department, persons performing such changes or installations shall certify to the building official that the requirements of Items 1 and 2 of this section are met.

2012 Virginia Rehabilitation Code

102.2 Scope.

~~The provisions of this code shall control the rehabilitation, reconstruction, alteration, repair, govern construction and change of occupancy of rehabilitation activities in existing buildings and structures in occupancies other than Group R-5 and shall be permitted to be used as an alternative to compliance with the VCC for additions to buildings in any occupancy classification and for reconstruction, alteration or repair in Group R-5 occupancies.~~

~~**Exception:** The use of this code shall not be permitted for change of occupancy involving Group I-2 or I-3.~~

102.2.1 Change of occupancy to Group I-2 or I-3. A change of occupancy to Group I-2 or I-3 shall comply with the provisions of the VCC. Written application shall be made to the local building department for a new certificate of occupancy and the new certificate of occupancy shall be obtained prior to the change of occupancy. When impractical to achieve compliance with the VCC for the new occupancy classification, the building official shall consider modifications upon application and as provided for in Section 106.3 of the VCC.

102.2.2 Reconstruction, alteration or repair in Group R-5 occupancies. The

following criteria is applicable to reconstruction, alteration or repair of Group R-5 buildings or structures:

1. Any reconstruction, alteration or repair shall not adversely affect the performance of the building or structure, or cause the building or structure to become unsafe or lower existing levels of health and safety.

2. Parts of the building or structure not being reconstructed, altered or repaired shall not be required to comply with the requirements of this code applicable to newly constructed buildings or structures.

3. The installation of material or equipment, or both, that is neither required nor prohibited shall only be required to comply with the provisions of this code relating to the safe installation of such material or equipment.

4. Material or equipment, or both, may be replaced in the same location with material or equipment of a similar kind or capacity.

Exceptions:

1. This section shall not be construed to permit noncompliance with any applicable flood load or flood-resistant construction requirements of the VCC.

2. Reconstructed decks, balconies, porches and similar structures located 30 inches (762 mm) or more above grade shall meet the current code provisions for structural loading capacity, connections and structural attachment. This requirement excludes the configuration and height of handrails and guardrails.

5. Compliance with the VCC shall be an acceptable alternative to compliance with this section at the discretion of the owner or owner's agent.

6. In accordance with Section 36-99.2 of the Code of Virginia, any replacement glass installed in buildings constructed prior to the first edition of the USBC shall meet the quality and installation standards for glass installed in new buildings as are in effect at the time of installation. In addition, as a requirement of this code, the installation or replacement of glass in buildings constructed under any edition of the USBC shall be as required for new installations.

103.2 Change of occupancy.

~~No~~Prior to a change of occupancy shall be made in any structure when of the current USBC requires a greater degree of accessibility, structural strength, fire protection, means of egress, ventilation building or structure, or sanitation. When such a greater degree is required, portion thereof, the owner or the owner's agent shall make written application to the local building department for a new certificate of occupancy and shall obtain the new certificate of occupancy ~~prior to the new use of the structure.~~

When impractical to achieve compliance with this code for the new occupancy classification, the building official shall consider modifications upon application and as provided for in Section 106.3 of the VCC.

103.3 Retrofit requirements.

~~In accordance with Section 103.7 of the VCC, the~~The local building department shall enforce the provisions of Section 1701 that require certain existing buildings to be retrofitted with fire protection systems and other safety equipment. Retroactive fire protection system requirements contained in the *International Fire Code* shall not be applicable unless required for compliance with the provisions of Section 1701.

103.5 Equipment changes.

Upon the replacement or new installation of any fuel-burning appliances or equipment in existing buildings, an inspection or inspections shall be conducted ~~to ensure that in accordance with Section 113.3.1 of the connected vent or chimney systems comply with the following:~~

- ~~1. Vent or chimney systems are sized in accordance with either the *International Residential Code*, the *International Mechanical Code*, or the *International Fuel Gas Code*, depending on which is applicable based on the fuel source and the occupancy classification of the structure.~~
- ~~2. Vent or chimney systems are clean, free of any obstruction or blockages, defects, or deterioration and are in operable condition.~~

~~Where not inspected by the local building department, persons performing such changes or installations shall certify to the building official that the requirements of Items 1 and 2 of this section are metVCC.~~

103.10 Construction documents. Construction documents shall be submitted with the application for a permit and in accordance with Sections 103.10.1 and 103.10.2.

Exception: Construction documents do not need to be submitted or comply with Sections 103.10.1 or 103.10.2 when the building official determines the proposed work does not require such documents or identification.

103.10.1 Identification of compliance method. When work is proposed to be performed on an existing building or structure, or portion thereof, the compliance method, as selected in accordance with Section 301.1, shall be identified on the construction documents.

103.10.2 Identification of work. The work proposed to be performed on an existing building or structure, or portion thereof, shall be identified on the construction documents as repairs, alterations, change of occupancy, addition, historic building, and/or a moved building. All work areas shall also be identified. If the Proportional Compliance Method is selected, alterations shall further be identified as Level 1, Level 2, and/or Level 3.

[B] 1401.2.1 ~~Change in~~Complete change of occupancy.

Where an ~~entire existing building is changed to~~undergoes a new occupancy classification and this section is applicable change of occupancy, the applicable provisions of this section for the new occupancy shall be used to determine compliance with this code.

- **Exception:** Plumbing, mechanical and electrical systems in buildings undergoing

a change of occupancy shall be subject to any applicable requirements of Chapter ~~10~~Section 407.

2015 International Existing Building Code

~~**401.3 Dangerous conditions.** The building official shall have the authority to require the elimination of conditions deemed *dangerous*.~~

401.3 Reconstruction, alteration or repair. The following criteria shall be applicable to reconstruction, alterations or repairs of or to existing buildings or structures:

1. Any reconstruction, *alteration*, *addition* or *repair* shall not adversely affect the performance of the building or structure, or cause the *existing building* or structure to become unsafe or lower existing levels of health and safety.
2. Portions of the *existing building* or structure not being reconstructed, altered or repaired shall not be required to comply with the requirements of this code applicable to newly constructed buildings or structures.
3. The installation of material or equipment, or both, that is neither required nor prohibited shall only be required to comply with the provisions of the VCC relating to the safe installation of such material or equipment.
4. Material or equipment, or both, may be replaced in the same location with material or equipment of a similar kind or capacity.

Exceptions:

1. This section shall not be construed to permit noncompliance with any applicable flood load or flood-resistant construction requirements of the IBC.
2. Reconstructed decks, balconies, porches and similar structures located 30 inches (762 mm) or more above grade shall meet the current code provisions for structural loading capacity, connections and structural attachment. This requirement excludes the configuration and height of handrails and guardrails.

402.1 General. *Additions* to any building or structure shall comply with the requirements of the *International Building Code* for new construction. Alterations to the *existing building* or structure shall be made ~~to ensure so~~ that the *existing building* or structure together with the *addition* are no less conforming to the provisions of the *International Building Code* than the *existing building* or structure was prior to the *addition*. An *existing building* or structure together with its ~~additions~~*addition* shall comply with the height and area provisions of Chapter 5 of the *International Building Code*.

403.1 General. Except as provided by ~~Section~~Sections 401.2, 401.3 or this section,

~~alterations to any building or structure shall comply with the requirements of the *International Building Code* for new construction. *Alterations shall be such that the existing building or structure is no less conforming to the provisions of the *International Building Code* than the existing building or structure was prior to the alteration.*~~

- **Exceptions:**

1. An existing stairway shall not be required to comply with the requirements of Section 1011 of the *International Building Code* where the existing space and construction does not allow a reduction in pitch or slope.
2. Handrails otherwise required to comply with Section 1011.11 of the *International Building Code* shall not be required to comply with the requirements of Section 1014.6 of the *International Building Code* regarding full extension of the handrails where such extensions would be hazardous due to plan configuration.

~~**[BS] 403.4.1 Seismic Design Category F.** Where the portion of the building undergoing the intended alteration exceeds 50 percent of the aggregate area of the building, and where the building is assigned to Seismic Design Category F, the structure of the altered building shall be shown to meet the earthquake design provisions of the *International Building Code*. For purposes of this section, the earthquake loads need not be taken greater than 75 percent of those prescribed in Section 1613 of the *International Building Code* for new buildings of similar occupancy, purpose and location. New structural members and connections required by this section shall comply with the detailing provisions of this code for new buildings of similar structure, purpose and location.~~

~~**[BS] 403.5 Bracing for unreinforced masonry parapets upon reroofing.** Where the intended alteration requires a permit for reroofing and involves removal of roofing materials from more than 25 percent of the roof area of a building assigned to Seismic Design Category D, E or F that has parapets constructed of unreinforced masonry, the work shall include installation of parapet bracing to resist out-of-plane seismic forces, unless an evaluation demonstrates compliance of such items. For purposes of this section, design seismic forces need not be taken greater than 75 percent of those that would be required for the design of similar nonstructural components in new buildings of similar purpose and location.~~

~~**[BS] 403.6 Wall anchorage for unreinforced masonry walls in major alterations.** Where the portion of the building undergoing the intended alteration exceeds 50 percent of the aggregate area of the building, the building is assigned to Seismic Design Category C, D, E or F, and the building's structural system includes unreinforced masonry walls, the alteration work shall include installation of wall anchors at the roof line to resist seismic forces, unless an evaluation demonstrates compliance of existing wall anchorage. For purposes of this section, design seismic forces need not be taken greater than 75 percent of those that would be required for the design of new buildings of similar structure, purpose and location.~~

~~**[BS] 403.7 Bracing for unreinforced masonry parapets in major alterations.** Where the portion of the building undergoing the intended alteration exceeds 50 percent of the aggregate area of the building, and where the building is assigned to Seismic Design Category C, D, E or F, parapets constructed of unreinforced masonry shall have bracing installed as needed to resist out-of-plane seismic forces, unless an evaluation demonstrates compliance of such items. For purposes of this section, design seismic forces need not be taken greater than 75 percent of those that would be required for the design of similar nonstructural components in new buildings of similar purpose and location.~~

~~**[BS] 403.8 Roof diaphragms resisting wind loads in highwind regions.** Where the intended alteration requires a permit for reroofing and involves removal of roofing materials from more than 50 percent of the roof diaphragm of a building or section of a building located where the ultimate design wind speed is greater than 115 mph (51 m/s) in accordance with Figure 1609.3(1) of the *International Building Code* or in a special wind region as defined in Section 1609 of the *International Building Code*, roof diaphragms, connections of the roof diaphragm to roof framing members, and roof to wall connections shall be evaluated for the wind loads specified in Section 1609 of the *International Building Code*, including wind uplift. If the diaphragms and connections in their current condition are not capable of resisting at least 75 percent of those wind loads, they shall be replaced or strengthened in accordance with the loads specified in Section 1609 of the *International Building Code*.~~

404.1 General. Buildings and structures, and parts thereof, shall be repaired in compliance with Sections 401.2, 401.3 and 404. Work on nondamaged components that is necessary for the required *repair* of damaged components shall be considered part of the *repair* and shall not be subject to the requirements for *alterations* in this chapter. Routine maintenance required by Section 401.2, ordinary repairs exempt from permit in accordance with Section ~~105.2~~108.2 of the VCC, and abatement of wear due to normal service conditions shall not be subject to the requirements for repairs in this section.

407.1 Conformance. No

~~A building or structure undergoing a change shall be made in the use or of occupancy of any building unless such building is made to shall comply with the requirements of the *International Building Code* and this section for the use or occupancy. Changes in use or occupancy in a The existing building or portion thereof structure shall be such that the existing building is no less complying with the provisions of this code section and the IBC than the existing building or structure was prior to the change. Subject~~

Exceptions:

1. The building need not be made to comply with the approval seismic requirements for a new structure unless required by Section 407.4.
2. An existing stairway shall not be required to comply with the requirements of Section 1011 of the building official, *International Building Code* where the existing space and construction does not allow a reduction in pitch or slope.

3. The use or occupancy of existing buildings or structures shall be permitted to be changed and the building or structure shall be allowed to be used or occupied for purposes in other groups, classifications, or changes in level of activities without conforming to all of the requirements of this code section and the VCC for those groups, classifications, or changes in activities, provided the new or proposed use, occupancy, or level of activity is less hazardous, based on life and fire risk, than the existing use, occupancy, or level of activity.

Exception: ~~The building need not be made to comply with the seismic requirements for a new structure unless required by Section 407.4.~~

407.1.1 Change in the character of occupancy with no change of use occupancy classification. A change in

~~When a change of occupancy with no change of occupancy classification shall not be made to any structure that will subject the structure to any special provisions of the applicable International Codes occurs, without approval of the building official. Compliance shall be only as necessary to meet the specific provisions changes in application of the requirements of the applicable International Codes and is not intended to require the entire building be brought into compliance.~~

407.2 Certificate of occupancy. ~~A certificate of occupancy shall be issued where it has been determined that the requirements for the new occupancy classification have been met.~~

407.3 Stairways. ~~An existing stairway shall not be required to comply with the requirements of Section 1011 of the International Building Code where the existing space and construction does not allow a reduction in pitch or slope.~~

501.2 Work area. ~~The work area, as defined in Chapter 2, shall be identified on the construction documents.~~

601.2 Conformance. ~~The work shall not make adversely affect the performance of the building or structure, or cause the existing building or structure to become unsafe, less conforming, or result in lower existing levels of health and safety than it was before the repair was undertaken. Portions of the existing building or structure not being repaired shall not be required to comply with the requirements of the VCC applicable to newly constructed buildings or structures. Work on nondamaged components that is necessary for the required repair of damaged components shall be considered part of the repair and shall not be subject to the requirements for alterations. Routine maintenance, ordinary repairs exempt from permit in accordance with Section 108.2 of the VCC, and abatement of wear due to normal service conditions shall not be subject to the requirements for repairs in this section.~~

1401.1 Scope. ~~The provisions of this chapter shall apply to the alteration, repair, addition and change of occupancy of existing structures, including historic and moved~~

~~structures, as referenced in Section 301.1.3.~~

The provisions of this chapter are intended to maintain or increase the current degree of public safety, health and general welfare in *existing buildings or structures* while permitting ~~repair~~repairs, ~~alteration~~alterations, ~~addition~~additions and ~~change~~changes of occupancy without requiring full compliance with ~~Chapters 5 through 13~~Chapter 4 or the IBC, except where compliance with other provisions of this code is specifically required in this chapter.

~~**1401.1.1 Compliance with other methods.** Alterations, repairs, additions and changes of occupancy to existing structures shall comply with the provisions of this chapter or with one of the methods provided in Section 301.1.~~

~~**1401.2 Applicability.** Structures existing prior to [DATE TO BE INSERTED BY THE JURISDICTION. Note: it is recommended that this date coincide with the effective date of building codes within the jurisdiction], in which there is work involving additions, alterations or changes of occupancy shall be made to conform to the requirements of this chapter or the provisions of Chapters 5 through 13. The provisions of Sections 1401.2.1 through 1401.2.5 shall apply to existing occupancies that will continue to be, or are proposed to be, in Groups A, B, E, F, ~~+2,~~ M, R and S. These provisions shall not apply to buildings with occupancies in Group H or ~~+1, +3 or +4~~.~~

~~**1401.2.2 Partial change inof occupancy.** Where a portion of the building is changed to undergoes a new occupancy classification change of occupancy and that portion is separated from the remainder of the building with fire barrier or horizontal assemblies having a fire-resistance rating as required by Table 508.4 of the *International Building Code* or Section R317 of the *International Residential Code* for the separate occupancies, or with approved compliance alternatives, the portion changed shall be made to conform to the provisions of this section.~~

~~Where a portion of the building is changed to undergoes a new occupancy classification change of occupancy and that portion is not separated from the remainder of the building with fire barriers or horizontal assemblies having a fire-resistance rating as required by Table 508.4 of the *International Building Code* or Section R317 of the *International Residential Code* for the separate occupancies, or with approved compliance alternatives, the provisions of this section which apply to each occupancy shall apply to the entire building. Where there are conflicting provisions, those requirements which secure are the greater public safety most restrictive shall apply to the entire building or structure.~~

Reason: As a member of the team that developed the Jack A. Proctor Virginia Building Code Academy content for the rehab code training, and as one of its instructors for the rehab code, I have become aware of much confusion among the code officials, designers, and owners on how to apply the rehab code, especially when it comes to VCC Chapter 1, VRC Chapter 1, and the VRC technical provisions, including how to apply the change of occupancy provisions?

This proposal attempts to address those concerns and make the provisions more user-friendly and/or allow code officials the ability to properly interpret and/or enforce the rehab code..

This code change addresses three major concepts:

1. The scope and provisions associated with NEW buildings and structures belong in the VCC and the scope and provisions associated with EXISTING buildings and structures belong in the VEBC (Virginia Existing Building Code).
2. Only *administrative* provisions should be included in Chapters 1 of the VCC and VEBC, and *technical* provisions should be included within the appropriate *technical* code section(s) of their respective code books. It has been noted that Virginia should not rely on Chapter 1 of the VCC for *technical* provisions that supersede other technical provisions within the IBC and/or VEBC. It is confusing and oftentimes missed by owners, designers, and sometimes, by code officials when you may be in the VEBC, only to realize that something in Chapter 1 of the VCC supersedes those technical requirement(s).
3. This proposal also goes back to the 2009 VCC concept of being less stringent when it comes to existing buildings than even 2009 IBC Chapter 34 required. As you may recall, Virginia basically deleted half of Chapter 34 and relied on Chapter 1 of the VCC to govern existing buildings. However, when Chapter 34 was deleted in its entirety for the 2012 code cycle, Virginia basically abandoned their VCC Chapter 1 modifications to the 2009 IBC Chapter 34, and adopted the IEBC Chapter 4 in its entirety - without the same modifications - and without full and complete vetting. Under the 2009 codes, Virginia was fairly lenient when it came to existing buildings and structures by deleting much of Chapter 34. Under the 2012 codes, Virginia became more stringent by adopting VRC Chapter 4 in its entirety. This proposal essentially goes back to 2009 and allows Virginia to continue to treat existing buildings and structures the way we used to for all of those many years.

Regarding changes to the 2012 VCC:

The VCC currently starts off with one (1) section on new construction (103.2) followed by five (5) sections when dealing with existing construction (103.3 through 103.7). And, these five sections do not always comport with the existing building code (VRC) since Chapter 34 of the VCC was deleted during the last code cycle. This proposal offers one (1) section when dealing with existing construction rather than five (5) sections, which should simplify things.

Under this proposal, anything dealing with existing construction must comply with the VEBC and anything dealing with new construction must comply with the VCC.

Therefore, this proposal deletes 2012 VCC Sections 103.3, 103.4, 103.5, 103.6, and 103.7 in their entirety and substitutes a new 103.1.1. We start off with all things existing being governed by the VEBC.

113.3.1: Came from 2012 VCC 103.5.1 and is better suited for VCC 113.3 since it deals with inspections. It will also allow the deletion of 2012 VRC 103.5.

1401.2.1, Exception: In order to comply with the "old" Chapter 34 requirements, the proper reference should have been to Section 407 (*i.e.*, keeping all references to other sections of Chapter 34 - which became the Prescriptive Compliance Method), not Chapter 10, which is part of the Work Area Compliance method.

Regarding changes to the 2012 VEBC:

102.2: With the addition of the new 2015 VCC 103.3, this scoping paragraph can be greatly simplified. This should also avoid future correlation issues since the new 2015 VCC 103.3 can be used to address any amendments of future changes in lieu of also having to amend the VEBC as well.

102.2.1: This maintains Virginia's reluctance of allowing a change of occupancy to an I-2 or I-3. The remainder is copied from 2012 VCC 103.3, Item 1.

102.2.2: Came from 2012 VCC 103.5.

103.2: Since the "greater degree" of the six elements is being proposed to be relocated to the "new" definition of *change of occupancy* (submitted under a separate code change proposal), it can be deleted here. This also removes "technical" provisions out of the "administrative" chapter. Also, you could have a change of occupancy/use without a change in classification, so by deleting "classification" this provision applies to ALL change of occupancies, and not just when

there is a new classification. Below is the revised definition submitted under separate proposal:

CHANGE OF OCCUPANCY. Either of the following shall be considered a change of occupancy where the current VCC requires a greater degree of accessibility, structural strength, fire protection, means of egress, ventilation or sanitation than that which is existing in the current building or structure:

1. Any change in the occupancy classification of any building or structure.
2. Any change in the purpose of, or change in the level of activity within, a building or structure.

NOTE: The use and occupancy classification of a building or structure, or portion thereof, shall be determined in accordance with Chapter 3 of the VCC.

103.5: In order to avoid so many duplications, this proposal provides a "pointer" to VCC Section 113.3.1 which supersedes all other requirements, especially when it comes to inspections.

103.10: Because of the different compliance methods, and the magnitude of the different types of work (repairs, alterations, change of occupancy, etc.) it became imperative that such documents identify which compliance method was selected (otherwise, how would a code official even know how to review it?) and identify how the scope of work is classified (again, otherwise, how would a code official know what was intended to be a repair versus alteration, or what was a Level 1 or Level 2 alteration?). However, an exception was provided from those times the building official deems they are not warranted.

Regarding changes to the 2015 VEBC:

401.3: This provision is unenforceable per VRC 103.6 and VCC 118 and therefore, is deleted. The VEBC is not the vehicle to address SFPC/IFC and/or VMC violations.

401.3: The language came from 2009 VCC 103.5 and 103.9 and 2012 VCC 103.5. The provisions were located here (under "General") to avoid duplicating them under the alteration (403) and repair (404) sections. It brings the 2015 edition closer to the 2009 and prior editions of how Virginia previously dealt with existing buildings, especially as they relate to repairs and alterations. Note this does not apply to additions or a change of occupancy.

402.1: Added "structure" to ensure these provisions apply to "construction" that might be a structure (e.g., billboard) but not a building.

403.1: Added the reference to the new 401.3 to capture the provisions as it relates to alterations and what was previously allowed under the 2009 VCC. Deleted the last sentence because it is now covered by 401.3, Item #1. No changes of the exceptions.

403.4.1, 403.5, 403.6, 403.7, and 403.8: Deletes all of the structural provisions which is consistent with a previous proposal published in the "Proposed Regulations" that deleted the same requirements for bracing and diaphragms from the 2015 IEBC 707.3.

404.1: Added the reference to the new 401.3 to capture the provisions as it relates to alterations and what was previously allowed under the 2009 VCC. Added "structure" to ensure these provisions apply to "construction" that might be a structure (e.g., billboard) but not a building. Provided proper reference to the VCC 108.2, not the IEBC 105.2, which Virginia deleted when it deleted all of Chapter 1 of the IEBC.

407.1: Rewords the charging paragraph so it reads better and uses defined terms and uses the "new" definition of "change of occupancy" to drive conformance requirements. Last sentence is being made into an exception. The term "subject to the approval of the building official" is administrative language and is not enforceable in this instance.

407.1.1: Wording and similar concept / approach as that found in 2012 VRC 1001.2.

407.2: Deleted because such certificates of occupancy requirements are administrative and are governed by Chapters 1 of the VRC and VCC.

407.3: Relocated as Exception #3 under 407.1.

501.2: This is administrative language and has been relocated to VEBC Chapter 1 as the "new" Section 103.10.

1401.1: Deleted duplicated language and revised the reference to the IBC or Chapter 4 - which is what was intended back when there was a Chapter 34 without all of the Virginia deletions. When making the transition from Chapter 34 of the IBC to Chapter 14 of the IEBC, some things were broken.

For example, the 2012 IBC said, "full compliance with Chapters 2 through 33 (clearly meaning the IBC and not Chapters 5 through 13 of the IEBC) - or - Sections 3401.3 and 3403 through 3409, which became the Prescriptive Compliance Method of Chapter 4).

1401.1.1: This was unnecessary language as it is already covered under VEBC Section 301.1.

1401.2: The revisions take us back to the 2009 VCC (and 2012 IBC) and before. When making the transition from Chapter 34 of the IBC to Chapter 14 of the VRC/IEBC, some things became broken (e.g., 3412.2 referenced other sections of Chapter 34 - not Chapters 5-13 of the IEBC. The resultant language more closely matches the 2009 Virginia amendment. There is no need to have the first sentence, which is administrative.

1401.2.1: This provision is applied when the entire building undergoes a change of occupancy - as supported by 1401.2.2 which applies when there is only a partial change of occupancy. It also follows similar protocol as that used in VRC Sections 1012.8.1 and 1012.8.2 when it comes to differentiating between a "complete" or "partial" change of occupancy. Also, changed the terms to a defined term (change of occupancy) that allows this provision to be applied to all changes of occupancy, and not just when the classification was changed.

1401.2.2: How does one know what exactly "greater public safety" means? It is too subjective and can be interpreted differently from code official to code official - not indicative of a "Uniform Statewide" code. This proposal utilizes the term "most restrictive" which is used elsewhere in the codes when deciding how to apply what would be considered varying provisions or how one might interpret a provision.

Cost Impact: None.

Public Comments (0)

Workgroup Recommendation

Workgroup 2 Recommendation Recommendation: Consensus for Approval

Workgroup 2 Reason: strike activities from all uses that follow rehabilitation-approval afterwards

Board Decision

None

Board Decisions

- Approved**
- Approved with Modifications**
- Carryover**
- Disapproved**
- None**

R-102.2 cdpVA-15

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R-301.1.1 cdpVA-15

Proponent : Kenney Payne, Representing AIA-VA
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2015 International Existing Building Code

301.1.1 Prescriptive compliance method. *Repairs, alterations, additions and changes of occupancy* complying with Chapter 4 of this code ~~in buildings complying with the *International Fire Code* shall be considered in compliance with the provisions of this code.~~

~~**302.2 Additional codes.** *Alterations, repairs, additions and changes of occupancy to, or relocation of, existing buildings and structures shall comply with the provisions for alterations, repairs, additions and changes of occupancy or relocation, respectively, in this code and the *International Energy Conservation Code, International Fire Code, International Fuel Gas Code, International Mechanical Code, International Plumbing Code, International Property Maintenance Code, International Private Sewage Disposal Code, International Residential Code* and NFPA 70. Where provisions of the other codes conflict with provisions of this code, the provisions of this code shall take precedence.*~~

1012.5.1.1 Fire wall alternative. In other than Groups H, F-1 and S-1, fire barriers and horizontal assemblies constructed in accordance with Sections 707 and 711, respectively, of the *International Building Code* shall be permitted to be used in lieu of fire walls to subdivide the building into separate buildings for the purpose of complying with the area limitations required for the new occupancy where all of the following conditions are met:

1. The buildings are protected throughout with an automatic sprinkler system in accordance with Section 903.3.1.1 of the *International Fire Building Code*.
 2. The maximum allowable area between fire barriers, horizontal assemblies, or any combination thereof shall not exceed the maximum allowable area determined in accordance with Chapter 5 of the *International Building Code* without an increase allowed for an automatic sprinkler system in accordance with Section 506 of the *International Building Code*.
 3. The fire-resistance rating of the fire barriers and horizontal assemblies shall be not less than that specified for fire walls in Table 706.4 of the *International Building Code*.
- **Exception:** Where horizontal assemblies are used to limit the maximum allowable area, the required fireresistance rating of the horizontal assemblies shall be permitted to be reduced by 1 hour provided the height and number of stories increases allowed for an automatic sprinkler system by Section 504 of the *International Building Code* are not used for the buildings.

1301.2 Conformance. ~~The building shall be safe for human occupancy as determined by the *International Fire Code* and the *International Property Maintenance Code*. Any repair, alteration, or change of occupancy undertaken within the moved structure~~

shall comply with the requirements of this code applicable to the work being performed. Any field-fabricated elements shall comply with the requirements of the *International Building Code* or the *International Residential Code* as applicable.

~~**1401.3.2 Compliance with other codes.** Buildings that are evaluated in accordance with this section shall comply with the *International Fire Code* and *International Property Maintenance Code*.~~

1401.6.8.1 Categories. The categories for automatic fire detection are:

1. Category a—None.
2. ~~Category b—Existing smoke detectors in HVAC systems and maintained in accordance with the *International Fire Code*.~~
2. Category b—Existing smoke detectors in HVAC systems.
3. Category c—Smoke detectors in HVAC systems. The detectors are installed in accordance with the requirements for new buildings in the *International Mechanical Code*.
4. Category d—Smoke detectors throughout all floor areas other than individual sleeping units, tenant spaces and dwelling units.
5. Category e—Smoke detectors installed throughout the floor area.
6. Category f—Smoke detectors in corridors only.

1401.6.14 Elevator control. Evaluate the passenger elevator equipment and controls that are available to the fire department to reach all occupied floors. Emergency recall and in-car operation of elevators shall be provided in accordance with the ~~*International Fire Code*~~ building code under which the building or the affected portion thereof was constructed or previously approved. Under the categories and occupancies in Table 1401.6.14, determine the appropriate value and enter that value into Table 1401.7 under Safety Parameter 1401.6.14, Elevator Control, for fire safety, means of egress and general safety. The values shall be zero for a single-story building.

1401.6.14.1 Categories. The categories for elevator controls are:

1. Category a—No elevator.
2. Category b—Any elevator without Phase I emergency recall operation and Phase II emergency in-car operation.
3. Category c—All elevators with Phase I emergency recall operation and Phase II emergency in-car operation as required by the ~~*International Fire Code*~~ building code under which the building or the affected portion thereof was constructed or previously approved.
4. Category d—All meet Category c; or Category b where permitted to be without Phase I emergency recall operation and Phase II emergency in-car operation; and at least one elevator that complies with new construction requirements serves all occupied floors.

[F] 1504.1 Where required. All structures under construction, *alteration*, or demolition shall be provided with not less than one approved portable fire extinguisher in accordance with Section 906 of the *International Fire Building Code* and sized for not less than ordinary hazard as follows:

1. At each stairway on all floor levels where combustible materials have accumulated.
2. In every storage and construction shed.
3. Additional portable fire extinguishers shall be provided where special hazards exist including, but not limited to, the storage and use of flammable and combustible liquids.

Reason: Various references to the *International Fire Code* are deleted when it is used in the context of "new" construction - which in these cases should be governed by the current *building* code and not the *fire* code. In some cases, such elements should be based on when the building was built and not based on the most recent version of the IFC.

302.2 is proposed to be deleted in its entirety because it is already covered by VRC 101.5, 101.6, 101.7, and 103.1; as well as, VCC 101.2, 101.5, 101.6, and 101.7 - and because the *administrative* (Chapter 1) requirements supercedes the *technical* (Chapter 3) requirements.

1301.2 is proposed to be deleted because the VRC is not a maintenance code (where such references are considered invalid per VRC 103.6) and because such "unsafe" or "dangerous" provisions are already addressed in the VMC and/or SFPC. The VRC is not the code to be used to determine or address unsafe or dangerous conditions.

1401.3.2 is proposed to be deleted because such buildings should not be evaluated per the IFC or VMC, but per the VRC.

Cost Impact: None.

Public Comments (0)

Workgroup Recommendation

Workgroup 2 Recommendation Recommendation: Consensus for Approval

Workgroup 2 Reason: Combined workgroups 1, 2, 3, and 4 meeting.

Board Decision

None

Board Decisions

- Approved**
- Approved with Modifications**
- Carryover**
- Disapproved**
- None**

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R-302.3 cdpVA-15

Proponent : Kenney Payne (kpayne@moseleyarchitects.com)

2015 International Existing Building Code

302.3 Existing materials. Materials already in use in a building in compliance with requirements or approvals in effect at the time of their erection or installation shall be permitted to remain in use unless ~~determined by the building official to be unsafe.~~ IBC would not permit their use in buildings or structures, or portions thereof, of similar occupancy, purpose and location.

302.4 New and replacement materials. Except as otherwise required or permitted by this code, materials permitted by the applicable code for new construction shall be used. Like materials shall be permitted for *repairs* and *alterations*, provided no ~~unsafe condition~~ hazard to life, health or property is created. Hazardous materials shall not be used where the ~~code for new construction~~ IBC would not permit their use in buildings or structures, or portions thereof, of similar occupancy, purpose and location.

401.2 Building materials and systems. Building materials and systems shall comply with the requirements of Sections 302.3, 302.4, and this section.

~~**401.2.1 Existing materials.** Materials already in use in a building in compliance with requirements or approvals in effect at the time of their erection or installation shall be permitted to remain in use unless determined by the building official to be unsafe per Section 115.~~

~~**401.3 Dangerous conditions.** The building official shall have the authority to require the elimination of conditions deemed *dangerous*.~~

404.1 General. Buildings and structures, and parts thereof, shall be repaired in compliance with Sections 401.2 and 404. Work on nondamaged components that is necessary for the required *repair* of damaged components shall be considered part of the *repair* and shall not be subject to the requirements for *alterations* in this chapter. Routine maintenance required by Section 401.2, ordinary repairs exempt from permit in accordance with VCC Section 105.2108.2, and abatement of wear due to normal service conditions shall not be subject to the requirements for repairs in this section.

~~**602.1 Existing building**~~**Building materials and systems.** ~~Materials already in use in a building in compliance~~ Building materials and systems shall comply with requirements or approvals in effect at the time ~~requirements~~ of their erection or installation shall be permitted to remain in use unless determined by the code official to render the building or structure unsafe or dangerous as defined in Chapter 2. Sections 302.3, 302.4, and this section.

~~**602.2 New and replacement materials.** Except as otherwise required or permitted by this code, materials permitted by the applicable code for new construction shall be used. Like materials shall be permitted for *repairs* and *alterations*, provided no *dangerous* or *unsafe* condition, as defined in Chapter 2, is created. Hazardous materials, such as asbestos and lead-based paint, shall not be used where the code for new construction would not permit their use in buildings of similar occupancy, purpose and location.~~

~~**[BS] 606.1 General.** Structural repairs shall be in compliance with this section and Section 601.2. Regardless of the extent of structural or nonstructural damage, *dangerous* conditions shall be eliminated. Regardless of the scope of *repair*, new structural members and connections used for *repair* or *rehabilitation* shall comply with the detailing provisions of the *International Building Code* for new buildings of similar structure, purpose and location.~~

~~**1008.2 Unsafe conditions.** Where the occupancy of an *existing building* or part of an *existing building* is changed, all unsafe conditions shall be corrected without requiring that all parts of the electrical system comply with NFPA 70.~~

~~**1202.2 Unsafe conditions.** Conditions determined by the *code official* to be *unsafe* shall be remedied. No work shall be required beyond what is required to remedy the *unsafe* conditions.~~

~~**[BS] 1206.2 Dangerous conditions.** Conditions determined by the *code official* to be *dangerous* shall be remedied. No work shall be required beyond what is required to remedy the *dangerous* condition.~~

~~**1401.3.1 Hazards.** Where the *code official* determines that an unsafe condition exists as provided for in Section 115, such unsafe condition shall be abated in accordance with Section 115.~~

Reason: Per 2012 VRC 103.6, all references to "dangerous" and/or "unsafe" conditions in the technical provisions are not valid. Also, the VRC is not the vehicle to require such fixes, only the VMC, SFPC, or other legal means shall be used. IN other words, it is not the intent of the VRC to allow a code official to fix unsafe and/or dangerous conditions through the VRC.

Regarding 401.2.1, 602.1, and 602.2: These sections duplicate (although not exactly - and that is part of the problem when provisions are duplicated, they do not always say the exact same thing) what is already covered in Chapter 3 - which applies to ALL compliance methods and Section 302 - which applies to ALL classifications of work. However, "pointers" are provided to ensure Section 302 is complied with.

The term "code for new construction" has been replaced with "IBC" since technically, the VRC also includes and provides for "new construction" but the intent is clearly meant to mean the IBC.

Regarding 404.1: Appropriate cross reference was correlated to the VCC.

Cost Impact: None.

Public Comments (0)

Workgroup Recommendation

Workgroup 2 Recommendation Recommendation: Consensus for Approval

Workgroup 2 Reason: Combined workgroups 1, 2, 3, and 4 meeting.

Board Decision

None

Board Decisions

- Approved
- Approved with Modifications
- Carryover
- Disapproved
- None

R-302.3 cdpVA-15

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R-302.6 cdpVA-15

Proponent : Ronald Clements, Jr (clementsro@chesterfield.gov)

2012 Virginia Construction Code

103.5 Reconstruction, alteration or repair in Group R-5 occupancies. The following criteria is applicable to reconstruction, alteration or repair of Group R-5 buildings or structures:

1. Any reconstruction, alteration or repair shall not adversely affect the performance of the building or structure, or cause the building or structure to become unsafe or lower existing levels of health and safety.
2. Parts of the building or structure not being reconstructed, altered or repaired shall not be required to comply with the requirements of this code applicable to newly constructed buildings or structures.
3. The installation of material or equipment, or both, that is neither required nor prohibited shall only be required to comply with the provisions of this code relating to the safe installation of such material or equipment.
4. Material or equipment, or both, may be replaced in the same location with material or equipment of a similar kind or capacity.

5. In accordance with Section 36-99.2 of the Code of Virginia, any replacement glass installed in buildings constructed prior to the first edition of the USBC shall meet the quality and installation standards for glass installed in new buildings as are in effect at the time of installation. In addition, as a requirement of this code, the installation or replacement of glass in buildings constructed under any edition of the USBC shall be as required for new installations.

Exceptions:

1. This section shall not be construed to permit noncompliance with any applicable flood load or flood-resistant construction requirements of this code.
2. Reconstructed decks, balconies, porches and similar structures located 30 inches (762 mm) or more above grade shall meet the current code provisions for structural loading capacity, connections and structural attachment. This requirement excludes the configuration and height of handrails and guardrails.
3. Compliance with the VRC shall be an acceptable alternative to compliance with this section at the discretion of the owner or owner's agent.

2012 Virginia Rehabilitation Code

~~1701.17302.6~~ Standards for replacement glass.

In accordance with Section 36-99.2 of the Code of Virginia, any replacement glass

installed in buildings constructed prior to the first edition of the USBC shall meet the quality and installation standards for glass installed in new buildings as are in effect at the time of installation. In addition, as a requirement of this code, the installation or replacement of glass in buildings constructed under any edition of the USBC shall be as required for new installations.

2015 International Existing Building Code

~~SECTION 406 GLASS REPLACEMENT AND REPLACEMENT WINDOWS~~

~~**406.1 Replacement glass.** The installation or replacement of glass shall be as required for new installations.~~

~~**602.3 Glazing in hazardous locations.** Replacement glazing in hazardous locations shall comply with the safety glazing requirements of the *International Building Code* or *International Residential Code* as applicable.~~

~~**Exception:** Glass block walls, louvered windows, and jalousies repaired with like materials.~~

Reason: The provisions of COV 36-99.2 and VRC section 1701.17 are applicable to the replacement of glass. These provisions are not retrofit provisions because they do not require glazing to be replaced unless the building owner intends to replace the glass. Replacement of glass is either a repair or alteration regulated by the VRC or IRC. Since the requirement for replacement glass applies regardless of the compliance method selected the proper location for this Virginia amendment is VRC section 302, and VCC103.5 for one and two family dwellings.

Cost Impact: This proposal is not changing a code requirement it is changing the location of an existing requirement; therefore, there is no cost impact.

Public Comments (0)

Workgroup Recommendation

Workgroup 2 Recommendation Recommendation: Consensus for Approval

Workgroup 2 Reason: Combined workgroups 1, 2, 3, and 4 meeting.

Board Decision

None

Board Decisions

- Approved
- Approved with Modifications
- Carryover

- Disapproved**
- None**

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R-403.1 cdpVA-15

Proponent : Kenney Payne, Representing AIA-VA
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2015 International Existing Building Code

403.1 General. Except as provided by Section 401.2 or this section, *alterations* to any building or structure shall comply with the requirements of the *International Building Code* for new construction. *Alterations* shall be such that the *existing building* or structure is no less conforming to the provisions of the *International Building Code* than the *existing building* or structure was prior to the *alteration*.

- **Exceptions:**

1. ~~An~~Any stairway replacing an existing stairway shall not be required to comply with the requirements of Section 1011 of the *International Building Code* where the existing space and construction does not allow a reduction in pitch or slope.
2. ~~Handrails~~New handrails otherwise required to comply with Section 1011.11 of the *International Building Code* shall not be required to comply with the requirements of Section 1014.6 of the *International Building Code* regarding full extension of the handrails where such extensions would be hazardous due to plan configuration.

Reason: As written, it could be interpreted that an existing stairway would be required to be replaced unless the existing space did not allow such a new stairway, or existing handrails would need to be replaced. The intent is not to require replacement, as confirmed by the Code Commentary, but only IF replacing such elements, then the exceptions might apply.

The proposed language for Exception #1 is similar to that used under VRC Sections 1012.4.1, Exception 3 and 1012.4.2, Exception.

Cost Impact: Potential **COST SAVINGS** if it is interpreted that all existing stairways and/or handrails must be replaced.

Public Comments (0)

Workgroup Recommendation

Workgroup 2 Recommendation Recommendation: Consensus for Approval

Workgroup 2 Reason: Combined workgroups 1, 2, 3, and 4 meeting.

Board Decision

None

Board Decisions

- Approved**
- Approved with Modifications**
- Carryover**
- Disapproved**
- None**

R-403.1 cdpVA-15

R-405.1.1 cdpVA-15

Proponent : Kenney Payne, Representing AIA-VA
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2015 International Existing Building Code

~~405.1.1 New buildings. Fire escapes shall not constitute any part of the required means of egress in new buildings.~~

405.1.3 New fire escapes. New

Newly constructed fire escapes for *existing buildings* shall be permitted only where exterior stairways cannot be utilized due to lot lines limiting stairway size or due to the sidewalks, alleys or roads at grade level. New fire escapes shall not incorporate ladders or access by windows.

Exception: Fire escapes that are replaced or repaired shall only be required to comply with Sections 405.2 and 405.3 if feasible, and if not feasible, to the greatest extent possible.

~~405.5 Opening protectives. Doors and windows along the~~
Openings within 10 feet (3048 mm) of newly constructed fire escape stairways shall be protected with by fire assemblies having minimum³ /4 -hour opening protectives-fireresistance ratings.

Exception: Opening protection shall not be required in buildings equipped throughout with an approved automatic sprinkler system.

805.3.1.2 Fire escapes required. For other than Group I-2, where more than one exit is required, ~~an existing or newly constructed fire escape~~escapes complying with Section 805.3.1.2.1 shall be accepted as providing one of the required means of egress. Replacement fire escapes or existing fire escapes undergoing repairs shall comply with Sections 805.3.1.2.2 and 805.3.1.2.3 if feasible, and if not feasible, such that the replaced or repaired fire escape is not less safe than its existing condition.

805.3.1.2.1 Fire escape access and details. Fire

Newly constructed fire escapes shall comply with all of the following requirements:

1. Occupants shall have unobstructed access to the fire escape without having to pass through a room subject to locking.
2. Access to a new fire escape shall be through a door, except that windows shall be permitted to provide access from single dwelling units or sleeping units in Group R-1, R-2 and I-1 occupancies or to provide access from spaces having a maximum occupant load of 10 in other occupancy classifications.
 - 2.1. The window shall have a minimum net clear opening of 5.7 square feet (0.53 m²) or 5 square feet (0.46 m²) where located at grade.

- 2.2. The minimum net clear opening height shall be 24 inches (610 mm) and net clear opening width shall be 20 inches (508 mm).
- 2.3. The bottom of the clear opening shall not be greater than 44 inches (1118 mm) above the floor.
- 2.4. The operation of the window shall comply with the operational constraints of the *International Building Code*.
- 2.5. Newly constructed fire escapes shall be permitted only where exterior stairways cannot be utilized because of lot lines limiting the stairway size or because of the sidewalks, alleys, or roads at grade level.
- 2.6. Openings within 10 feet (3048 mm) of fire escape stairways shall be protected by fire assemblies having minimum $3/4$ -hour fire-resistance ratings.
 - **Exception:** Opening protection shall not be required in buildings equipped throughout with an approved automatic sprinkler system.
- 2.7. In all buildings of Group E occupancy, up to and including the 12th grade, buildings of Group I occupancy, rooming houses and childcare centers, ladders of any type are prohibited on fire escapes used as a required means of egress.

Reason: Regarding 405.1.1: Such "new building" provisions are not necessary in an "existing" building code, otherwise, you could include such language throughout the entire VRC/IEBC. Regarding 405.1.3, 805.3.1.2, and 805.3.1.2.1: The original provision does not take into account if you are just replacing or repairing an existing fire escape. As currently written, if you wanted to replace an existing fire escape, you probably could not do it under the current requirements (e.g., lot lines). As currently written, if you wanted to repair (which technically is "new" construction) an existing fire escape, one might have the same interpretation as above.

For example, say an existing fire escape is in a less than great condition (but still functional) and the owner simply wants to replace it. Now they could not access it with windows (e.g., per 405.1.3) - thus, possibly requiring a new door be cut into the existing exterior wall (which may be impossible due to the existing plan layout) and/or protect all of the existing doors and/or windows along the "old" fire escape (e.g., per 405.5). That would not "incentivize" its replacement nor comply with the purpose of the VRC per VRC 102.1. Also, as written, it could be interpreted that all doors and windows along existing fire escapes would be required to be protected. That is not the intent.

This proposal clarifies that the current VRC provisions only apply to a "newly constructed" (which is the term used in VRC 805.3.1.2.1, Item #4) or completely new fire escape that would be constructed in front of existing doors and/or windows and if it is a replacement fire escape, it would still need to comply with the construction (405.3 and 805.3.1.2.2) and dimension (405.4 and 805.3.1.2.3) requirements to the greatest extent possible while not making it less safe than existed prior to the rehabilitation.

Under this proposal, any repaired or replacement fire escape would end up being "safer today than it was yesterday".

Regarding 405.5: This was revised to mimic the fire escape language used in VRC 805.3.1.2.1, including allowing for the sprinkler exception / incentive. This also makes it consistent with Section 1022.7 of the IBC with regards to exit stairways.

Cost Impact: If 405.5 and/or 805.3.1.2.1 are interpreted as requiring such existing doors and windows to be protected regardless of whether there is any work being proposed at an existing

fire escape, then this would result in **COST SAVINGS**. If 405.5 and/or 805.3.1.2.1 are interpreted as requiring such existing doors and windows to be protected when repairing or replacing an existing fire escape, then this would result in **COST SAVINGS**.

Public Comments (1)

By **James Dawson**
03-23-2017 10:43:56

I have a concern with the exception to 405.1.3. What criteria will be used to determine the feasibility of repair or replacement of an existing fire escape? It seems that this could simply be used to eliminate the escape rather than repair or replace an existing means of egress without clear and objective criteria or the addition of an alternative means of egress.

Workgroup Recommendation

Workgroup 2 Recommendation Recommendation: Consensus for Approval

Workgroup 2 Reason: Combined workgroups 1, 2, 3, & 4 meeting
Consensus of approval with revisions

Board Decision

None

Board Decisions

- Approved**
- Approved with Modifications**
- Carryover**
- Disapproved**
- None**

R-405.1.1 cdpVA-15

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R-408.1 cdpVA-15

Proponent : Kenney Payne, Representing AIA-VA
(kpayne@moseleyarchitects.com)

2015 International Existing Building Code

408.1 Historic buildings. ~~The provisions of this code that require improvements relative relating to a building's existing condition or, in the case of repairs, that require improvements relative to a building's predamage condition, construction involving historic buildings shall not be mandatory for historic buildings unless specifically required by this section.~~ such construction constitutes a life safety hazard.

408.2 Life safety hazardsReport. ~~The provisions of this code shall apply to historic buildings judged by the building official shall be permitted to constitute~~ require that a distinct life safety hazard.historic building undergoing repair, alteration or change of occupancy be investigated and evaluated by an RDP or other qualified person or agency as a condition of determining compliance with this code.

Reason: Regarding 408.1: The term "improvements" is not a defined term. Also, there are no provisions in the code that "require" improvements unless some form of construction is undertaken. However, this "section" does not actually "require" anything; thus, It creates a circular provision. The proposed language is similar to the language used under the 2012 VRC 408.1.

Regarding 408.2: Per 2012 VRC 103.6, as an administrative provision, this provision is not enforceable when it comes to unsafe or dangerous conditions. The intent is NOT to use the VRC to address such conditions, but to use the VMC, SFPC, or other legal means. Therefore, this proposal replaces the original text with the Virginia amendment that was inserted into Chapter 12 for Historic buildings, allowing the code official to require such report under this compliance method as well.

Cost Impact: None.

Public Comments (0)

Workgroup Recommendation

Workgroup 2 Recommendation Recommendation: Consensus for Approval

Workgroup 2 Reason: Combined workgroups 1, 2, 3, & 4 meeting
Consensus for approval with striking "distinct"

Board Decision

None

Board Decisions

- Approved**
- Approved with Modifications**
- Carryover**
- Disapproved**
- None**

R-408.1 cdpVA-15

R-410.1 cdpVA-15

Proponent : Kenney Payne, Representing AIA-VA
(kpayne@moseleyarchitects.com)

2015 International Existing Building Code

410.4 Change of occupancy. Existing buildings that undergo a change of ~~group or~~ occupancy shall comply with this section.

- **Exception:** Type B dwelling or sleeping units required by Section 1107 of the *International Building Code* are not required to be provided in existing buildings and facilities undergoing a *change of occupancy* in conjunction with *alterations* where the *work area* is 50 percent or less of the aggregate area of the building.

410.4.2 Complete change of occupancy. Where an entire building undergoes a *change of occupancy*, it shall comply with Section 410.4.1 and shall have all of the following accessible features:

1. At least one accessible building entrance.
2. At least one accessible route from an accessible building entrance to *primary function* areas.
3. Signage complying with Section 1111 of the *International Building Code*.
4. Accessible parking, where parking is being provided.
5. At least one accessible passenger loading zone, when loading zones are provided.
6. At least one accessible route connecting accessible parking and accessible passenger loading zones to an accessible entrance.

Where it is *technically infeasible* to comply with the new construction standards for any of these requirements for a *change of ~~group or~~ occupancy*, the above items shall conform to the requirements to the maximum extent technically feasible.

- **Exception:** The accessible features listed in Items 1 through 6 are not required for an accessible route to Type B units.

410.6 Alterations. A *facility* that is altered shall comply with the applicable provisions in Chapter 11 of the *International Building Code* except as modified by Sections 410.7 and 410.8, unless *technically infeasible*. Where compliance with this section is *technically infeasible*, the *alteration* shall provide access to the maximum extent technically feasible.

- **Exceptions:**
 1. The altered element or space is not required to be on an accessible route, unless required by Section 410.7.
 2. Accessible means of egress required by Chapter 10 of the *International Building Code* are not required to be provided in existing facilities.

3. The alteration to Type A individually owned dwelling units within a Group R-2 occupancy shall be permitted to meet the provision for a Type B dwelling unit.
4. Type B dwelling or sleeping units required by Section 1107 of the *International Building Code* are not required to be provided in *existing buildings* and facilities undergoing a *change of occupancy* in conjunction with *alterations* where the *work area* is 50 percent or less of the aggregate area of the building.

410.7 Alterations affecting an area containing a primary function. Where an *alteration* affects the accessibility to, or contains an area of *primary function*, the route to the *primary function* area shall be *accessible*. The accessible route to the *primary function* area shall include toilet facilities and drinking fountains that shall also be accessible to and useable by individuals with disabilities, serving the area of *primary function*.

• **Exceptions:**

1. The costs of providing the *accessible* route are not required to exceed 20 percent of the costs of the *alterations* affecting the area of *primary function*.
2. This provision does not apply to *alterations* limited solely to windows, hardware, operating controls, electrical outlets and signs.
3. This provision does not apply to *alterations* limited solely to mechanical systems, electrical systems, installation or *alteration* of fire protection systems and abatement of hazardous materials.
4. This provision does not apply to *alterations* undertaken for the primary purpose of increasing the accessibility of a *facility*.
5. This provision does not apply to altered areas limited to Type B dwelling and sleeping units.

705.2 Alterations affecting an area containing a primary function. Where an *alteration* affects the accessibility to a, or contains an area of, *primary function*, the route to the primary function area shall be accessible. The accessible route to the *primary function* area shall include toilet facilities and drinking fountains that shall also be accessible to and useable by individuals with disabilities, serving the area of *primary function*.

• **Exceptions:**

1. The costs of providing the accessible route are not required to exceed 20 percent of the costs of the alterations affecting the area of *primary function*.
2. This provision does not apply to *alterations* limited solely to windows, hardware, operating controls, electrical outlets and signs.
3. This provision does not apply to *alterations* limited solely to mechanical systems, electrical systems, installation or *alteration* of fire protection systems and abatement of hazardous materials.
4. This provision does not apply to *alterations* undertaken for the primary purpose of increasing the accessibility of a *facility*.

5. This provision does not apply to altered areas limited to Type B dwelling and sleeping units.

Reason: Based on questions fielded during multiple presentations of this code to various code enforcement personnel, including the Code Academy Training Modules, it became apparent that some clarifications were required when dealing with accessibility in existing buildings, especially as it related to the route to primary function areas.

Regarding 410.4 and 410.4.2: These were revised to a defined term - change of occupancy - which already captures a change of group.

Regarding 410.6: Clarification was needed so one knows that Sections 410.7 and 410.8 serve as "exceptions" to having to fully comply with the IBC and A117.1. This is consistent with the IEBC Commentary and the provision's intent.

Regarding 410.7 and 705.2: As currently written, the toilet facilities and drinking fountains along the accessible route are NOT required to be accessible (even though the 2012 Commentary suggests they are required to be accessible - see below). This code change reinforces what apparently the IBC and Commentary intended - and many building officials were already enforcing.

2012 Commentary language: *In addition, any toilet rooms and drinking fountains serving the primary function area **must also be made accessible**, even though such facilities and areas may not by themselves be considered primary function areas. This would include providing an accessible route to the toilet rooms and drinking fountains, **as well as altering the existing toilet room, fixtures within the room and drinking fountains to meet accessibility requirements.***

Also, it is the desire of the VBCOA Rehab Code Committee to require such toilet facilities and/or drinking fountains to be accessible.

Cost Impact: Depending on how it is/was interpreted, it may **INCREASE** costs to provide accessible toilet facilities and/or accessible drinking fountain(s). However, the 20% rule could still be applied to cap the potential cost impact.

Workgroup Recommendation

Workgroup 2 Recommendation Recommendation: Consensus for Approval

Workgroup 2 Reason: Combined workgroups 1, 2, 3, & 4 meeting

Board Decision

None

Board Decisions

- Approved**
- Approved with Modifications**
- Carryover**
- Disapproved**
- None**

R-410.1 cdpVA-15

R-708.1 cdpVA-15

Proponent : Bob Orr, Representing VBCOA VRC Committee
(borr@culpepercounty.gov)

2015 International Existing Building Code

708.1 Minimum requirements. Level 1 *alterations to existing buildings* or structures are permitted without requiring the entire building or structure to comply with the energy requirements of the *International Energy Conservation Code* or *International Residential Code*. The *alterations* shall conform to the energy requirements of the *International Energy Conservation Code* or *International Residential Code* as they relate to new construction only.

Exception: Except for fixed and operable fenestration, like materials, assemblies or thicknesses shall be permitted for alterations involving the exterior building thermal envelope, provided no hazard to life, health or property is created. Hazardous materials shall not be used where the code for new construction would not permit their use in buildings of similar occupancy, purpose and location.

811.1 Minimum requirements. Level 2 *alterations to existing buildings* or structures are permitted without requiring the entire building or structure to comply with the energy requirements of the *International Energy Conservation Code* or *International Residential Code*. The *alterations* shall conform to the energy requirements of the *International Energy Conservation Code* or *International Residential Code* as they relate to new construction only.

Exception: Except for fixed and operable fenestration, like materials, assemblies or thicknesses shall be permitted for alterations involving the exterior building thermal envelope, provided no hazard to life, health or property is created. Hazardous materials shall not be used where the code for new construction would not permit their use in buildings of similar occupancy, purpose and location.

908.1 Minimum requirements. Level 3 *alterations to existing buildings* or structures are permitted without requiring the entire building or structure to comply with the energy requirements of the *International Energy Conservation Code* or *International Residential Code*. The *alterations* shall conform to the energy requirements of the *International Energy Conservation Code* or *International Residential Code* as they relate to new construction only.

Exception: Except for fixed and operable fenestration, like materials, assemblies or thicknesses shall be permitted for alterations involving the exterior building thermal envelope, provided no hazard to life, health or property is created. Hazardous materials shall not be used where the code for new construction would not permit their use in buildings of similar occupancy, purpose and location.

Reason: When replacing insulation in the thermal envelope, the energy requirement demands the affected area be in compliance with the International Energy Conservation Code. The negative effect resulting in having to increase the thickness of the wall or roof framing to satisfy the depth of the insulation for proper installation. This would discourage rehabilitation of many older structures and contrary to the intent set forward by the Virginia Legislative body.

Cost Impact: This would be a cost savings.

Public Comments (0)

Workgroup Recommendation

Workgroup 2 Recommendation Recommendation: Consensus for Approval

Workgroup 2 Reason: None

Board Decision

None

Board Decisions

- Approved**
- Approved with Modifications**
- Carryover**
- Disapproved**
- None**

R-708.1 cdpVA-15

R-803.2.1 cdpVA-15

Proponent : Kenney Payne, Representing AIA-VA
(kpayne@moseleyarchitects.com)

2015 International Existing Building Code

803.2.1 Existing vertical openings. ~~All existing~~

Existing interior vertical openings connecting two or more floors shall be enclosed with approved assemblies having a fire-resistance rating of not less than 1 hour with approved opening protectives.

- **Exceptions:**

1. Where vertical opening enclosure is not required by the *International Building Code* or the *International Fire Code*.
2. Interior vertical openings other than stairways may be blocked at the floor and ceiling of the *work area* by installation of not less than 2 inches (51 mm) of solid wood or equivalent construction.
3. The enclosure shall not be required where:
 - 3.1. Connecting the main floor and mezzanines; or
 - 3.2. All of the following conditions are met:
 - 3.2.1. The communicating area has a low hazard occupancy or has a moderate hazard occupancy that is protected throughout by an automatic sprinkler system.
 - 3.2.2. The lowest or next to the lowest level is a street floor.
 - 3.2.3. The entire area is open and unobstructed in a manner such that it may be assumed that a fire in any part of the interconnected spaces will be readily obvious to all of the occupants.
 - 3.2.4. Exit capacity is sufficient to provide egress simultaneously for all occupants of all levels by considering all areas to be a single floor area for the determination of required exit capacity.
 - 3.2.5. Each floor level, considered separately, has at least one-half of its individual required exit capacity provided by an exit or exits leading directly out of that level without having to traverse another communicating floor level or be exposed to the smoke or fire spreading from another communicating floor level.
4. In Group A occupancies, a minimum 30-minute enclosure shall be provided to protect all vertical openings not exceeding three stories.
5. In Group B occupancies, a minimum 30-minute enclosure shall be provided to protect all vertical openings not exceeding three stories. This enclosure, or the enclosure specified in Section 803.2.1, shall not be required in the following locations:
 - 5.1. Buildings not exceeding 3,000 square feet (279 m²) per floor.

- 5.2. Buildings protected throughout by an approved automatic fire sprinkler system.
6. In Group E occupancies, the enclosure shall not be required for vertical openings not exceeding three stories when the building is protected throughout by an approved automatic fire sprinkler system.
7. In Group F occupancies, the enclosure shall not be required in the following locations:
 - 7.1. Vertical openings not exceeding three stories.
 - 7.2. Special purpose occupancies where necessary for manufacturing operations and direct access is provided to at least one protected stairway.
 - 7.3. Buildings protected throughout by an approved automatic sprinkler system.
8. In Group H occupancies, the enclosure shall not be required for vertical openings not exceeding three stories where necessary for manufacturing operations and every floor level has direct access to at least two remote enclosed stairways or other approved exits.
9. In Group M occupancies, a minimum 30-minute enclosure shall be provided to protect all vertical openings not exceeding three stories. This enclosure, or the enclosure specified in Section 803.2.1, shall not be required in the following locations:
 - 9.1. Openings connecting only two floor levels.
 - 9.2. Occupancies protected throughout by an approved automatic sprinkler system.
10. In Group R-1 occupancies, the enclosure shall not be required for vertical openings not exceeding three stories in the following locations:
 - 10.1. Buildings protected throughout by an approved automatic sprinkler system.
 - 10.2. Buildings with less than 25 dwelling units or sleeping units where every sleeping room above the second floor is provided with direct access to a fire escape or other approved second exit by means of an approved exterior door or window having a sill height of not greater than 44 inches (1118 mm) and where:
 - 10.2.1. Any exit access corridor exceeding 8 feet (2438 mm) in length that serves two means of egress, one of which is an unprotected vertical opening, shall have at least one of the means of egress separated from the vertical opening by a 1-hour fire barrier; and
 - 10.2.2. The building is protected throughout by an automatic fire alarm system, installed and supervised in accordance with the *International Building Code*.
11. In Group R-2 occupancies, a minimum 30-minute enclosure shall be provided to protect all vertical openings not exceeding three stories. This enclosure, or the enclosure specified in Section 803.2.1, shall not be required in the following locations:
 - 11.1. Vertical openings not exceeding two stories with not more than four dwelling units per floor.
 - 11.2. Buildings protected throughout by an approved automatic

sprinkler system.

- 11.3. Buildings with not more than four dwelling units per floor where every sleeping room above the second floor is provided with direct access to a fire escape or other approved second exit by means of an approved exterior door or window having a sill height of not greater than 44 inches (1118 mm) and the building is protected throughout by an automatic fire alarm system complying with Section 804.4.
12. One- and two-family dwellings.
13. Group S occupancies where connecting not more than two floor levels or where connecting not more than three floor levels and the structure is equipped throughout with an approved automatic sprinkler system.
14. Group S occupancies where vertical opening protection is not required for open parking garages and ramps.

Reason: The term "All" is causing confusion because VRC 803.1 limits the scope to "work areas . . . and beyond the work area where specified" yet VRC 803.2.1 says "All." So, is it "all" within a work area or "all" within a building? The 2012 IEBC Commentary says it means "all" within a work area. The relevant Commentary portions are provided below:

*For 803.1: This section provides the scoping provisions for vertical openings . . . by requiring that the **work areas must comply with this section.***

*For 803.2.1: Additionally, the user should remember the scoping provisions of Section 803.1, which indicates that the enclosure requirements triggered under Level 2 alterations **apply only to work areas.***

Further confusion is caused because VRC 903.1 also references VRC 803.2.1 which requires enclosure from the highest work area floor down. However, VRC 803.1.2 says "all." So, which is it? "All" in the building or "all" on the highest work area floor? The intent is to require all of those on the floor to comply.

It is further complicated because VRC 1012.4.1, Exception 1 references VRC 903.1 which references VRC 803.2.1 which requires "all" stairs to be enclosed, yet VRC 1012.4.1 only deals with a change of occupancy not an alteration. So, do I enclose "all" or not?

By deleting the term "all," it allows the scoping paragraphs within each Chapter or Section to dictate how to handle such enclosures. So, now VRC 803.1 limits the scope to enclose a stair to "work areas" and beyond; VRC 903.1 dictates enclosures are required from the highest work area floor down; and VRC 1012.4.1 dictates enclosures are required throughout when you have a change of occupancy to a higher hazard.

Cost Impact: Could result in potential **COST SAVINGS** if interpreted that "all" existing stairways were required to be enclosed, regardless of the scoping requirements.

Public Comments (0)

Workgroup Recommendation

Workgroup 2 Recommendation Recommendation: Consensus for Approval

Board Decision

None

Board Decisions

- Approved**
- Approved with Modifications**
- Carryover**
- Disapproved**
- None**

R-803.2.1 cdpVA-15

R-804.4.1 cdpVA-15

Proponent : Kenney Payne, Representing AIA-VA
(kpayne@moseleyarchitects.com)

2015 International Existing Building Code

804.4.1 ~~Occupancy~~Fire alarm requirements. A fire alarm system shall be installed in accordance with Sections 804.4.1.1 through 804.4.1.7 and Sections 1103.7 and 1103.8 of the IFC. Existing alarm-notification appliances shall be automatically activated throughout the building. Where the building is not equipped with a fire alarm system, alarm-notification appliances within the *work area* shall be provided and automatically activated.

- **Exceptions:**

1. Occupancies with an existing, previously approved fire alarm system.
2. Where selective notification is permitted, alarm-notification appliances shall be automatically activated in the areas selected.

804.4.1.1 Group E. A fire alarm system shall be installed in ~~work~~Work areas of Group E occupancies classified as required by the *International Fire Code* for existing Group E occupancies.

804.4.1.2 Group I-1. A fire alarm system shall be installed in ~~work~~Work areas of classified as Group I-1 residential care/ assisted living facilities as required by the *International Fire Code* for existing Group I-1 occupancies.

804.4.1.3 Group I-2. A fire alarm system shall be installed throughout ~~Throughout occupancies classified as~~ Group I-2 occupancies as required by the *International Fire Code*.

804.4.1.4 Group I-3. A fire alarm system shall be installed in ~~work~~Work areas of classified as Group I-3 occupancies as required by the *International Fire Code*.

804.4.1.5 Group R-1. A fire alarm system shall be installed in ~~Occupancies classified as~~ Group R-1 occupancies as required by the *International Fire Code* for existing Group R-1 occupancies.

804.4.1.6 Group R-2. A fire alarm system shall be installed in ~~work~~Work areas of classified as Group R-2 apartment buildings as required by the *International Fire Code* for existing Group R-2 occupancies.

804.4.1.7 Group R-4. ~~A fire alarm system shall be installed in work areas of classified as Group R-4 residential care/ assisted living facilities as required by the *International Fire Code* for existing Group R-4 occupancies.~~

Reason: Cleans up this section by deleting all of the duplicated language (e.g., "a fire system shall be installed in" and "as required by the IFC", which are (or will be) already stated in 804.4.1 / charging paragraph) and sends you directly to the relevant and applicable sections of the IFC. There are no technical changes.

Cost Impact: None.

Public Comments (1)

By **James Dawson**
03-23-2017 10:53:20

I disagree that this change is a "clean up". It is however a deletion of model code language that is consistent with other codes and code language. Changing this to something different that the balance of the code is confusing. Why does this need to be "cleaned up"?

The replicating language in the model code is there for a reason. Taking it out without reason is dangerous. The language in IFC 1103.7 and 1103.8 is identical to the language that is proposed to be removed with this change. These deletions should remain to ensure consistency in voice and language between the codes and prevent confusion. Additionally, why was the IFC 1103 portions added? They are the same as the subsequent 804 sections so this adds nothing to the code, but may be confused since chapter 11 of the IFC has been deleted from the SFPC.

Workgroup Recommendation

Workgroup 2 Recommendation Recommendation: Consensus for Approval

Workgroup 2 Reason: Combined workgroups 1, 2, 3, & 4 meeting

Board Decision

None

Board Decisions

- Approved**
- Approved with Modifications**
- Carryover**
- Disapproved**
- None**

R-804.4.1 cdpVA-15

R-805.5.3 cdpVA-15

Proponent : Kenney Payne, Representing AIA-VA
(kpayne@moseleyarchitects.com)

2015 International Existing Building Code

805.5.3 Other corridor openings. In any *work area*, unless otherwise protected or fire-resistant rated in accordance with Section 716 of the IBC, any other sash, grille, or opening in a corridor and any window in a corridor not opening to the outside air shall be sealed with materials consistent with the corridor construction.

Reason: As currently written, the provision states that any other corridor opening shall be sealed. This is regardless of the level of protection that might already exist. So, an otherwise code-compliant opening or window would still need to be sealed. Sealing should only be required when such protection or rating is not already provided in accordance with the IBC.

NOTE: VRC 805.5.3 would only apply if the existing means of egress does not already comply with NFPA 101 (VRC 805.2, Exception 1) or the building code under which it was built (VRC 805.2, Exception 2). So, a reference to the *current* IBC should be warranted.

Cost Impact: Could result in **COST SAVINGS** by eliminating unnecessary sealing of otherwise compliant openings.

Public Comments (0)

Workgroup Recommendation

Workgroup 2 Recommendation Recommendation: Consensus for Approval

Workgroup 2 Reason: None

Board Decision

None

Board Decisions

- Approved
- Approved with Modifications
- Carryover
- Disapproved
- None

R-805.5.3 cdpVA-15

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R-1001 cdpVA-15

Proponent : Ronald Clements, Jr (clementsro@chesterfield.gov)

2015 International Existing Building Code

SECTION 1001 GENERAL

1001.1 Scope. The provisions of this chapter shall apply where a *change of occupancy* occurs, ~~except as defined in Section 202.~~modified by section 1205 for *historic buildings*.

1001.2 Certificate~~Work undertaken in connection with a change of occupancy.~~ A change of occupancy

~~Any repairs, alterations, or additions undertaken in connection with a change of occupancy within a space where there is a different fire protection system threshold requirement in Chapter 9 of the *International Building Code* shall not be made conform to any structure without the approval of the *code official*. A certificate of occupancy shall be issued where it has been determined that the applicable requirements for the change of occupancy have been met.~~work as classified in chapter 5 and as modified by this chapter.

~~**1001.2.1 Change of use.** Any work undertaken in connection with a change in use that does not involve a *change of occupancy* classification or a change to another group within an occupancy classification shall conform to the applicable requirements for the work as classified in Chapter 5 and to the requirements of Sections 1002 through 1011.~~

~~**Exception:** As modified in Section 1205 for *historic buildings*.~~

~~**1001.2.2 Change of occupancy classification or group.** Where the occupancy classification of a building changes, the provisions of Sections 1002 through 1012 shall apply. This includes a *change of occupancy* classification and a change to another group within an occupancy classification.~~

~~**1001.2.2.1 Partial change of occupancy.** Where the occupancy classification or group of a portion of an *existing building* is changed, Section 1012 shall apply.~~

~~**1001.3 Certificate of occupancy required.** A certificate of occupancy shall be issued where a *change of occupancy* occurs that results in a different occupancy classification as determined by the *International Building Code*.~~

SECTION 1002 SPECIAL USE AND OCCUPANCY

1002.1 Compliance with the building code. Where a building or portion thereof undergoes a change of occupancy the character or use of an existing building or part of an existing building is changed to one of the special use or occupancy categories described as defined in chapter 4 of the International Building Code, the building shall comply with all of the applicable requirements of IBC chapter 4 the International Building Code applicable to the special use or occupancy:

1. ~~Covered and open mall buildings.~~
2. ~~Atriums.~~
3. ~~Motor vehicle related occupancies.~~
4. ~~Aircraft related occupancies.~~
5. ~~Motion picture projection rooms.~~
6. ~~Stages and platforms.~~
7. ~~Special amusement buildings.~~
8. ~~Incidental use areas.~~
9. ~~Hazardous materials.~~
10. ~~Ambulatory care facilities.~~
11. ~~Group I-2 occupancies.~~

1002.2 Underground buildings-Incidental Uses. ~~An underground~~ Where a portion of a building in which there is undergoes a change of occupancy to one of the incidental uses listed in the Incidental Uses section in chapter 5 of the International Building Code, the incidental use shall comply with the applicable requirements of the International Building Code applicable to underground structures-Incidental Uses section.

SECTION 1003 BUILDING ELEMENTS AND MATERIALS

1003.1 General. ~~Building elements and materials in portions of buildings undergoing a change of occupancy classification shall comply with Section 1012.~~

~~1012.3~~**1003.1 Interior finish.** In areas of the building undergoing ~~the~~ a change of occupancy classification, the interior finish of walls and ceilings shall comply with the requirements of the International Building Code for the new occupancy classification.

~~1012.7~~**1003.2 Enclosure of vertical shaftsOpenings.** ~~Enclosure~~ When a change of occupancy classification is made to a higher hazard category as shown in Table 1005.2, protection of existing vertical shaftsopenings shall be in accordance with Sections 1012.7.11003.2.1 through 1012.7.41003.2.3.

~~1012.7.2~~**1003.2.1 Stairways.** ~~When a change of occupancy classification is made to a higher hazard category as shown in Table 1012.4, interior~~ Interior stairways shall be enclosed-protected as required by the International Building Code.

Exceptions:

1. ~~In other than Group I occupancies, an enclosure shall not be required~~

- for openings serving only one adjacent floor and that are not connected with corridors or stairways serving other floors.
2. Unenclosed existing stairways need not be enclosed in a continuous vertical shaft if each story is separated from other stories by 1-hour fire resistance-rated construction or approved wired glass set in steel frames and all exit corridors are sprinklered. The openings between the corridor and the occupant space shall have at least one sprinkler head above the openings on the tenant side. The sprinkler system shall be permitted to be supplied from the domestic watersupply systems, provided the system is of adequate pressure, capacity, and sizing for the combined domestic and sprinkler requirements.
 3. Existing penetrations of stairway enclosures shall be accepted if they are protected in accordance with the *International Building Code*.

Section 1005.1.

~~1012.7.3~~**1003.2.2 Other vertical shaftsopenings.** Interior vertical shaftsopenings, other than stairways, including but not limited to elevator hoistways and service and utility shafts, within the area of the change of occupancy shall be enclosed protected as required by the *International Building Code* when there is a change of use to a higher hazard category as specified in Table 1012.4.

• **Exceptions:**

1. Existing 1-hour interior shaft enclosures shall be accepted where a higher rating is required.
2. Vertical openings, other than stairways, in buildings of other than Group I occupancy and connecting less than six stories ~~shall not be required to be enclosed~~ are permitted if the entire building is provided with an approved automatic sprinkler system.

~~1012.7.4~~**1003.2.3 Shaft Openings.** *No change to text.*

SECTION 1004 FIRE PROTECTION

~~1012.2.1~~**1004.1 Fire protection systems.** Fire protection systems shall be provided in accordance with Sections ~~1012.2.1~~1004.2 and ~~1012.2.2~~1004.3.

~~1004.1~~ **General.** Fire protection requirements of Section 1012 shall apply where a building or portions thereof undergo a *change of occupancy* classification or where there is a change of occupancy within a space where there is a different fire protection system threshold requirement in Chapter 9 of the *International Building Code*.

~~1012.2.1~~**1004.2 Fire sprinkler system.** Where a building or portion thereof undergoes a change in occupancy classification ~~occurs or where there is a change of occupancy within a space where there is a different fire protection system threshold requirement in Chapter 9 of the *International Building Code* that requires an automatic~~

fire sprinkler system to be provided based on the new occupancy in accordance with Chapter 9 of the *International Building Code*, such system shall be provided throughout the area where the *change of occupancy* occurs.

~~1012.2.2~~1004.3 Fire alarm and detection system. Where a building or portion thereof undergoes a change in occupancy classification ~~occurs or where there is a change of occupancy within a space where there is a different fire protection system threshold requirement in Chapter 9 of the *International Building Code*~~ that requires a fire alarm and detection system to be provided based on the new occupancy in accordance with Chapter 9 of the *International Building Code*, such system shall be provided throughout the area where the *change of occupancy* occurs. Existing alarm notification appliances shall be automatically activated throughout the building. Where the building is not equipped with a fire alarm system, alarm notification appliances shall be provided throughout the area where the *change of occupancy* occurs in accordance with Section 907 of the *International Building Code* as required for new construction.

SECTION 1005 MEANS OF EGRESS

1005.1 General. Means of egress in ~~portions of buildings undergoing a *change of occupancy* classification~~ shall comply with this Section ~~1012~~.

~~1012.4~~1005.2 Means of egress, general hazards. Hazard categories in regard to life safety and means of egress shall be in accordance with Table ~~1012.4~~1005.2.

**TABLE ~~1012.4~~1005.2
MEANS OF EGRESS HAZARD CATEGORIES**

RELATIVE HAZARD	OCCUPANCY CLASSIFICATIONS
1 (Highest Hazard)	H
2	I-2, I-3, I-4
3	A, E, I-1, M, R-1, R-2, R-4
4	B, F-1, R-3, <u>R-5</u> , S-1
5 (Lowest Hazard)	F-2, S-2, U

~~1012.4.1~~1005.3 Means of egress for change to higher hazard category. When a change of occupancy classification is made to a higher hazard category (lower number) as shown in Table ~~1012.4~~1005.2, the means of egress servicing the area of the change of occupancy shall comply with the requirements of Chapter 10 of the *International Building Code*.

- **Exceptions:**

1. **(Replace exception #1 with this exception, CDPVA did not provide the strike-through of existing exception #1)** Existing

- interior stairways are permitted to be enclosed in accordance with section 803.2.1 from the highest floor where the change of occupancy classification occurs to, and including, the level of exit discharge and all floors below.
- ~~2.~~ Existing stairways including handrails and guards complying with the requirements of Chapter 9 shall be permitted for continued use subject to approval of the *code official*.
 - ~~2.~~ An enclosure shall not be required for openings serving only one adjacent floor and that are not connected with corridors or stairways serving other floors.
 - ~~3.~~ Any stairway replacing an existing stairway within a space where the pitch or slope cannot be reduced because of existing construction shall not be required to comply with the maximum riser height and minimum tread depth requirements.
 - ~~3.~~ Unenclosed existing stairways need not be enclosed in a continuous vertical shaft if each story is separated from other stories by 1-hour fire resistance rated construction or approved wired glass set in steel frames and all exit corridors are sprinklered. The openings between the corridor and the occupant space shall have at least one sprinkler head above the openings on the tenant side. The sprinkler system shall be permitted to be supplied from the domestic water supply systems, provided the system is of adequate pressure, capacity, and sizing for the combined domestic and sprinkler requirements.
 4. Existing corridor walls constructed on both sides of wood lath and plaster in good condition or $\frac{1}{2}$ -inch-thick (12.7 mm) gypsum wallboard shall be permitted. Such walls shall either terminate at the underside of a ceiling of equivalent construction or extend to the underside of the floor or roof next above.
 5. Existing corridor doorways, transoms and other corridor openings shall be permitted to comply with the requirements in Sections 805.5.1, 805.5.2 and 805.5.3 regardless of work areas.
 6. Existing dead-end corridors ~~shall~~ are permitted to comply with the requirements in Section 805.6 regardless of work areas.
 7. An existing operable window with clear opening area no less than 4 square feet (0.38 m²) and minimum opening height and width of 22 inches (559 mm) and 20 inches (508 mm), respectively, shall be accepted as an emergency escape and rescue opening.
 8. Regardless of work areas, existing handrails are permitted to comply with the requirements of Section 805.9 and existing guards are permitted to comply with the requirements of Section 805.11.
 9. Fire escapes in compliance with sections 805.3.1.2 through 805.3.1.2.2.
 10. Existing stairways are not required to be altered to meet current tread depth and riser height requirements.

1012.4.21005.4 Means of egress for change of use to equal or lower hazard category or without a change in classification. When a change of occupancy classification is made to an equal or lesser hazard category (higher number) as shown in Table ~~1012.41005.2~~ 1012.41005.2 or a change of occupancy without a change of classification is made, the means of egress shall be deemed acceptable provided the

~~means of egress serving the area of the change of occupancy meets the egress capacity and occupant load based means of egress provisions in Chapter 10 of the IBC for the new occupancy. existing elements of the means of egress shall comply with the requirements of Section 905 for the new occupancy classification. Newly constructed or configured means of egress shall comply with the requirements of Chapter 10 of the *International Building Code*.~~

- ~~o **Exception:** Any stairway replacing an existing stairway within a space where the pitch or slope cannot be reduced because of existing construction shall not be required to comply with the maximum riser height and minimum tread depth requirements.~~

SECTION 1006 ACCESSIBILITY Heights and areas.

1006.1 General. ~~Accessibility in portions~~ Heights and areas of buildings and structures undergoing a *change of occupancy* classification shall comply with this Section ~~1012.8.~~

~~1012.5~~**1006.2 Heights and areas, hazards.** Hazard categories in regard to height and area shall be in accordance with Table ~~1012.5~~1006.2.

**TABLE ~~1012.5~~1006.2
HEIGHTS AND AREAS HAZARD CATEGORIES**

RELATIVE HAZARD	OCCUPANCY CLASSIFICATIONS
1 (Highest Hazard)	H
2	A-1, A-2, A-3, A-4, I, R-1, R-2, R-4
3	E, F-1, S-1, M
4 (Lowest Hazard)	B, F-2, S-2, A-5, R-3, <u>R-5</u> , U

~~1012.5.1~~**1006.3 Height and area for change to higher hazard category.** When a change of occupancy classification is made to a higher hazard category as shown in Table ~~1012.5~~1006.2, heights and areas of buildings and structures shall comply with the requirements of Chapter 5 of the *International Building Code* for the new occupancy classification.

- Exception:** For high-rise buildings constructed in compliance with a previously issued permit, the type of construction reduction specified in Section 403.2.1 of the *International Building Code* is permitted. This shall include the reduction for columns. The high-rise building is required to be equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1 of the *International Building Code*.

~~1012.5.1.1~~**1006.3.1 Fire wall alternative.** *No change to text.*

~~1012.5.2~~1006.4 Height and area for change to equal or lesser hazard category. When a change of occupancy classification is made to an equal or lesser hazard category as shown in Table ~~1012.5~~1006.2, the height and area of the *existing building* shall be deemed acceptable.

~~1012.5.3~~1006.5 Fire barriers. When a change of occupancy classification is made to a higher hazard category as shown in Table ~~1012.5~~1006.2, fire barriers in separated mixed use buildings shall comply with the fire-resistance requirements of the *International Building Code*.

- **Exception:** Where the fire barriers are required to have a 1-hour fire-resistance rating, existing wood lath and plaster in good condition or existing ¹/₂-inch-thick (12.7 mm) gypsum wallboard shall be permitted.

SECTION 1007 EXTERIOR WALL FIRE-RESISTANCE RATINGS

~~1012.6~~1007.1 Exterior wall fire-resistance ratings, hazards. Hazard categories in regard to fire-resistance ratings of exterior walls shall be in accordance with Table ~~1012.6~~1007.1.

**TABLE ~~1012.6~~1007.1
EXPOSURE OF EXTERIOR WALLS HAZARD CATEGORIES**

RELATIVE HAZARD	OCCUPANCY CLASSIFICATION
1 (Highest Hazard)	H
2	F-1, M, S-1
3	A, B, E, I, R
4 (Lowest Hazard)	F-2, S-2, U

~~1012.6.1~~1007.2 Exterior wall rating for change of occupancy classification to a higher hazard category. When a change of occupancy classification is made to a higher hazard category as shown in Table ~~1012.6~~1007.1, exterior walls shall have fire resistance and exterior opening protectives as required by the *International Building Code*.

- **Exception:** A 2-hour fire-resistance rating shall be allowed where the building does not exceed three stories in height and is classified as one of the following groups: A-2 and A-3 with an occupant load of less than 300, B, F, M or S.

~~1012.6.2~~1007.3 Exterior wall rating for change of occupancy classification to an equal or lesser hazard category. When a change of occupancy classification is made to an equal or lesser hazard category as shown in Table ~~1012.6~~1007.1, existing exterior walls, including openings, shall be accepted.

~~1012.6.3~~1007.4 Opening protectives. Openings in exterior walls shall be protected as required by the *International Building Code*. Where openings in the exterior walls are required to be protected because of their distance from the lot line, the sum of the area of such openings shall not exceed 50 percent of the total area of the wall in each story.

• **Exceptions:**

1. Where the *International Building Code* permits openings in excess of 50 percent.
2. Protected openings shall not be required in buildings of Group R occupancy that do not exceed three stories in height and that are located not less than 3 feet (914 mm) from the lot line.
3. Where exterior opening protectives are required, an automatic sprinkler system throughout may be substituted for opening protection.
4. Exterior opening protectives are not required when the change of occupancy group is to an equal or lower hazard classification in accordance with Table ~~1012.6~~1007.1.

SECTION 1008 ELECTRICAL AND LIGHTING

1008.1 Special occupancies. ~~Where the occupancy a building or portion thereof undergoes a change of an existing building or part of an existing building is changed~~ occupancy to one of the following special occupancies as described in NFPA 70, the electrical wiring and equipment of the building or portion thereof that contains the proposed occupancy shall comply with the applicable requirements of NFPA 70 ~~whether or not a change of occupancy group is involved:~~

1. Hazardous locations.
2. Commercial garages, *repair*, and storage.
3. Aircraft hangars.
4. Gasoline dispensing and service stations.
5. Bulk storage plants.
6. Spray application, dipping, and coating processes.
7. Health care facilities.
8. Places of assembly.
9. Theaters, audience areas of motion picture and television studios, and similar locations.
10. Motion picture and television studios and similar locations.
11. Motion picture projectors.
12. Agricultural buildings.

~~1008.3~~**1008.2 Service upgrade.** Where

~~When a new occupancy is required to have a higher electrical load demand per NFPA 70 and the occupancy of an existing building or part of an existing building is changed, service cannot accommodate the increased demand, electrical~~ the service shall be upgraded to meet the requirements of NFPA 70 for the new occupancy.

~~1008.2 Unsafe conditions.~~ Where the occupancy of an existing building or part of an existing building is changed, all unsafe conditions shall be corrected without requiring that all parts of the electrical system comply with NFPA 70.

~~1008.4~~**1008.3 Number of electrical outlets.** Where the occupancy a building or portion thereof undergoes a change of an existing building or part of an existing building is changed occupancy, the number of electrical outlets shall comply with NFPA 70 for the new occupancy.

~~1011.1~~**1008.4 Light and ventilation**Lighting. Light and ventilation Lighting shall comply with the requirements of the *International Building Code* for the new occupancy.

SECTION 1009 MECHANICAL AND VENTILATION

1009.1 Mechanical and ventilation requirements. Where the occupancy a building or portion thereof undergoes a change of an existing building or part of an existing building is changed occupancy such that the new occupancy is subject to different kitchen exhaust requirements or to increased mechanical ventilation requirements in accordance with the *International Mechanical Code*, the new occupancy shall comply with the respective *International Mechanical Code* provisions.

SECTION 1010 PLUMBING

1010.1 Increased demand. Where the occupancy a building or portion thereof undergoes a change of an existing building or part of an existing building is changed occupancy such that the new occupancy is subject to increased or different plumbing fixture requirements or to increased water supply requirements in accordance with the *International Plumbing Code*, the new occupancy shall comply with the intent of the respective *International Plumbing Code* provisions.

Exception: In other than Group R or I occupancies or child care facilities classified as group E, where the occupant load is increased by 20 percent or less in the area where the change of occupancy occurs, additional plumbing fixtures required based on the increased occupant load in quantities specified in the International Plumbing Code.

~~1010.2 Food handling occupancies.~~ If the new occupancy is a food handling

~~establishment, all existing sanitary waste lines above the food or drink preparation or storage areas shall be panned or otherwise protected to prevent leaking pipes or condensation on pipes from contaminating food or drink. New drainage lines shall not be installed above such areas and shall be protected in accordance with the *International Plumbing Code*.~~

~~1010.3~~**1010.2 Interceptor required.** *No change to text.*

~~1010.4~~**1010.3 Chemical wastes.** *No change to text.*

~~1010.5~~**Group I-2.** *If the occupancy group is changed to Group I-2, the plumbing system shall comply with the applicable requirements of the *International Plumbing Code*.*

~~SECTION 1011~~ **OTHER REQUIREMENTS**

~~1007.1011~~**1007.1011 STRUCTURAL**

[BS] ~~1007.1~~1011.1 Gravity loads. *No change to text.*

[BS] ~~1007.2~~1011.2 Snow and wind loads. *No change to text.*

[BS] ~~1007.3~~1011.3 Seismic loads. *Existing buildings with a change of occupancy shall comply with the seismic provisions of Sections ~~1007.3.1~~1011.3.1 and ~~1007.3.2~~1011.3.2.*

[BS] ~~1007.3.1~~1011.3.1 Compliance with International Building Code-level seismic forces. *Where a building or portion thereof is subject to a *change of occupancy* that results in the building being assigned to a higher risk category based on Table 1604.5 of the *International Building Code*, the building shall comply with the requirements for *International Building Code*-level seismic forces as specified in Section 301.1.4.1 for the new risk category.*

- **Exceptions:**

1. ~~Where approved by the code official, specific~~**Specific** detailing provisions required for a new structure are not required to be met where it can be shown that an equivalent level of performance and seismic safety is obtained for the applicable risk category based on the provision for reduced *International Building Code*-level seismic forces as specified in Section 301.1.4.2.
2. Where the area of the new occupancy with a higher hazard category is less than or equal to 10 percent of the total building floor area and the new occupancy is not classified as Risk Category IV. For the purposes of this exception, buildings occupied by two or more occupancies not included in the same risk category, shall be subject to the provisions of

Section 1604.5.1 of the *International Building Code*. The cumulative effect of the area of occupancy changes shall be considered for the purposes of this exception.

3. Unreinforced masonry bearing wall buildings in Risk Category III when assigned to Seismic Design Category A or B shall be allowed to be strengthened to meet the requirements of Appendix Chapter A1 of this code [Guidelines for the Seismic Retrofit of Existing Buildings (GSREB)].

[BS] 1007.3.2-1011.3.2 Access to Risk Category IV. Where a *change of occupancy* is such that compliance with Section ~~1007.3.1~~1011.3.1 is required and the building is assigned to Risk Category IV, the operational access to the building shall not be through an adjacent structure, unless that structure conforms to the requirements for Risk Category IV structures. Where operational access is less than 10 feet (3048 mm) from either an interior lot line or from another structure, access protection from potential falling debris shall be provided by the owner of the Risk Category IV structure.

~~SECTION 1012 CHANGE OF OCCUPANCY CLASSIFICATION~~ACCESSIBILITY

~~**1012.1 General.** The provisions of this section shall apply to buildings or portions thereof undergoing a change of occupancy classification. This includes a change of occupancy classification within a group as well as a change of occupancy classification from one group to a different group or where there is a change of occupancy within a space where there is a different fire protection system threshold requirement in Chapter 9 of the *International Building Code*. Such buildings shall also comply with Sections 1002 through 1011. The application of requirements for the change of occupancy shall be as set forth in Sections 1012.1.1 through 1012.1.4. A *change of occupancy*, as defined in Section 202, without a corresponding change of occupancy classification shall comply with Section 1001.2.~~

~~**1012.1.1 Compliance with Chapter 9.** The requirements of Chapter 9 shall be applicable throughout the building for the new occupancy classification based on the separation conditions set forth in Sections 1012.1.1.1 and 1012.1.1.2.~~

~~**1012.1.1.1 Change of occupancy classification without separation.** Where a portion of an *existing building* is changed to a new occupancy classification or where there is a change of occupancy within a space where there is a different fire protection system threshold requirement in Chapter 9 of the *International Building Code*, and that portion is not separated from the remainder of the building with fire barriers having a fire resistance rating as required in the *International Building Code* for the separate occupancy, the entire building shall comply with all of the requirements of Chapter 9 applied throughout the building for the most restrictive occupancy classification in the building and with the requirements of this chapter.~~

~~**1012.1.1.2 Change of occupancy classification with separation.** Where a portion of an *existing building* is changed to a new occupancy classification or where there is a change of occupancy within a space where there is a different fire protection~~

~~system threshold requirement in Chapter 9 of the *International Building Code*, and that portion is separated from the remainder of the building with fire barriers having a fire-resistance rating as required in the *International Building Code* for the separate occupancy, that portion shall comply with all of the requirements of Chapter 9 for the new occupancy classification and with the requirements of this chapter.~~

~~**1012.1.2 Fire protection and interior finish.** The provisions of Sections 1012.2 and 1012.3 for fire protection and interior finish, respectively, shall apply to all buildings undergoing a change of occupancy classification.~~

~~**1012.1.3 Change of occupancy classification based on hazard category.** The relative degree of hazard between different occupancy classifications shall be determined in accordance with the categories specified in Tables 1012.4, 1012.5 and 1012.6. Such a determination shall be the basis for the application of Sections 1012.4 through 1012.7.~~

~~**1012.1.4 Accessibility.** All buildings undergoing a change of occupancy classification shall comply with Section 1012.8.~~

~~**1012.8.1**~~ **1012.2 Partial change in occupancy.** Where a portion of the building is changed to a new occupancy classification, ~~any alteration shall comply with Sections 705, 806 and 906, as applicable.~~ additional accessible features are not required due to the change of occupancy.

~~**1012.8.2**~~ **1012.1 Complete change of occupancy.** Where an entire building undergoes a *change of occupancy classification*, ~~it shall comply with Section 1012.8.1~~ and shall have all of the following accessible features:

1. At least one accessible building entrance.
2. At least one accessible route from an accessible building entrance to *primary function* areas.
3. Signage complying with Section 1111 of the *International Building Code*.
4. Accessible parking, where parking is provided.
5. At least one accessible passenger loading zone, where loading zones are provided.
6. At least one accessible route connecting accessible parking and accessible passenger loading zones to an accessible entrance.

Where it is *technically infeasible* to comply with the new construction standards for any of these requirements for a change of group or occupancy, the above items shall conform to the requirements to the maximum extent technically feasible.

Exception: The accessible features listed in Items 1 through 6 are not required for an accessible route to Type B units.

~~**1012.4.3 Egress capacity.** Egress capacity shall meet or exceed the occupant load as specified in the *International Building Code* for the new occupancy.~~

~~**1012.4.4 Handrails.** Existing stairways shall comply with the handrail requirements of Section 805.9 in the area of the change of occupancy classification.~~

~~**1012.4.5 Guards.** Existing guards shall comply with the requirements in Section 805.11 in the area of the change of occupancy classification.~~

~~**1012.7.1 Minimum requirements.** Vertical shafts shall be designed to meet the *International Building Code* requirements for atriums or the requirements of this section.~~

~~**1012.8 Accessibility.** Existing buildings that undergo a change of group or occupancy classification shall comply with this section.~~

~~**Exception:** Type B dwelling or sleeping units required by Section 1107 of the *International Building Code* are not required to be provided in existing buildings and facilities undergoing a *change of occupancy* in conjunction with less than a Level 3 alteration.~~

CHAPTER 10 CHANGE OF OCCUPANCY

Reason: 1001.1 and the exception to 1001.2.1- The exception to 1001.2.1 for historic structures is misplaced because section 1205 applies to all *change of occupancy* conditions, not just when there is no change in classification. To maintain the intent of section 1205 it has been relocated to section 1001.1 so it applies to all change of occupancy conditions within the scope of chapter 10. "As defined..." has been deleted because the building code does not state "as defined" ahead of every defined term.

New 1001.2- The new 1001.2 section captures some of the intent of section 1001.2.1 to require compliance with the work provisions of chapters 5-9 when there is alteration work associated to a change of occupancy. The current IEBC configuration of the section uses this methodology for change of occupancy without classification but relies on section 1012 for direction regarding how to address alteration work associated with a change in classification. Section 1012 has been the source of a great deal of confusion regarding how the alteration chapters are to be applied; therefore, there is a companion change to delete section 1012 in its current form. This new concept is to address alterations, repairs and work areas regardless of the type of change of occupancy by referencing chapters 5-9 in section 1001.2. The distinction between change of occupancy and change of occupancy group are already addressed in each section. Each section in chapter 10 states whether the requirements of the section apply to all change of occupancies or just change of occupancy classifications.

1001.2.1-1001.2.2.1- 1001.2.1-1001.2.2.1 are proposed for deletion because they are unnecessary and confusing code provisions. All sections in chapter 10 state whether they apply to *change of occupancy or change of occupancy* classification. There is no need to restate that in section 1001; furthermore section 1001.2.1 is inaccurate stating that section 1002 through 1011 are applicable when there is no change in classification. Sections 1003 through 1006 are only applicable to change in classification. Section 1001.2.2.1 is further confusion because it can be miss-interpreted to only require compliance with section 1012 for change of occupancy classification bypassing section 102 through 1011.

Sections 1001.2 and 1001.3- Sections 1001.2 and 1001.3 are proposed for deletion without substitution in chapter 10 because they are invalid administrative provisions per VRC section 101.6 and 101.7. The requirement for issuance of a new CO is and administrative provision addressed in section 103.2.

1002.1- The special use and occupancy section listed some of the special uses addressed in IBC

chapter 4 but not all. The commentary suggest that the specific list is for special uses that would not constitute a change in classification and are necessary because a change in occupancy without a change in classification would not get the chapter 4 requirements but a change in classification would get the chapter 4 requirements for the other types of special uses. That is not accurate because regardless of whether a change of classification is involved in a change of occupancy any special use in chapter 4 that is not in the list in VRC chapter 10 would not be applicable. The other special use and occupancies are just as important to include. Some specific examples missed are: group R special provisions, combustible storage, H groups, short term holding areas. This change simplifies the requirement and makes brings in all of the potential special use hazards that should be mitigated in a change of occupancy involving one of the special uses.

1002.2- Underground structures are a special use per IBC chapter 4 so the change proposed for 1002.1 covers underground buildings. Incidental uses are not special uses addressed by IBC chapter 4 so listing incidental uses in 1002.1 was out of place and lost with the proposed amendment to 1002.1; therefore, 1002.2 is proposed to capture the incidental use requirement.

1003.1- Is proposed for deletion as part of the reconfiguration of the chapter and moving the interior finish and vertical opening provisions from section 1012 to section 1003.

1003.1 (current 1012.3) - The interior finish requirements have been moved to section 1003.1. "The" was changed to "a" because it reads better.

1003.2 (current 1012.7) - The vertical shaft requirements have been moved to section 1003.2. Section 1012.7.1 was not copied to 1003 because it is redundant; the IBC addresses the use of atriums as a method of treating vertical openings. The term vertical "shaft" was replaced with "opening" as this is consistent with the new (2012 edition) IBC section 712 title "Vertical Openings". This section also has the charging text that triggers the requirements of sections 1003.2.1 and 1003.2.2 for a higher hazard class.

1003.2.1 (Current 1012.7.2) - The IEBC has exceptions related to exit stairs enclosure in both sections 1012.7.1 and 1012.4.1. To avoid confusion or code conflicts all of the requirements and exceptions for stairway opening protection have been relocated to section 1005. Exceptions 1 and 2 to current section 1012.7.2, for stairway openings, have been relocated to 1005.3 as exceptions 2, 3. Exception #3 to current section 1012.7.2 was deleted and not relocated because it is not a functional exception. If the current stairway enclosure is properly rated and the penetrations are not compliant then it is a VMC issue. If the stairway needs enclosed with a new or upgraded shaft enclosure then the penetrations must comply with the IBC regardless of the exception.

1003.2.2 (Current 1012.7.3) - In addition to reference openings instead of shafts, the extent of application of this provision was added to clearly state it applies to the area of the change of occupancy. Current section 1012.7.3 is silent on the extent of application; however, the charging section 1012.1 states that all of the provisions of the section apply to "buildings or portions of buildings undergoing a change of occupancy" so this existing statement in 1012.1 suggests that all provisions (sub-sections) of section 1012 would apply to a portion undergoing a change of occupancy unless a more specific scope was specified in the specific sub-section.

1003.2.3 (Current 1012.7.4) - The word shaft was added to the section to make it clear that this section is specific to shafts, not openings.

1004-1004.3 (Current 1012.2-1012.2.2, and 1001.2) - All of the fire protection requirements, for both C of O with change of classification and C of O without change of classification, have been moved to section 1004 and the provisions expanded to include C of O without change of classification. The text regarding requiring fire protection systems based on different fire protection system thresholds is proposed for deletion because it is not necessary with this new format. The current provision only applies to change of occupancy classification so these provisions were added to address C of O without change of classification but with a fire protection threshold trigger. With the proposed format all of the fire protection sections are applicable to all C of O conditions, not just change of classification, so the threshold text becomes redundant and confusing.

1005 (Current 1012.4 and sub-sections) - The means of egress requirements in section 1012.4 have been moved to section 1005.

Table 1005.2 (Current table 1012.4) - Virginia's group R-5 has been added to the table. This is needed for changes of occupancy classification involving group R-5 such as converting a house to an office building.

1005.3 (Current 1012.4.1) - The term "serving the area of the change of occupancy" was added to clarify exactly what MOE components are included in this requirement. Current section 1012.1 refers to the portion of the building undergoing the change of occupancy as the general scope but 1012.4.1 refers to the means of egress in general, which could be interpreted as the entire building or just the portion of the MOE in the portion of the building undergoing the change of occupancy. This proposal establishes the intent is that any MOE component that is required to serve the area of the change of occupancy regardless of whether it is in the area shall comply with current IBC MOE requirements.

1005.3 (Current 1012.4.1) Exceptions -

Exception #1 - This exception as written refers to section 903.1, which in turn refers to section 803.2.1. The issue is that 903.1 is only applicable to work areas; therefore, if there is no associated work area no shaft fire rating would be required per the current exception. It is believed the intent is that if the new occupancy classification requires shaft protection that the intent of the exception is to only require the rating from the highest floor of the change of occupancy, not a work area. If there is a work area requirement per chapter 8 or 9 that would stand on it's own. When referenced directly from section 1005.3, 803.2.1 is specific to how to protect a vertical opening so the work area qualification is not an issued for the reference to section 803.2.1.

Exception #2 - Current exception #2 is a source of confusion. The ICC Commentary suggests that it is only applicable to handrails and guards but the wording includes the entire stairway. This exception is proposed for deletion and the new exception #8 is proposed to allow handrails and gaurdrails to comply with VRC chapter 8 provisions (it was moved to #8 do to problems with CDPAccess).The new exception #2 is the moved exception #1 from 1012.7.2 with the group I-2 reference removed because change of classification involving group I-2 is not in the scope of the VRC per VCC 103.3.

Exception #3 - Current exception #3 is not needed because a stairway replacement would be a level 1 alteration and section 704 would permit replacing like with like. Allowance for maintaining an existing stairway slope is addressed in proposed exception #10 described below.

Exceptions #5 and #6 - Both exceptions have been revised to read as optional exceptions allowing the choice between compliance with current code or the reduced requirements of chapter 8 instead of the current wording as a mandatory requirement. The second issue the revision addresses is that both exceptions refer to section in chapter 8 that are based on work areas. If the exceptions are to be valid regardless of associated work areas then the exceptions must state that.

Exception #8 - This proposed exception addresses the intent of current exception #2, and sections 1012.4.4 and 10012.4.5 (proposed for deletion) to allow existing handrails and guardrails to meet the reduced requirements of sections 805.9 and 805.11.

Exception #9 - This proposed exception allows the use of fire escapes per the requirements and limitations of section 805.3.1.2.2. Since section 805.3.1.2.2 refers to required exits and new fire escapes it is clear the intent was that the fire escape provisions could apply to a change of occupancy but there is not a direct link to get to section 805.3.1.2.2. This exception creates the link.

Exception #10 - This proposed exception addresses the assumed intent of current exception #3 to allow an existing stair geometry when there is a change of occupancy.

1005.4 (current 1012.4.2) - The "existing elements ... shall comply with section 905" text has been stricken because 905 is specific to associated work areas. If there is an associated work area new section 1001.2 will invoke chapters 8 and 9 for work areas. The new text addresses requiring compliance with the means of egress provisions regulating egress capacity and occupant load based provisions that should still apply for change of occupancy to an equal or lower hazard category, or change of occupancy without change of classification.The exception has been deleted because any stairway replacment would be a level 1 alteration and addressed by section 704.

Current 1012.4.3 and 1012.4.4 - Relocated to new exception #8 to proposed 1005.3 or change of occupancy to a higher hazard class. This constitutes a retrofit provision for a lower hazard class and should not be required as it is not consistent with the intent of the VRC per the purpose in section 102.1.

Current 1012.4.5 - Egress capacity is addressed for a change to a higher hazard class in 1005.3 and it has been added to section 1005.4 for a change to an equal or lower hazard class.

1006 (Current 1012.5) - Section 1006 has been changed to Heights and Areas and the height and area provisions in current section 1012.5 have been relocated to 1006. Accessibility is in section 1012.1.

1006.1 and 1006.2 - 1006.1 was revised to be a charging section and 1006.2 was just relocated.

Table 1006.2 (Current table 1012.5) - Virginia's group R-5 has been added to the table. This is needed for changes of occupancy classification involving group R-5 such as converting a house to an office building.

1006.3 through 1006.5 (Current 1012.5.1 through 1012.5.3) - Relocated only.

1007 - Section 1007 has been changed to Exterior Wall Fire Resistance Ratings and the provisions in current section 1012.6 have been relocated to 1007. Structural has been moved to section 1011.

1007.1 through 1007.3 (Current 1012.6 through 1012.6.3) - Relocated only.

1008.0- The lighting provisions have been relocated from 1011.1 to 1008.4; therefore, the title has been changed to include lighting.

1008.1- The first change is intended to keep the language "change of occupancy" consistent from section to section. The second change is to delete the "whether or not a *change of occupancy* group is involved" text because it is not needed, all of the other sections that apply in all change of occupancy cases just state change of occupancy.

1008.2 - 1008.2 can be interpreted to require upgrade of a panel when there is a change of occupancy even if the current panel can accommodate the electrical load of the new occupancy. This change makes it clear that a service upgrade is only required when warranted by an increased electrical demand that exceeds the capacity of the existing service equipment.

1008.3 - Proposed for deletion because the provisions of 1008.3 are invalid per VRC section 103.6.

1008.3 (Current 1008.4) - These changes are intended to keep the language "change of occupancy" consistent from section to section.

1008.4 and 1009.1 (Current 1011.1) - Current section 1011.1 is proposed to be deleted because the mechanical requirements of 1011 for ventilation are redundant and somewhat in conflict with 1009 as 1009 prescribes mechanical ventilation and 1011 references the IBC, which also addresses natural ventilation. The ventilation requirement of 1011 has been addressed in 1009.1 by deleting the word "mechanical" and allowing both mechanical and natural ventilation methods of the VMC to apply. The lighting provision has been relocated to section 1008.4.

1010.1- In addition to the change to keep "change of occupancy" consistent from section to section the exception was added. The exception is based on section 810.1, which requires adding additional plumbing fixtures when the occupant load is increased more than 20%. Section 810 is based on alteration so it would not apply to change of occupancy. In Virginia an increase in occupant load that would trigger additional fixtures would typically be a change of occupancy so the intent of section 810 has been added to the change of occupancy provisions. The exception is limited to fixture count based on occupant load. The exception does not affect water supply requirements or fixture requirements based on the type of occupancy. The exception also excludes groups R, I and group E daycare as plumbing fixture requirements were considered to be critical in those occupancies.

1010.2- 1010.2 should be deleted because the companion section in the IPC was deleted through a Virginia amendment in a previous Virginia code adoption cycle. This deletion makes the VRC consistent with the VPC.

1010.5- 1010.2 should be deleted because change of occupancy to group I-2 is not in the scope of the VRC in Virginia.

10011.3.1- "subject to the approval of the code official" when not provided in a Virginia amendment is an invalid administrative provision per VRC section 101.6 and 101.7 and is therefore proposed for deletion.

Current 1012.1 and sub-sections- This is a confusing section that could be interpreted multiple ways. It could be interpreted that 1012.1.1 applies when chapter 9 applies based on classification of work. It could be interpreted to mean that all alterations are level 3; or, it could be interpreted (as the commentary suggests) that change of occupancy classification is a level 3 alteration. Considering a change of occupancy classification as a level 3 alteration is very problematic in that neither level 3 alteration nor work area are defined to include change of occupancy. All sections in chapters 7-9 are based on tying requirements to alterations or work areas and many of the sections become questionable as to how to enforce when they are attempted to be applied to a change of occupancy. Additionally, this method is contrary to the legislative intent of the Virginia Rehabilitation code concept in that it would require retrofits and vast areas of the building that were not intended to be altered. This is a huge departure from the USBC, even without the rehabilitation code intent mandate, that did not require parts of the building not intended to be altered to be altered.

Proposed 1012- 1012 is proposed to be the accessibility section. The intent of the section remains unchanged. Section 1012.8.1 Partial change of occupancy is proposed for relocation to 1012.2. 1012.1 provides for the 6 items required based on a complete change of occupancy. The exception to 1012.8 has been deleted because that exception is in VRC 705.1 (exception #3). Other changes to the section are editorial and intended to make the section simpler to read.

Cost Impact: The intent of this code change was to make the IEBC/VRC easier to understand and apply. This change will not have a significant affect on cost. Depending on how current code is interpreted this change may lower or increase cost. The most significant cost is that if the commentary interpretation of section 1002 is not used and the literal read of the code is followed; in which case, the cost of construction would be raised based on application of the provisions of IBC chapter 4 not currently referenced.

Public Comments (0)

Workgroup Recommendation

Workgroup 2 Recommendation Recommendation: Consensus for Approval

Workgroup 2 Reason: Combined workgroups 1, 2, 3, & 4 meeting

Board Decision

None

Board Decisions

- Approved
- Approved with Modifications
- Carryover
- Disapproved
- None

R-1001 cdpVA-15

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M-202(1) cdpVA-15

Proponent : Phillip Storey, Representing Legal Aid Justice Center
(phil@justice4all.org)

2012 Virginia Maintenance Code

SECTION 202 DEFINITIONS

STRUCTURE UNFIT FOR HUMAN OCCUPANCY.

An existing structure determined by the code official to be dangerous to the health, safety and welfare of the occupants of the structure or the public because (i) of the degree to which the structure is in disrepair or lacks required maintenance, ventilation, illumination, sanitary or heating facilities or other essential equipment, or (ii) the required plumbing and sanitary facilities are inoperable.

Reason:

CONTEXT AND SUMMARY

This proposal responds to a recent administrative appeal decision by the State Building Code Technical Review Board ("TRB"). (Consolidated Appeals [15-12](#) and [15-13](#).) The appeals challenged the City of Richmond's application of VMC § 105.1 to threaten with condemnation owner-occupied homes it claimed met VMC § 202's definition of Structure Unfit for Human Occupancy ("Unfit") because they lacked "primary heating systems." The homeowners argued that, because the Board of Housing and Community Development ("Board") had consistently amended the model maintenance code each cycle since 1990 to limit the requirement for heating facilities to only rented or leased dwellings (VMC § 602.2), owner-occupied homes could not be considered Unfit for lack of a primary heating system. The homeowners prevailed in their appeals, but the TRB's final order was written in a way that skirted the central issue but indirectly implied that heating systems might be required in owner-occupied homes under the Unfit definition, regardless of the Board's amendments to § 602.2.

This proposed amendment to the Unfit definition seeks to clarify that, consistent with the Board's amendments to the 1990 VMC and all subsequent editions, a structure may be declared Unfit due to "the degree to which it lacks" maintenance, facilities, equipment, or other elements *that are among the VMC's substantive requirements found in chapters 3 through 8*. This would make the language and explicit meaning of the Unfit definition's clause (i) consistent with the language and meaning of clause (ii), which likewise only applies to *required* plumbing and sanitary facilities.

This amendment would clarify that a structure could be declared Unfit due to lack of heating facilities that are required by the VMC's substantive regulations found in Chapter 6 ("Mechanical and Electrical Requirements") and § 602 in particular ("Heating and Cooling Facilities"). Conversely, the lack of heating facilities that are not required under § 602 could not be the basis for declaring a structure Unfit and subjecting it to the threat of condemnation.

CLARIFYING THE INTENT OF THE BOARD

Proposal M-202, submitted by John Walsh on behalf of VBCOA VMC Committee, argues for code changes based on an interpretation of the Board's intent in adopting the 1990 amendments to § 602.2 (and readopting them in each subsequent code cycle) that is contrary to both the Board's stated intent and the well-established principles for interpreting potentially ambiguous statutes or regulations. Mr. Walsh argues that the Board's amendments to § 602.2 were intended to eliminate the model code's specific performance measurements for owner-occupied dwellings, but not to entirely eliminate the requirement that owner-occupied structures have heating systems installed.

The clearest and most direct indication that the Board intended to entirely eliminate the heating requirement for owner-occupied dwellings is found in the Virginia Register of Regulations ("Register"), where the final amendments to the 1990 edition of the VMC were published. ([7 Va. Reg. Regs. 1084 et seq.](#) (December 31, 1990)) The summary the Board published in the Register along with the amendments includes a clear explanation of the Board's intent in the amended heating requirement. "[T]ext was deleted from the BOCA Property Maintenance Code, §§ PM-601.1 and PM-601.2, which required heat to be supplied in all buildings, rather than just those being rented or leased. This change was necessary to be consistent with Volume I of the Uniform Statewide Building Code." ([7 Va. Reg. Regs. 1085.](#))(DHCD Staff Note: Both links above are to a 173 page document which is too large to provide.)

Mr. Walsh's interpretation of the Unfit definition and the substantive heating requirements in § 602 also violate well-established principles for interpreting potentially ambiguous statutes and regulations, including: (1) that substantive changes made to laws or regulations are presumed to be purposeful (*Virginia-American Water Co. v. Prince William County Service Authority*, 246 Va. 509, 517, 436 S.E.2d 618, 622-23 (1993)); and (2) that when they conflict, specific provisions control over general ones (*Virginia Nat'l Bank v. Harris*, 220 Va. 336, 340, 257 S.E.2d 867, 870 (1979)). The present amendment would clarify the Unfit definition in harmony with the principles of construction.

Cost Impact:

The proposed amendment would have no clear cost impact on the Commonwealth or municipalities that enforce the VMC. However, if the Unfit definition were interpreted as Mr. Walsh's proposal M-202 suggests and the recent TRB Appeals decision seems to leave open, the costs to low-income homeowners throughout the state could be crushing.

The Unfit definition proposed and interpreted by Mr. Walsh would impose problematically vague requirements. This was clear in his testimony at the TRB appeal hearing, where he argued that the Unfit definition required an "approved primary heat source" (undefined in the USBC) that he explained as: (1) a heat source "labeled and used for whole-home heating and not for space heating" (TRB Hearing Audio Recording at 1:25:42); (2) heating "acceptable under the building code as a sole-source heater" (*Id.* at 1:26:46); and (3) a heat source with "documentation that supports that it is an acceptable heating system for a house" (*Id.* at 1:33:49). He even indicated that an owner-occupied home could be subject to condemnation for lack of an approved heating system "in July, when it is 102 [degrees] outside." (*Id.* at 1:32:49)

According to 2014 Census Bureau data, more than 68,000 owner-occupied dwellings in Virginia use wood as their primary heating fuel and nearly 5,000 others use no fuel at all for heating, together accounting for 3.6% of the total owner-occupied homes in the state. (U.S. Census Bureau, 2010-2014 American Community Survey 5-Year Estimates, Table B25117) It is unclear how many of those homes would be in violation of the amendments proposed in M-202, or how many of the homes heated primarily with electricity, coal, fuel oil, or "other fuel" also lack an "approved primary heat source" under Mr. Walsh's proposal M-202. But it is safe to assume that Mr. Walsh's proposal would affect many tens of thousands of households in Virginia.

Amending the Unfit definition as here proposed would protect potentially tens of thousands of homeowners from the great expense of compliance or even from losing their homes due to the overaggressive interpretation and application of the current definition, as interpreted through one possible reading of the TRB's recent decision and as suggested in the testimony quoted above.

Public Comments (1)

By **Teresa Gerber**
04-10-2017 14:17:04

The addition of ***required*** would not negate the heat requirement - as is stated several words later when ***heating facilities*** appears. Changing the definition of "Structure Unfit for Human Occupancy" as this proposal suggests doing could lead to more confusion,

not less. Manufacturer's instructions would likely be the source of the guidelines for **required** maintenance, but that type of regulation and enforcement would be impossible.

The TRB decision, noted above and entered March 22, 2016, states "*in its consideration of the issue, however, finds that DPDR did not provide enough evidence in its testimony, nor in its submitted documentation, to sufficiently demonstrate that the specific, individual homes owned by Munoz and Najera lacked heating facilities...when the inspections were performed...Moreover, DPDR staff could not assure the board that the homes in question presently lacked operation heating facilities.*" This decision is clearly stating there was not enough submitted proof for the violation to be upheld, not that heat should not be provided in an owner occupied dwelling.

Workgroup Recommendation

Workgroup 1 Recommendation Recommendation: Consensus for Disapproval

Workgroup 1 Reason: Combined workgroup 1, 2, 3, and 4 meeting

Workgroup 2 Recommendation Recommendation: Consensus for Disapproval

Workgroup 2 Reason: Combined workgroup 1, 2, 3, and 4 meeting

Board Decision

None

Board Decisions

- Approved**
- Approved with Modifications**
- Carryover**
- Disapproved**
- None**

M-202(1) cdpVA-15

Virginia:

BEFORE THE
STATE BUILDING CODE TECHNICAL REVIEW BOARD (REVIEW BOARD)

IN RE: Appeals of the City of Richmond
Appeal Nos. 15-12 and 15-13

Hearing Date: February 19, 2016

DECISION OF THE REVIEW BOARD

I. PROCEDURAL BACKGROUND

The State Building Code Technical Review Board (Review Board) is a Governor-appointed board established to rule on disputes arising from application of regulations of the Department of Housing & Community Development. See §§ 36-108 and 36-114 of the Code of Virginia. The Review Board's proceedings are governed by the Virginia Administrative Process Act. See § 36-114 of the Code of Virginia.

II. CASE HISTORY

1. In response to complaints, the City of Richmond Department of Planning and Development Review (DPDR), the agency

responsible for the enforcement of Part III of the 2006 Virginia Uniform Statewide Building Code, the Virginia Maintenance Code (VMC), issued Notices of Violation in March of 2015 to Mobile Towne Partnership (Partnership) for two manufactured homes (Unit TR80 and Unit 102) located on property in its park at 5005 Old Midlothian Turnpike.

2. The Notices cited a violation of VMC Section 105.1 (*Unsafe Structures or Structures Unfit for Human Occupancy*) alleging that the homes were unfit for human occupancy due to a lack of operational heating facilities.

3. The Notices of Violation issued by the DPDR were mailed to the Partnership in late March or early April of 2015 requiring abatement of the respective violations within thirty calendar days.

4. Subsequently, Phil Storey (Storey), legal counsel for the individual owners of the manufactured homes, Heberto Najera (Najera) and Ingrid Giron de Munoz (Munoz), Unit TR80 and TR102 respectively, filed appeals of the notices to the City of Richmond's Local Board of Building Code Appeals (City appeals board) in April of 2015, on owners' behalf.

5. The City appeals board conducted a hearing on the appeals and ruled to reverse DPDR's Notices of Violation on the

unfit provisions of VMC Section 105.1 relating to the lack of operational heating facilities in the homes.

6. Consequently, the DPDR further appealed to the Review Board.

7. Review Board staff conducted an informal fact-finding conference in October of 2015; attended by DPDR representatives, and the owners' legal counsel. It was clarified during the meeting that the property in the park is owned by the Partnership, but that one manufactured home is owned by Munoz, the other by Najera. During the conference, the parties agreed that the only issue under appeal is the local board's decision concerning the unfit provisions of Section 105.1 (*Unsafe Structures or Structures Unfit for Human Occupancy*) and whether the lack of functioning heating facilities in the homes constitutes a violation of the same section.

8. Review Board staff combined both DPDR appeals and a hearing before the Review Board was conducted with representatives from the City of Richmond and Storey, legal counsel for both homeowners, in attendance.

III. FINDINGS OF THE REVIEW BOARD

In general, the issue in this appeal is whether the lack of heating facilities constitutes a violation of Section 105.1 of the 2006 VMC (Unsafe Structures or Structures Unfit for Human Habitation) by rendering a "structure unfit for human habitation" as defined in Chapter 2 of the 2006 VMC as follows:

"An existing structure determined by the code official to be dangerous to the health, safety, and welfare of the occupants of the structure or the public because (i) of the degree to which the structure is in disrepair or lacks maintenance, ventilation, illumination, sanitary or heating facilities or other essential equipment, or (ii) the required plumbing and sanitary facilities are inoperable."

The Review Board, in its consideration of the issue, however, finds that DPDR did not provide enough evidence in its testimony, nor in its submitted documentation, to sufficiently demonstrate that the specific, individual homes owned by Munoz and Najera lacked heating facilities (i.e. the homeowners had not maintained their homes' heating facilities) when the inspections were performed in March of 2015. Moreover, DPDR staff could not assure the board that the homes in question presently lacked operational heating facilities. Absent such evidence, the Review Board cannot make a determination as to whether either home was, or still is, in violation of Section 105.1 of the 2009 VMC. Consequently, the Review Board finds it

As provided by Rule 2A:2 of the Supreme Court of Virginia, you have thirty (30) days from the date of service (the date you actually received this decision or the date it was mailed to you, whichever occurred first) within which to appeal this decision by filing a Notice of Appeal with Alan W. McMahan, Secretary of the Review Board. In the event that this decision is served on you by mail, three (3) days are added to that period.

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M-602.2(2) cdpVA-15

Proponent : Tom Belli (thomasabelli@gmail.com)

2012 Virginia Maintenance Code

602.2 Heat supply.

Every owner and operator of a Group R-2 apartment building or other residential dwelling who rents, leases or lets one or more dwelling unit, rooming unit, dormitory or guestroom on terms, either expressed or implied, to furnish heat to the occupants thereof shall supply heat during the period from October ~~15-30~~ to ~~May~~April 1 to maintain a temperature of not less than 65°F (18°C) in all habitable rooms, bathrooms, and toilet rooms. The code official may also consider modifications as provided in Section 104.5.2 when requested for unusual circumstances or may issue notice approving building owners to convert shared heating and cooling piping HVAC systems 14 calendar days before or after the established dates when extended periods of unusual temperatures merit modifying these dates.

- **Exception:**When the outdoor temperature is below the winter outdoor design temperature for the locality, maintenance of the minimum room temperature shall not be required provided that the heating system is operating at its full design capacity. The winter outdoor design temperature for the locality shall be as indicated in Appendix D of the *International Plumbing Code*.

602.3 Occupiable work spaces.

Indoor occupiable work spaces shall be supplied with heat during the period from October ~~130~~ to ~~May 15~~April 1 to maintain a temperature of not less than 65°F (18°C) during the period the spaces are occupied.

- **Exceptions:**
 1. Processing, storage and operation areas that require cooling or special temperature conditions.
 2. Areas in which persons are primarily engaged in vigorous physical activities.

602.4 Cooling supply.

Every owner and operator of a Group R-2 apartment building who rents, leases or lets one or more dwelling units, rooming units or guestrooms on terms, either expressed or implied, to furnish cooling to the occupants thereof shall supply cooling during the period from ~~May~~April 15 to October ~~115~~ to maintain a temperature of not more than 80°F (27°C) in all habitable rooms. The code official may also consider modifications as provided in Section 104.5.2 when requested for unusual circumstances or may issue notice approving building owners to convert shared heating and cooling piping HVAC systems 14 calendar days before or after the established dates when extended periods of unusual temperatures merit modifying these dates.

- **Exception:**When the outdoor temperature is higher than the summer design temperature for the locality, maintenance of the room temperature shall not be required provided that the cooling system is operating at its full design capacity.

The summer outdoor design temperature for the locality shall be as indicated in the *International Energy Conservation Code*.

Add new standard(s) as follows: 2012 Virginia Maintenance Code, Chapter 6, Section 602.2, 602.3 and 602.4.

[SECTION] 602.2 Heat supply.

Every owner and operator of a Group R-2 apartment building or other residential dwelling who rents, leases or lets one or more dwelling unit, rooming unit, dormitory or guestroom on terms, either expressed or implied, to furnish heat to the occupants thereof shall supply heat during the period from ~~October 15 to May 1~~ October 30 to April 1 to maintain a temperature of not less than 65°F (18°C) in all habitable rooms, bathrooms, and toilet rooms. The code official may also consider modifications as provided in Section 104.5.2 when requested for unusual circumstances or may issue notice approving building owners to convert shared heating and cooling piping HVAC systems 14 calendar days before or after the established dates when extended periods of unusual temperatures merit modifying these dates.

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Exceptions:

Processing, storage and operation areas that require cooling or special temperature conditions.

Areas in which persons are primarily engaged in vigorous physical activities.

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pipng HVAC systems 14 calendar days before or after the established dates when extended periods of unusual temperatures merit modifying these dates.

Exception: When the outdoor temperature is higher than the summer design temperature for the locality, maintenance of the room temperature shall not be required provided that the cooling system is operating at its full design capacity. The summer outdoor design temperature for the locality shall be as indicated in the International Energy Conservation Code.

Reason: Spring, Summer and Fall are becoming hotter earlier and longer. The health of citizens should be paramount and this is the easiest, simplest change to have a positive impact in peoples lives.

Cost Impact: Zero cost. Only changing dates on the calendar should not have any fiscal impact to landlords or tenants.

Public Comments (2)

By **Tom Belli**

05-01-2017 12:10:00

Hello,

My name is Tom Belli and I have been a resident of Alexandria for the past three years. Myself and many other renters in the city and the state are requesting to change the 2012 Virginia Maintenance Code, specifically when the heat supply and cooling supply are to be furnished. A change in code and updating policy can provide the relief needed for our state and cities residents.

Looking at global and local temperature trends it is hard to dispute that things are getting warmer no matter the cause. We just had our hottest April on record at a monthly average of 72.9 degrees, with 10 days over 80 degrees and 5 below 45. Also, looking at the temperature trends in October it is common to have 90 plus degree days well into the month. Looking at the information provided it is easy to see dangerous temperatures occur frequently in April and October. The effect of dangerously high temperatures can be found in the not too distant past. In 1995, Chicago experienced a heatwave the claimed the lives of many over 700 mothers and fathers, sons and daughters, grandparents and grandchildren. I do not want a similar tragedy to happen in our great Commonwealth.

The effect of not heeding a call for change in code and policy could potentially have devastating and life threatening effects on the most vulnerable in our communities. The elderly, who maybe on fixed incomes or have health issues, may not be able to afford to purchase an air conditioning unit for their home. Even one room air conditioning units can cost hundreds of dollars. Another vulnerable group are the sick. Without the ability to adjust the temperature in their home this could prolong or worsen symptoms of what ails them. During periods of extremely high temperatures breathing for those with lung and heart issues can exacerbate the ailment. Pregnant women and infants are susceptible to a wide variety of health concerns when dealing with unusually high temperatures, some include: dehydration, heat rash, fainting, heat stroke, and headaches.

The solution to the problem is simple. By changing the dates in which the heat and cooling supply must be furnished throughout the state will help avert potential life threatening situations from occurring. The recommendation I and several others make is have the heating supply be furnished between the dates of October 30th to April 1st and the cooling supply furnished from April 15th to October 15th. This would affect Section 602.2, 602.3 and 602.4 of the 2012 Virginia Maintenance Code. Given the information we have on global and local temperature trends the issue of hot springs and hot falls is not going away. The solution proposed is a simple adjustment that is cost effective to landlords while caring for children, the sick and the elderly. I urge the Virginia Department of Housing and Community Development to take up the issue and help lead the change so many residents desperately ask.

Thank you.

Attachment: Excel Sheets.xlsx

By **Tom Belli**

05-01-2017 12:09:57

Hello,

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Thank you.

Attachment: Excel Sheets.xlsx

Workgroup Recommendation

Workgroup 2 Recommendation Recommendation: Consensus for Disapproval

Workgroup 2 Reason: None

Board Decision

None

Board Decisions

- Approved**
- Approved with Modifications**
- Carryover**
- Disapproved**
- None**

M-602.2(2) cdpVA-15

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M-603.1(1) cdpVA-15

Proponent : Phillip Storey, Representing Legal Aid Justice Center
(phil@justice4all.org)

2012 Virginia Maintenance Code

603.1 Mechanical appliances.

All Required mechanical appliances, fireplaces, solid fuel-burning appliances, cooking appliances and water heating appliances shall be properly installed and maintained in a safe working condition, and shall be capable of performing the intended function.

Reason: Both the existing (2012) language and the amended language proposed in the VMC Rewrite Committee's document require full maintenance of installed mechanical appliances that are not required by the code, which could be costly and unjustified by health and safety concerns. This conflicts with the VBCOA's proposed new § 103.2.1 (included in the VMC Rewrite Committee's document), which we support. More importantly, it is also contrary to the purpose of the VMC as stated explicitly in Va. Code § 36-99 and in VMC § 102.1 of protecting health and safety while allowing maintenance at the least possible cost consistent with recognized standards. The language here proposed would bring § 603.1 into harmony with the explicit purpose of the VMC.

Cost Impact: Bringing mechanical appliance maintenance requirements in line with the explicit purpose of the VMC should have no cost impact on Virginia jurisdictions. It has the potential for significant cost savings to owners of structures, who not be required to maintain full functioning of non-required mechanical appliances that are not unsafe.

Public Comments (1)

By **Teresa Gerber**
04-10-2017 14:13:44

Currently, every component or system of a structure that is provided is required to be maintained, in the VMC, the IPMC and by manufacturer's instructions. Fireplaces, log lighters or even clothes dryers are not required, but if installed must be properly installed and maintained or removed.

The thought that only code required components or systems should be maintained in a safe manner is not in line with ensuring the health, safety and welfare of the residents of the Commonwealth of Virginia.

Workgroup Recommendation

Workgroup 1 Recommendation Recommendation: Consensus for Disapproval

Workgroup 1 Reason: Combined workgroup 1, 2, 3, and 4 meeting

Workgroup 2 Recommendation Recommendation: Consensus for Disapproval

Workgroup 2 Reason: None

Board Decision

None

Board Decisions

- Approved**
- Approved with Modifications**
- Carryover**
- Disapproved**
- None**

M-603.1(1) cdpVA-15

M-606.1(2) cdpVA-15

Proponent : Michael Redifer (mredifer@nnva.gov)

2012 Virginia Maintenance Code

606.1 General.

Elevators, dumbwaiters and escalators shall be maintained in compliance with ASME A17.1. The most current certificate of inspection shall be on display at all times within the elevator or attached to the escalator or dumbwaiter, be available for public inspection in the office of the building operator or be posted in a publicly conspicuous location approved by the code official. An annual periodic inspection and test is required of elevators and escalators. A locality shall be permitted to require a six-month periodic inspection and test. All periodic inspections shall be performed in accordance with Section 8.11 of ASME A17.1. The code official may ~~also~~ provide for such inspection by contract with an approved agency or, through agreement with other local certified elevator inspectors or by requiring the building owner to contract with an approved agency. An approved agency includes any individual, partnership or corporation who has met the certification requirements established by the Virginia Certification Standards and any additional qualifications as may be required by the code official.

Reason: Discussion of previously submitted C-113.7.1 cdpVA during Workgroup 1 meetings resulted in DHCD staff opinion that, as proposed, the revision may not apply to the periodic inspections referenced in VMC Section 606.1 which are required by VCC Section 104.1 regardless of whether the locality had chosen to enforce the VMC. The original proposal was intended to provide clear authorization of an existing and ongoing practice to require the third-party inspections.

Cost Impact: None

Public Comments (0)

Workgroup Recommendation

Workgroup 2 Recommendation Recommendation: Consensus for Disapproval

Workgroup 2 Reason: None

Board Decision

None

Board Decisions

- Approved**
- Approved with Modifications**
- Carryover**
- Disapproved**
- None**

M-606.1(2) cdpVA-15

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R-808.2 cdpVA-15

Proponent : Aaron Greene (Aaron.Greene@yorkcounty.gov)

2012 Virginia Rehabilitation Code

SECTION 202 DEFINITIONS

GENERAL DEFINITIONS

Health Care Facilities. Buildings or portions of buildings in which medical, dental, psychiatric, nursing, obstetrical, or surgical care are provided. Health care facilities include, but are not limited to, hospitals, nursing homes, limited care facilities, clinics, medical and dental offices, and ambulatory care centers, whether permanent or movable.

Patient Care Area. Any portion of a health care facility wherein patients are intended to be examined or treated.

Informational Note: Business offices, corridors, lounges, day rooms, dining rooms, or similar areas typically are not classified as patient care areas.

-

808.2 Existing installations.

Existing wiring in all work areas in Group A-1, A-2, A-5, H and I occupancies, or any work areas in patient care areas of healthcare facilities, shall be upgraded to meet the materials and methods requirements of Chapter 7.

Reason:

These definitions are pulled from the 2011 NFPA 70, "Health care Facility" is word for word, and "Patient Care Area" is the first sentence plus the informational note. Both are needed to understand the proposed change in section 808.2

Redundant grounding required by 517.13 of NFPA 70 has been required for decades, and is commonly accepted as being the safest installation possible where patients come into contact with electrical devices. It is very common for small clinics or dentist offices to modify existing space in a group B occupancies to add more, or make larger patient care areas. These buildings are often wired originally in type NM cable that is considered unsafe for patient care areas. To leave the existing outlets in these areas would create a safety hazard for the patient being cared for. This change would ensure the safety of any modified or new patient care area designed under the rehab code. The following is an article from EC&M written by ODE in March 2004.

Redundantly grounding all electrical equipment in a patient care area has provided one of the most critical pieces of a very complex puzzle involving patient protection. A careful study of the issues surrounding grounding in these areas will provide the installer with a better understanding of redundant grounding and the ultimate goal of providing an equipotential plane surrounding the patient. Section 517.13 provides information and requirements for redundant grounding, the text and the FPN in Section 517.11 provide the explanation for establishing and maintaining an equipotential plane around the patient care area. An equipotential plane, as applied to a patient care area, establishes an area surrounding the patient in which metal objects, the patient, all personnel within reach of a patient, and all electrical equipment are at the same electrical potential or zero difference of potential between any point within the patient care area. A patient

care area is defined in Section 517.2 as "any portion of a health care facility wherein patients are intended to be examined or treated." These areas within the health care facility are where the patient will most likely come into contact with electro-medical devices through external or internal connection to or through the patient's skin. A patient care area can be either general care or critical care areas, and either a general care area or a critical area can involve a wet (procedure) location. A wet procedure location in a patient care area is a location that is normally subject to wet conditions while a patient is present. These locations usually involve some type of wet procedure with standing fluids on the floor or drenching of the work area, either of which is intimate to the patient or staff. Routine housekeeping procedures and incidental spillage of liquids are not considered to be a wet (procedure) location since a medical procedure is not involved. An example of a wet procedure would involve a patient being immersed in water while still connected to electro-medical devices, such as would be the case with hypothermia cases or similar applications. In wet (procedure) locations, creating and maintaining an equipotential plane is critical since very small differences of potential can have serious consequences for the patient. Patient vicinities are spaces where electrical devices have metal surfaces likely to be contacted by the patient or an attendant who can touch the patient. Typically in a patient room, this encloses a space within the room not less than 1.8m (6 feet) beyond the perimeter of the bed in its nominal location, and extending vertically not less than 2.3m (7 1/2 feet) above the floor. Again, maintaining an equipotential plane is critical in this area since even small differences of potential can cause current flow that can have devastating effects on the patient, especially where the patient is connected internally to the electrical equipment. Section 517.11 provides information via the Fine Print Note that preventing a conductive or capacitive path from the patient's body to a grounded object in close proximity to the patient is very difficult. The path of current through the patient's body to a grounded object may be accidental or it may be through electrical equipment actually connected to the patient. As the number of electrical devices and apparatus that are near or connected to the patient increase, the hazard of current flow, through the patient to other grounded surfaces or from one electrical device, also increases. Control of the electrical shock hazard to the patient involves controlling the amount of electrical current that may flow from the electrical equipment through the patient to some grounded object or to another piece of electrical equipment. This control can be accomplished by raising the resistance of the circuit (including the patient) or by insulating exposed surfaces that might become energized or that could develop a difference of potential to another adjacent surface. When two metal surfaces or two different medical devices develop a difference of potential, a natural capacitance is formed (commonly called distributed capacitance) with air being the dielectric between the two different plates of the capacitor. Even this relatively small capacitive discharge from one surface to another through medical devices connected to a patient by external leads can have catastrophic effects on the patient. Section 517.13 requires a redundant grounding path be established by using a separate insulated equipment grounding conductor in conjunction with a totally separate grounding path on either a metal raceway or a cable with an outer metal armor or metal sheath identified as an acceptable grounding return path. Requiring all branch circuits for fixed electrical equipment and receptacles supplying power to equipment in the patient care area to have a redundant grounding system ensures a positive grounding path and helps establish the equipotential plane surrounding the patient.

Cost Impact: This proposal would increase the cost of construction. This could range anywhere from \$100 and up per patient care area. It would consist of re-wiring all existing outlets with either a metallic raceway system, or a listed cable assembly. The cost would be different from job to job.

Public Comments (0)

Workgroup Recommendation

Workgroup 2 Recommendation Recommendation: Consensus for Disapproval

Workgroup 2 Reason: Combined workgroups 1, 2, 3, & 4 meeting

Workgroup 4 Recommendation Recommendation: Consensus for Disapproval

Workgroup 4 Reason: Combined workgroups 1, 2, 3, & 4 meeting

Board Decision

None

Board Decisions

- Approved**
- Approved with Modifications**
- Carryover**
- Disapproved**
- None**

R-808.2 cdpVA-15

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R-902.1.2 cdpVA-15

Proponent : William King (william.king@alexandriava.gov)

2012 Virginia Rehabilitation Code

902.1.2 Elevators.

Where there is an elevator or elevators for public use, at least one elevator serving the work area shall comply with this section. ~~Existing elevators with a travel distance of 25 feet (7620 mm) or more above or below the main floor or other level of a building and intended to serve the needs of emergency personnel for fire-fighting or rescue purposes shall be provided with emergency operation in accordance with ASME A17.3.~~ New elevators All replacement elevator cars shall be provided with Phase I emergency recall operation and Phase II emergency in-car operation in accordance with ASME A17.1.

902.1.2.1 Existing Elevators Existing elevators with a travel distance of 25 feet (7620 mm) or more above or below the main floor or other level of a building and intended to serve the needs of emergency personnel for fire-fighting or rescue purposes shall be provided with emergency operation in accordance with ASME A17.3.

902.1.2.2 Elevator car to accommodate ambulance stretcher An elevator car able to accommodate an ambulance stretcher per the Virginia Construction Code shall be provided.

Exception:

The existing shaft is too small to accommodate the new elevator car.

Reason: An elevator car capable of accomidating an ambulance stretcher is a critical component of rapid and effective responses to medical emergencies. As a Level 3 Alteration of a High Rise building would respresent a significant investement in the existing building, this appears to be a reasonable threshold at which to place a requirement for this type of upgrade. To minimize the burden, an exception has been provided if the existing shaft is too small to allow for a compliant elevator car to be installed.

Cost Impact: This will increase the cost of construction.

Public Comments (0)

Workgroup Recommendation

Workgroup 2 Recommendation Recommendation: Consensus for Disapproval

Workgroup 2 Reason: 6/13/17 Consensus for disapproval
4/11/17 Combined workgroups 1, 2, 3, & 4 meeting Carryover to the June workgroup meeting to allow review by the VBCOA rehab committee.

Board Decision

None

Board Decisions

- Approved**
- Approved with Modifications**
- Carryover**
- Disapproved**
- None**

R-902.1.2 cdpVA-15

R-902.1.3 cdpVA-15

Proponent : William King (william.king@alexandriava.gov)

2012 Virginia Rehabilitation Code

902.1.3 Fire Command Center A fire command center shall be provided in accordance with the Virginia Construction Code. If required features are not provided within the building, the fire command center shall be constructed to support thier future installation.

Reason: This section is to clearly require that a fire command center be installed in high rise buildings. These command centers are critical to addressing the specific challenges associated with significant events within these massive structures. As this requirement is limited to Level 3 alterations and above, it is only required where the majority of the building is undergoing significant construction or change in use.

Cost Impact: This will increase the cost of construction for Level 3 alterations for high rise building. As this requirement is limited to only high buildings at Level 3 alteration and change in occupancies, this cost should be small relative to the overall cost of the projects.

Public Comments (1)

By **Kenney Payne**

12-19-2016 18:04:47

The AIA-VA does not support this proposal. Although a Level 3 alteration involves over 50% of the existing building undergoing reconfigured spaces/work areas, what happens if the fire command center is located in the other 49% of the building (e.g., work areas are on the top 5 stories of a 10-story building with no work on the lower 5 stories - who pays to provide the fire command center? What if the command center has to be "cut out of" an existing tenant's rental space that is not undergoing any alterations? Does the building official claim such space through eminent domain?

While we support providing such a command center, as written, it could have unintended consequences. Perhaps the proponent would be willing to require such command center only if the work areas/reconfigured spaces would occur where such command center would most likely be located - on the level of exit discharge.

Workgroup Recommendation

Workgroup 2 Recommendation Recommendation: Consensus for Disapproval

Workgroup 2 Reason: 6/13/17 Consensus for disapproval
4/11/17 Combined workgroups 1, 2, 3, & 4 Carryover to the June workgroup meeting to allow review by the VBCOA rehab committee.

Board Decision

None

Board Decisions

- Approved**
- Approved with Modifications**
- Carryover**
- Disapproved**
- None**

R-902.1.3 cdpVA-15

M-103.2.1 cdpVA-15

Proponent : Earl Weaver, Representing VBCOA Property Maintenance Code; Co-Proponent: Greg Revels, representing Henrico County (Earl.Weaver@Richmondgov.com and rev04@henrico.us)

2012 Virginia Maintenance Code

Add new Section 103.2.2 as follows:

103.2.2 Responsibility. The owner of a structure shall provide and maintain all buildings, structures, systems, facilities and associated equipment in compliance with this code unless it is specifically expressed or implied that it is the responsibility of the tenant or occupant.

Add a new Section 105 (Violations) after existing Section 104.5.3.4 (Qualifications), add new Section 105.1 and change Sections 104.5.4, 104.5.4.1, 104.5.4.2, 104.5.5, 104.5.6, and 104.5.7 as follows:

SECTION 105 **VIOLATIONS**

105.1 Violation a misdemeanor; civil penalty. In accordance with Section 36-106 of the Code of Virginia, it shall be unlawful for any owner or any other person, firm or corporation, on or after the effective date of any code provisions, to violate any such provisions. Any locality may adopt an ordinance that establishes a uniform schedule of civil penalties for violations of specified provisions of the code that are not abated or remedied promptly after receipt of a notice of violation from the local enforcement officer.

Note: See the full text of Section 36-106 of the Code of Virginia for additional requirements and criteria pertaining to legal action relative to violations of the code.

~~104.5.4~~ **105.2 Notices, reports and orders.** Upon findings by the code official that violations of this code exist, the code official shall issue a correction notice or notice of violation to the owner or the person responsible for the maintenance of the structure. Work done to correct violations of this code subject to the permit, inspection and approval provisions of the VCC shall not be construed as authorization to extend the time limits established for compliance with this code.

~~104.5.4.1~~ **105.3 Correction notice.** The correction notice shall be a written notice of the defective conditions. The correction notice shall require correction of the violation or violations within a reason-able time unless an emergency condition exists as provided under the unsafe building provisions of Section ~~105~~ 106. Upon request, the correction notice shall reference the code section that serves as the basis for the defects and shall state that such defects shall be corrected and re-inspected in a reasonable time designated by the code official.

~~104.5.4.2~~ **105.4 Notice of violation.** If the code official determines there are violations of this code ~~other than those for unsafe structures, unsafe equipment or~~

~~structures unfit for human occupancy under Section 105, the code official may issue a written notice of violation may be issued to be communicated promptly in writing to the owner or the person responsible for the maintenance or use of the building or structure in lieu of a correction notice as provided for in Section 104.5.4.1 105.3. In addition, the code official shall issue a notice of violation for any uncorrected violation remaining from a correction notice established in Section 104.5.4.1 105.3. A notice of violation shall be issued by the code official before initiating legal proceedings unless the conditions violate the unsafe building conditions of Section 105 and the provisions established therein are followed. The code official shall provide the section numbers to the owner for any code provision cited in the notice of violation. The notice shall require correction of the violation or violations within a reasonable time unless an emergency condition exists as provided under the building provisions of Section 105. The owner or person to whom the notice of violation has been issued shall be responsible for contacting the code official within the time frame established for any re-inspections to assure the violations have been corrected. The code official will be responsible for making such inspection and verifying the violations have been corrected. In addition, the notice of violation shall indicate the right of appeal by referencing the appeals section of this code.~~

Exceptions:

1. Notices issued, and legal proceedings or emergency actions taken, under Section 106 for unsafe structures, unsafe equipment or structures unfit for human occupancy.
2. Notices issued for failing to maintain buildings and structures as required by Section 103.2, as evidenced by multiple or repeated violations on the same property, are not required to include a compliance deadline for correcting defects.

~~104.5.5~~ **105.5 Coordination of inspections.** The code official shall coordinate inspections and administrative orders with any other state or local agencies having related inspection authority and shall coordinate those inspections required by the Virginia Statewide Fire Prevention Code (13VAC5-51) for maintenance of fire protection devices, equipment and assemblies so that the owners and occupants will not be subjected to numerous inspections or conflicting orders.

Note: The Fire Prevention Code requires the fire official to coordinate such inspections with the code official.

~~104.5.6~~ **105.6 Further action when violation not corrected.** If the responsible party has not complied with the notice of violation, the code official ~~may~~ shall submit a written request to the legal counsel of the locality to institute the appropriate legal proceedings to restrain, correct or abate the violation or to require the removal or termination of the use of the building or structure involved. In cases where the locality or legal counsel so authorizes, the code official may issue or obtain a summons or warrant. Compliance with a notice of violation notwithstanding, the code official may request legal proceedings be instituted for prosecution when a person, firm or corporation is served with three or more notices of violation for the same property.

~~104.5.7~~ **105.7 Penalties and abatement.** Penalties for violations of this code shall be as set out in § 36-106 of the Code of Virginia. The successful prosecution of a violation of the code shall not preclude the institution of appropriate legal action to

require correction or abatement of a violation.

(renumbering remaining sections of the VMC accordingly)

Reason: This proposal creates a new section in the VMC specific to violations of the code, including violations of 103.2. New Section 105.1 is copied from Section 115.1 of the VCC, to reinforce Code of Virginia Section 36-106 citing that it is unlawful to violate the VMC. Section 105.4 is reformatted to relocate the exemptions for unsafe structures cited per Section 106 as exceptions from this section. A new exception is provided to also exempt violations of Section 103.2 from having to incorporate compliance deadlines, since these are on-going violations. The sentence requiring issuance of a notice of violation prior to initiating legal proceedings is proposed for deletion because Section 105.6 prohibits legal action prior to issuance of a violation notice.

The new draft also provides clear responsibility for owners to continually maintain buildings and structures instead of only when cited for violations by the code official. Language is also provided to assure that violations of Section 103.2 shall only be cited or prosecuted based on the discovery of multiple or repeated violations on the same property.

Cost Impact: None.

Workgroup Recommendation

Workgroup 1 Recommendation Recommendation: Non-Consensus Final

Workgroup 1 Reason: None

Board Decision

None

Board Decisions

- Approved**
- Approved with Modifications**
- Carryover**
- Disapproved**
- None**

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M-505.4 cdpVA-15

Proponent : Earl Weaver (earl.weaver@richmondgov.com)

2012 Virginia Maintenance Code

Further amend Section 505.4 of the IPMC as published in the 2015 VMC proposed regulations to read as follows (further amendments are shown between brackets):

505.4 Water heating facilities. Water heating facilities shall be maintained. Combination temperature and pressure-relief valves and relief valve discharge pipes shall be maintained on water heaters. [Water heating facilities and combination temperature and pressure-relief valves shall be maintained on water heaters to produce a minimum temperature of 110°F (43°C.]

Reason: The reason behind the suggestion is because through discussion the Property Maintenance Committee decided that the lack of the minimum temperature was detrimental to the enforcement of the code, and it should be put back in the code section.

Cost Impact: no cost

Public Comments (0)

Workgroup Recommendation

Workgroup 2 Recommendation Recommendation: Non-Consensus Final

Workgroup 2 Reason: None

Board Decision

None

Board Decisions

- Approved**
- Approved with Modifications**
- Carryover**
- Disapproved**
- None**

M-505.4 cdpVA-15

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M-602.2(1) cdpVA-15

Proponent : Earl Weaver, Representing Property Maintenance Committee
(earl.weaver@richmondgov.com)

2012 Virginia Maintenance Code

Amend the proposed regulations for the VMC as follows:

602.2 Heat supply. Every owner and operator of a Group R-2 apartment building or other residential building who rents, leases, or lets one or more dwelling unit, rooming unit, dormitory, or guestroom on terms, either expressed or implied, to furnish heat to the occupants thereof shall supply heat during the period from October 15 to May 1 to maintain a temperature of not less than 68°F (20°C) in all habitable rooms, bathrooms, and toilet rooms. The code official may also consider modifications as provided in Section 104.5.2 when requested for unusual circumstances or may issue notice approving building owners to convert shared heating and cooling piping HVAC systems 14 calendar days before or after the established dates when extended periods of unusual temperatures merit modifying these dates. Notwithstanding the above, all habitable structures shall have a comfort heat source capable of keeping the plumbing and sanitation systems free from freezing and cold related damage.

Exception: When the outdoor temperature is below the winter outdoor design temperature for the locality, maintenance of the minimum room temperature shall not be required provided that the heating system is operating at its full design capacity. The winter outdoor design temperature for the locality shall be as indicated in Appendix D of the IPC.

602.2.1 Prohibited use. In dwelling units subject to Section 602.2, one or more portable unvented room heaters shall not be used as the sole source of comfort heat in a dwelling unit.

Reason:

Section 602.2 - Based on a recent decision by the TRB that the revision to 602.2 of the VMC exempted owner occupied properties from the requirement for any heating facilities it is necessary to clarify the language and also to clarify the intent of the Board of Housing. It was argued that the Board in their 1990 original revision to the definition and to the section of code found in 602.2 purposefully excluded owner occupied structures from the requirement for any heat source. Even in light of the fact that the definition of a "nuisance" structure (precursor to the current Unsafe/Unfit definitions) in 1990 stated "Any" structure that lacked heat was a nuisance structure.

It was argued that because in that same cycle the performance measurement was limited to rental units only (instead of all habitable structures as originally written in the BOCA standard) that the owner occupied structures were excluded from the requirement for any type of minimum heat source. The locality argued that all structures were required to have some form of heat source and that when the Board limited the performance measurement that they did not exclude any property or structure from the requirement for minimum heating standards, that in fact they kept the performance standard for rental units and allowed owner occupied structures to operate without a set standard to allow for alternative heat sources. This argument was bolstered by the

testimony of a TRB member who is also a former Board member. He argued that he served 8 years on the Board and was involved with the approval of standards for two code cycles and did not believe it was ever the intent of the board to exclude owner occupied structures, but to limit the performance standard to rental units. It is my opinion that some form of minimum heat source is required otherwise how would an owner keep his plumbing and sanitation system operational in the winter? For these reasons I ask that the Board to consider this code change in order to provide greater clarity as to the requirements for providing heat to an owner occupied structure.

Section 602.2.1 - The reason for this proposal is unvented room heaters can also include electric baseboard heating. The committee would like unvented heating to be defined as portable.

Cost Impact: No or minor cost.

Public Comments (2)

By **Phillip Storey**
08-19-2017 19:20:23

We urge the Board of Housing and Community Development ("Board") to reject M-602.2(1)'s proposed amendment to the Virginia Maintenance Code ("VMC") § 602.2 because it represents a substantial change to the heating requirements adopted by the Board consistently since for more than 25 years. Additionally, M-602.2(1)'s changes would overturn the Board's intent to exclude owner-occupied dwellings from the VMC's heating requirements, which the code has reflected since 1990. While current and past editions of the international model maintenance codes require owner-occupied dwellings to have heating facilities, the Board has repeatedly rejected that requirement and imposed heating obligations only on rented or leased dwellings.

The summary the Board published in the Register along with the 1990 VMC amendments includes a clear explanation of the Board's intent in the amended heating requirement. "[T]ext was deleted from the BOCA Property Maintenance Code, §§ PM-601.1 and PM-601.2, which required heat to be supplied in all buildings, rather than just those being rented or leased. This change was necessary to be consistent with Volume I of the Uniform Statewide Building Code." 7 Va. Reg. Regs. 1085 (December 31, 1990). Thus the Board rejected not just the performance standard, but the heating requirement altogether, for owner-occupied dwellings. And the Board maintained this amendment through many more code cycles, even after heating facilities were first required in new dwellings subject to the Residential Code in 2003.

M-602.2(1)'s alternative reading contradicts not only the explicit reason the Board gave for amending the heating requirement, it also conflicts with well-established rules for interpreting potentially ambiguous statutes and regulations. And although proposal M-602.2(1) purports to have "no or minor" cost impact, it offers no support for this assertion. In fact, data from the U.S. Energy Information Administration and the U.S. Census Bureau indicate that its adoption would affect tens of thousands of mostly low-income families in Virginia, imposing potentially heavy compliance costs on each.

Please see attached memorandum for a more complete argument against M-602.2(1),

based on the context of the proposal, the history of VMC § 602.2 and related provisions, the well-established rules for interpreting regulations, and the costs it could impose on tens of thousands of Virginia's homeowners.

Attachment: 2017 Memo re 602_2-1.pdf

By **Phillip Storey**

08-19-2017 19:20:19

We urge the Board of Housing and Community Development ("Board") to reject M-602.2(1)'s proposed amendment to the Virginia Maintenance Code ("VMC") § 602.2 because it represents a substantial change to the heating requirements adopted by the Board consistently since for more than 25 years. Additionally, M-602.2(1)'s changes would overturn the Board's intent to exclude owner-occupied dwellings from the VMC's heating requirements, which the code has reflected since 1990. While current and past editions of the international model maintenance codes require owner-occupied dwellings to have heating facilities, the Board has repeatedly rejected that requirement and imposed heating obligations only on rented or leased dwellings.

The summary the Board published in the Register along with the 1990 VMC amendments includes a clear explanation of the Board's intent in the amended heating requirement. "[T]ext was deleted from the BOCA Property Maintenance Code, §§ PM-601.1 and PM-601.2, which required heat to be supplied in all buildings, rather than just those being rented or leased. This change was necessary to be consistent with Volume I of the Uniform Statewide Building Code." 7 Va. Reg. Regs. 1085 (December 31, 1990). Thus the Board rejected not just the performance standard, but the heating requirement altogether, for owner-occupied dwellings. And the Board maintained this amendment through many more code cycles, even after heating facilities were first required in new dwellings subject to the Residential Code in 2003.

M-602.2(1)'s alternative reading contradicts not only the explicit reason the Board gave for amending the heating requirement, it also conflicts with well-established rules for interpreting potentially ambiguous statutes and regulations. And although proposal M-602.2(1) purports to have "no or minor" cost impact, it offers no support for this assertion. In fact, data from the U.S. Energy Information Administration and the U.S. Census Bureau indicate that its adoption would affect tens of thousands of mostly low-income families in Virginia, imposing potentially heavy compliance costs on each.

Please see attached memorandum for a more complete argument against M-602.2(1), based on the context of the proposal, the history of VMC § 602.2 and related provisions, the well-established rules for interpreting regulations, and the costs it could impose on tens of thousands of Virginia's homeowners.

Attachment: 2017 Memo re 602_2-1.pdf

Workgroup Recommendation

Workgroup 2 Recommendation Recommendation: Non-Consensus Final

Workgroup 2 Reason: None

Board Decision

None

Board Decisions

- Approved**
- Approved with Modifications**
- Carryover**
- Disapproved**
- None**

M-602.2(1) cdpVA-15

R-402.5 cdpVA-15

Proponent : Kenney Payne, Representing AIA-VA
(kpayne@moseleyarchitects.com)

2015 International Existing Building Code

~~**402.5 Smoke alarms in existing portions of a building.** Where an *addition* is made to a building or structure of a Group R or I-1 occupancy, the *existing building* shall be provided with smoke alarms in accordance with Section 1103.8 of the *International Fire Code*.~~

~~**403.10 Smoke alarms.** Individual sleeping units and individual dwelling units in Group R and I-1 occupancies shall be provided with smoke alarms in accordance with Section 1103.8 of the *International Fire Code*.~~

~~SECTION 1104 SMOKE ALARMS IN OCCUPANCY GROUPS R AND I-1~~

~~**1104.1 Smoke alarms in existing portions of a building.** Where an *addition* is made to a building or structure of a Group R or I-1 occupancy, the *existing building* shall be provided with smoke alarms as required by Section 1103.8 of the *International Fire Code* or Section R314 of the *International Residential Code* as applicable.~~

Reason: These are tantamount to a "retrofit" requirement (requiring elements in an existing building, even if the scope of work does not involve that portion or portions) and are noted as such in the 2012 Code Commentary because it is the desire at the national level to apply these provisions "regardless of whether an alteration, addition or change of occupancy is occurring." This has not been the "Virginia Way" in the past ("if you don't touch it, you don't need to do anything") and goes against the purpose of VRC 102.1 by requiring a scope of work that could go well beyond what was originally intended and thus become a costly and time-consuming imposition.

Regarding 402.5 and 1104.1: One could add a 10' wide x 6' deep vestibule on the front of an existing 'R' or 'I-1' building and the original provision would require smoke alarms throughout the entire existing building!

Regarding 403.10: One could be performing what would otherwise be considered a "Level 1" alteration (e.g., replacing carpet in the main lobby and hallways) and the original provision would require smoke alarms throughout all existing sleeping and dwelling units - even if none of the alterations involved such units.

Also, Virginia deleted Chapter 11 of the IFC in its entirety, thus creating a potential interpretation issue of whether the provisions apply or not.

Cost Impact: Would result in **COST SAVINGS** by eliminating the "retrofit" requirement to add smoke alarms to entire existing buildings and/or sleeping/dwelling units.

Public Comments (1)

By **James Dawson**

I will disagree with Mr. Payne's comment that this single portion of the IEBC is a full fledged retrofit. With any of the rehab code or existing building code, you could make the argument that that code is a retrofitting requirement. Unless the designer, inspector, and builder rehab or renovate a building precisely to the building code under which it was originally constructed, these codes are in fact retrofit provisions - but only to the extent work is being done in the building. And in this case, work is being done to the life safety system - the smoke alarm - and it should be brought up to current requirements for those systems.

I suggest that when the scope of work involves "that portion or portions" of the building related to smoke alarms in these occupancies, the trigger of "or portions" is no different that any other building services or system that is being renovated. If the smoke alarm systems are not being renovated, no modifications to the smoke alarms (existing or not) are required.

This code change weakens the fire safety of existing buildings under renovation and should be denied.

Workgroup Recommendation

Workgroup 2 Recommendation Recommendation: Non-Consensus Final

Workgroup 2 Reason: Combined workgroups 1, 2, 3, and 4 meeting. Non-consensus due to multiple comments about whether or not retrofit requirements were valid.

Board Decision

None

Board Decisions

- Approved**
- Approved with Modifications**
- Carryover**
- Disapproved**
- None**

R-402.5 cdpVA-15

A-75 cdpVA-15

Proponent : Michael Redifer, Representing City of Newport News
(mredifer@nnva.gov)

2012 Virginia Building and Fire Code Related Regulations

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~~utilized by the owner or operator of the device, the fees shall be reduced by 75%:

1. \$35 for each small mechanical ride or inflatable amusement device covered by the permit;
2. \$55 for each circular ride or flat-ride less than 20 feet in height covered by the permit;
3. \$75 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;
4. \$200 for each coaster covered by the permit that exceeds 30 feet in height; and
5. The local building department may charge an additional fee for permits and inspections of generators and associated wiring for amusement device events. Generators subject to these fees are those used exclusively with amusement devices and that are inspected by the local building department. The fee per event shall not exceed \$165 and shall not exceed the actual cost to perform the inspection or inspections.
 - **Exception:** Small portable generators serving only cord and plug connected equipment loads are not subject to the fee.

Notwithstanding the above, the local building department shall be permitted to increase the fees up to 50% when requested to perform weekend or after-hour inspections.

B. Notwithstanding the provisions of subsection A of this section, when an amusement device is constructed in whole or in part at a site for permanent operation at that site and is not intended to be disassembled and moved to another site, then the local building department may utilize permit and inspection fees established pursuant to the USBC to defray the cost of enforcement. This authorization does not apply to an amusement device that is only being reassembled, undergoing a major modification at a site or being moved to a site for operation.

C. A permit application shall be made to the local building department at least five days before the date in which the applicant intends to operate an amusement device. The application shall include the name of the owner, operator or other person assuming responsibility for the device or devices, a general description of the device or devices including any serial or identification numbers available, the location of the property on which the device or devices will be operated and the length of time of operation. The permit application shall indicate whether a private inspector will be utilized. If a private inspector is not utilized, the applicant shall give reasonable notice when an inspection is

sought and may stipulate the day such inspection is requested provided it is during the normal operating hours of the local building department. In addition to the information required on the permit application, the applicant shall provide proof of liability insurance of an amount not less than \$1,000,000 per occurrence or proof of equivalent financial responsibility. The local building department shall be notified of any change in the liability insurance or financial responsibility during the period covered by the permit.

D. Notwithstanding the provisions of subsection C of this section, a permit application is not required for a small mechanical ride or an inflatable amusement device that has a certificate of inspection issued by any local building department in this Commonwealth within a six-month period for small mechanical rides or one-year period for inflatable amusement devices prior to the dates the small mechanical ride or inflatable amusement device is to be used, regardless of whether the device has been disassembled and moved to a new site. In such cases, the local building department shall be notified at least three days prior to the operation of the small mechanical ride or the inflatable amusement device and the information required on a permit application as listed in subsection C of this section shall be provided to the local building department. In addition, and notwithstanding the provisions of subsection A of this section, the local building department shall be permitted to charge a \$50 inspection fee per event to the person notifying the local building department of an event where an inflatable amusement device is operating, if the local building department chooses to inspect any or all of the inflatable amusement devices operating at that event. An inspection report shall be provided to the person notifying the local building department of the event if such an inspection is conducted.

E. Local building department personnel shall examine the permit application within five days and issue the permit if all requirements are met. A certificate of inspection for each amusement device shall be issued when the device has been found to comply with this chapter by a private inspector or by an inspector from the local building department. It shall be the responsibility of the local building department to verify that the private inspector possesses a valid certificate of competence as an amusement device inspector from the Virginia Board of Housing and Community Development. In addition, local building department personnel shall be responsible for assuring that the certificate of inspection is posted or affixed on or in the vicinity of the device in a location visible to the public. Local building department personnel shall post or affix such certificates or permit the certificates to be posted or affixed by the private inspector. Permits shall indicate the length of time the device or devices will be operated at the site, clearly identify the device or devices to which it applies and the date of expiration of the permit. Permits shall not be valid for longer than one year, except that permits for small mechanical rides shall not be valid for longer than six months.

F. In addition to obtaining a certificate of inspection in conjunction with a permit application for amusement devices permanently fixed to a site, a new certificate of inspection shall also be obtained prior to the operation of an amusement device following a major modification, prior to each seasonal operation of a device, at least once during the operating season and prior to resuming the operation of a device following an order from a local building department to cease operation. This requirement shall not apply to small mechanical rides meeting the conditions outlined in subsection D of this section.

G. For amusement devices manufactured prior to 1978, the owner or operator shall have the information required by §§ 2.1 through 2.6 of ASTM F698 available at the time of inspection. In addition, the operator of any amusement device shall be responsible for obtaining all manufacturer's notifications, service bulletins and safety alerts issued

pursuant to ASTM F853 and the operator shall comply with all recommendations and requirements set out in those documents. A copy of all such documents shall be made available during an inspection.

H. In the enforcement of this chapter, local building department personnel shall have authority to conduct inspections at any time an amusement device would normally be open for operation or at any other time if permission is granted by the owner or operator, to issue an order to temporarily cease operation of an amusement device upon the determination that the device may be unsafe or may otherwise endanger the public and to accept and approve or deny requests for modifications of the rules of this chapter in accordance with the modification provisions of the USBC.

I. In accordance with subdivision 7 of [§ 36-137](#) of the Code of Virginia, the local building department shall collect a 2.0% levy of fees charged for permits under this chapter and transmit it quarterly to DHCD to support training programs of the Virginia Building Code Academy. Localities that maintain individual or regional training academies accredited by DHCD shall retain such levy.

J. In accordance with [§ 36-98.3](#) of the Code of Virginia and [13VAC5-31-10 B](#), the procedures for violations of this chapter shall be as prescribed in the USBC.

K. In accordance with [§ 36-98.1](#) of the Code of Virginia, the Virginia Department of General Services (DGS) shall function as the local building department for the application of this chapter to amusement devices located on state-owned property. In accordance with [§§ 36-98.2](#) and [36-114](#) of the Code of Virginia, appeals of the application of this chapter by the DGS shall be made directly to the State Building Code Technical Review Board. Further, as a condition of this chapter, such appeals shall be filed within 14 calendar days after receipt of the decision of DGS.

Reason: A number of localities do not have certified amusement device inspectors on staff and in many cases must secure the services of a private inspector. This section as written requires the locality to reduce permit fees by seventy-five percent when a private inspector is used regardless of whether the inspector is compensated by the owner/operator or the locality. The obvious intent of this limitation on fees was to reduce the permit fee paid by the owner/operator when they were also paying the private inspector directly. When the inspector is paid by the locality, the full permit fee should be allowed.

Cost Impact: Cost to the local building department will be reduced in those localities providing the services of a private inspector whereas cost to the device owner/operator will be increased in those same localities.

Workgroup Recommendation

Workgroup 1 Recommendation Recommendation: Consensus for Approval

Workgroup 1 Reason: Combined workgroup 1, 2, 3, & 4 meeting

Board Decision

None

Board Decisions

- Approved
- Approved with Modifications
- Carryover

- Disapproved**
- None**

I-120 cdpVA-15

Proponent : DHCD State Building Codes Office

DHCD Staff Contact: Eric Leatherby (eric.leatherby@dhcd.virginia.gov)

2012 Virginia Building and Fire Code Related Regulations

13VAC5-91-120. Unregistered industrialized buildings.

A. The building official shall determine whether any unregistered industrialized building complies with this chapter and shall require any noncomplying unregistered building to be brought into compliance with this chapter. The building official shall enforce all applicable requirements of this chapter including those relating to the sale, rental and disposition of noncomplying buildings. The building official may require submission of full plans and specifications for each building. Concealed parts of the building may be exposed to the extent necessary to permit inspection to determine compliance with the applicable requirements. The building official may also accept reports of inspections and tests from individuals or agencies deemed acceptable to the building official.

13VAC5-91-125. Registration of unregistered industrialized buildings.

B. An existing unregistered industrialized building may be registered in accordance with one of the following:

1. Where an unregistered building was constructed under an industrialized building program of another state and approved under such program, a compliance assurance agency shall prepare a report based on review of the plans and specifications and inspection of the building to determine whether there is compliance with the construction requirements of this chapter that were in effect on the date of manufacture of the building. If compliance is determined, the compliance assurance agency shall (i) mark the building with a compliance assurance agency label in accordance with 13VAC5-91-210, (ii) place a new manufacturer's data plate on the building in accordance with 13VAC5-91-245, (iii) mark the building with a registration seal in accordance with 13VAC5-91-260, and (iv) forward a copy of the report and new data plate to the SBCO.
2. Where an unregistered building was not approved under an industrialized building program of another state and the date of manufacture can be verified, the compliance assurance agency shall inspect the building, including any disassembly necessary, to determine whether there is compliance with the construction requirements of this chapter that were in effect on the date of manufacture of the building. When factory plans are available, then disassembly is not required to the extent that the factory plans can be verified to reflect the actual construction of the building. When compliance with the construction requirements of this chapter that were in effect on the date of manufacture of the building is achieved, the compliance assurance agency shall prepare a report documenting compliance, outlining any changes made to the building, and certifying the building in accordance

- with clauses (i) through (iv) of subdivision 1 of this subsection.
3. When the date of manufacture of the existing unregistered building cannot be verified, the building shall be evaluated for compliance with the codes and standards specified in 13VAC5-91-160. The compliance assurance agency shall inspect the building, including any disassembly necessary, to determine whether there is compliance with these construction requirements. If compliance is achieved, the compliance assurance agency shall prepare a report documenting compliance, outlining any changes made to the building, and certifying the building in accordance with clauses (i) through (iv) of subdivision 1 of this subsection.

13VAC5-91-180. Compliance assurance agencies.

A. Application shall be made to the SBCO for acceptance as a compliance assurance agency. Application shall be made under oath and shall be accompanied by information and evidence that is adequate for the SBCO to determine whether the applicant is specially qualified by reason of facilities, personnel, experience and demonstrated reliability to investigate, test and evaluate industrialized buildings for compliance with this chapter, and to provide adequate follow-up and compliance assurance services at the point of manufacture.

B. Following a determination by the SBCO that an application is complete, the information contained in the application and any other information deemed necessary by the SBCO will be reviewed for approval or disapproval. If the application is approved, the applicant will be notified with an approval letter for a two-year period from the date of the approval letter. If the application is disapproved, the applicant will be notified in writing of the reasons for the disapproval. The applicant may then resubmit the application within 30 days of the receipt of the notification of disapproval for reconsideration of approval.

C. Compliance assurance agencies that are already approved by the SBCO at the time of the effective date of this provision shall have 90 days from the effective date of this provision to apply for reapproval in accordance with subsections A and B of this section. Such agencies shall continue to be approved while the SBCO evaluates the reapplication. Compliance assurance agencies receiving an approval letter from the SBCO after the effective date of this provision shall apply for reapproval within 90 days prior to the expiration of the two-year approval period if continued approval as a compliance assurance agency is desired.

D. The SBCO may suspend or revoke the approval of a compliance assurance agency upon a determination that (i) approval ~~or reapproval~~ was based upon fraudulent or inaccurate information, (ii) a change in facts or circumstances renders the agency incapable of meeting its duties and responsibilities as a compliance assurance agency in a satisfactory manner, or (iii) the agency failed to discharge its duties and responsibilities as a compliance assurance agency in a satisfactory manner. In such cases, the SBCO will issue a suspension or revocation notice to the agency outlining the reasons for the actions and the terms, if any, for reinstatement.

13VAC5-91-200. Information required by the administrator.

All of the following information and criteria will be considered by the administrator in designating ~~initial approval and re-approval~~ of compliance assurance agencies:

1. Names of officers and location of offices.
2. Specification and description of services proposed to be furnished under this chapter.
3. Description of qualifications of personnel and their responsibilities, including an assurance that personnel involved in system analysis, design and plans review, compliance assurance inspections, and their supervisors comply with the requirements of the American Society for Testing and Material (ASTM) Standard Number ~~E541-08~~ E541-10 - Standard Specification for Agencies Engaged in System Analysis and Compliance Assurance for Manufactured Building or shall obtain ICC or DHCD certifications in the appropriate subject area within 18 months of employment and maintain such certifications in an active status.
4. Summary of experience within the organization.
5. General description of procedures and facilities to be used in proposed services, including evaluation of the model, factory follow-up, quality assurance, labeling of production buildings, and specific information to be furnished on or with labels.
6. Procedures to deal with any defective buildings resulting from oversight.
7. Acceptance of these services by independent accrediting organizations and by other jurisdictions.
8. Proof of independence and absence of conflict of interest.

The ASTM Standard Number ~~E541-08~~ E541-10 may be procured from:

American Society for Testing and Materials 100 Barr Harbor Drive West Conshohocken, PA 19428-2959

13VAC5-91-260. Registration seal for industrialized buildings.

A. Registered industrialized buildings shall be marked with approved registration seals issued by the SBCO. The seals shall be applied to a registered industrialized building intended for sale or use in Virginia prior to the shipment of the building from the place of manufacture. The seals shall be applied by the compliance assurance agency or by the manufacturer when authorized to do so by the compliance assurance agency.

B. Registered industrialized buildings shall bear one registration seal on each manufactured section or module, or, as an alternative, the registration seal for each manufactured section or module may be placed in one location in the completed building.

C. Approved registration seals shall be purchased by the compliance assurance agency from the SBCO in advance of use. The fee for each registration seal shall be \$75, ~~except that the fee for each registration seal for buildings constructed as Group R-5 under Part I of the USBC shall be \$50.~~ Fees shall be submitted by checks made payable to "Treasurer of Virginia" or shall be submitted by electronic means. Payment for the seals must be received by the SBCO before the seals can be sent to the user. The compliance assurance agency shall maintain permanent records of seals purchased, including a record of any manufacturers receiving such seals.

D. To the extent practicable, the registration seal shall be installed so that it cannot be removed without destroying it. The seal shall be applied in the vicinity of the electrical distribution panel or in another location that is readily accessible for inspection and shall be installed near the certification label.

E. Refunds of seals shall be in accordance with § 36-85.1 of the Code of Virginia. An administrative and processing fee of 25% of the amount of the refund due shall be deducted from the refund; however, such deduction shall not exceed \$250.

Reason:

Changes to 13VAC5-91-120:

13VAC5-91-120 of the current 2012 edition of the IBSR addresses Unregistered Industrialized Buildings. This section of the Regulation is divided into 2 sub-sections, "A" and "B". The "A" sub-section addresses the process for a building official to accept an unregistered Industrialized Building while the "B" sub-section addresses the process for a Compliance Assurance Agency (CAA) to register an unregistered Industrialized Building.

The placement of these 2 differing sub-sections in 13VAC-91-120 has been confusing to local building officials who are not well versed with the Regulation. In order to make these 2 subject matters more easily understandable, it is proposed that they each be placed in a standalone section of the Regulation.

13VAC5-91-120 will continue to be titled "Unregistered Industrialized Buildings" and will address the acceptance of unregistered Industrialized Buildings by local building officials. It is proposed that a new section 13VAC5-91-125 be added and titled "Registration of Unregistered Industrialized Buildings" and will address the process to register and unregistered Industrialized Building by a CAA.

Changes to 13VAC5-91-180:

13-VAC5-91-180 of the current 2012 edition of the IBSR addresses acceptance of CAAs by the Department of Housing and Community Development (DHCD). In the 2012 IBSR, 2 sub-sections were added which required the CAAs to reapply to DHCD every two years. It was determined by DHCD following a review of applications by the CAAs that they are all accredited with the International Accreditation Service (IAS) as Type A (Third Party) Inspection Agencies. The IAS performs on-going audits of the agencies in order for them to maintain their accreditations. As such, DHCD determined it was not necessary for the CAAs to reapply bi-annually to DHCD as they are actively audited by IAS. Therefore, DHCD proposes to delete sub-section "C" and delete the words "for a two year period from the date of the approval letter" from subpart "B", both sub-sections address reapplication to DHCD. Also, delete the words "or reapproval" in the first sentence of sub-par "D", as the CAAs will have no need for reapproval as a CAA.

Changes to 13VAC5-91-190:

For the deletion of the reapproval language, see the reason statement for § 180.

For the newer standard, reference to ASTM Standard Number E541-08 should be replaced with E541-10 which is the most updated version of that Standard.

Changes to 13VAC5-91-260:

13VAC5-91-260 of the current 2012 edition of the IBSR, item "C" addresses the cost of Industrialized Building certification seals. Currently the seals cost \$75 for commercial structures and \$50 for residential structures. It is proposed that the cost of residential seals be increased to \$75 to be consistent with the cost of commercial seals. Revenue for the fiscal year 2016/2017,

July 2016 through March 2017 shows a revenue of \$195,314.50 and a cost of \$275,856.52 leaving the Industrialized Buildings program in a deficit of \$80,542.02. The increase in the price of residential seals is needed to close the deficit of administering the Industrialized Buildings program. The increased cost of residential seals also make the price consistent with that of the commercial seals.

Cost Impact:

Changes to 13VAC5-91-120:

None.

Changes to 13VAC5-91-180:

Savings to DHCD for not having to spend staff time in reviewing applications bi-annually. Also savings to CAAs for not having to prepare bi-annual applications.

Changes to 13VAC5-91-190:

For the deletion of the reapproval language, savings to DHCD for not having to spend staff time in reviewing applications bi-annually. Also savings to CAAs for not having to prepare bi-annual applications.

For the newer standard, there is no cost impact.

Changes to 13VAC5-91-260:

The increase in residential seals will increase the revenue for the DHCD Industrialized Buildings program approximately \$50,000 annually. This will bridge the current deficit described in the reason statement for this section.

Workgroup Recommendation

Workgroup 1 Recommendation Recommendation: Consensus for Approval

Workgroup 1 Reason: None

Board Decision

None

Board Decisions

- Approved**
- Approved with Modifications**
- Carryover**
- Disapproved**
- None**

I-120 cdpVA-15
