# CWUI WORK GROUP
***Meeting Minutes – August 6, 2025***

**Work Group Representatives**
**Contacts:**
Chair - Crystal Sujeski, OSFM-CDA-Div. Chief, (510) 846-1276, Crystal.Sujeski@fire.ca.gov
Co-Chair – John Morgan OSFM – CWPM Staff Chief, John.Morgan@fire.ca.gov
Co-Chair – Mitchel Baker (HCD representative), mitchel.baker@hcd.ca.gov
Support – Jena Garcia, OSFM-CDA-Supervisor, 916-531-7650, Jena.Garcia@fire.ca.gov

## I. CALL TO ORDER: Sujeski called the meeting to order at 1:03 PM — Sujeski

A. Welcome
B. Introductions - Roster update based on attendance log of all participated.
   1. No roll call due to time restraint
C. Agenda Review –
   1. Agenda is posted in the committee section of the OSFM website with Minutes.
   2. Reviewed how to access and subscribe for OSFM Work Group notifications and emails: Workgroups | OSFM & Subscribe to Newsletter | OSFM

| Motion: Marcelo Herschler / Bob Raymer Action: Approved |
|---|

## II. OLD BUSINESS

A. Charter – Status Update
   1. In review with OSFM Executive for final approval.
B. Proposals – Drafted proposal need to be emailed to the Work Group Representatives listed above to be agendized and recorded in the minutes.

## III. NEW BUSINESS — Sujeski

A. Presentation – "Window Glazing - FSRI Study" – (Daniel Gorham/Joseph Willi – UL) -15-20 minutes
   1. Links to Research
      a. https://fsri.org/research-update/journal-article-investigates-window-pane-failure-during-exterior-fire-exposure
   2. Code Proposal changes for CWUIC 504.8 – Exterior glazing. (see attachment)
      a. Crystal Sujeski – Recommended connecting with Jennifer Hatfield.
      b. Danial Gorham proposed a Window Sub-group with Jennifer Hatfield and Randy Northup
   3. Joe Ten Eyck – Provided link to videos in chat
      a. Anderson window flame test
      b. Crown Fire Modeling Experiments - YouTube
B. IBHS Presentations – "Separation Distance and Building Resilience" – Research Findings (Faraz Hedayati-Lead Research Engineer-IBHS) – 30 minutes
   1. Links to Research

a. Research document is under review for publishing.

2. Mildad Shabanian – Are there any proposes to improve the separation provisions with the ICC.
    a. Windows vs exterior envelope vs siding
        i. Regardless of rated wall, within minutes the fire has spread to the attic.

        ii. Window assemblies in Austria requires window framing provisions. But the USA does not.
3. Kevin Reinertson – Confirming questions.
    a. Window used in the test was a listed window and intumescent paint on frame.
    b. Glass fails when the vinyl glazing securing the glass fails.

C. Steve Hawks – Burn Video presentation (Status Update)

D. Sub-Groups - Report

1. **AB 2322 CWUI Chapter 5 ASCE 7 Sub-Group –** Paul Armstrong parmstrong@awc.org and Sunup Mathew smathew@imiweb.org (reported)
    a. The group is meeting bi-weekly
    b. 2025 Part 7 CWUIC– Rough Draft Proposal
        i. Proposed to be located in Chapter 5
            a) Proposing New Section 501.1 Scope
            b) Proposing New Section 504.12 New Non-residential, critical infrastructure buildings.
                1) List of buildings
                2) Table of requirements
                3) Penetration/Opening protection provisions
        ii. Marcelo Hirschler Comments
            a) Roof Assembly vs Roof Coverings requirements of 2 hr fire rating, this is not typically. Drafting an email to sub-group lead.
            b) Skylights also need fire protection ratings.
        iii. Sunup Mathew Comment
            a) Cost Study Report – Who/How
                1) Crystal Sujeski – Justification and reason statement will need to include a cost analysis. Sug-group prepared and provides the report which is attached to the Std.399 Economic Impact Report
        iv. Shamin Rashid-Sumar – Several construction types are required to by the IBC to have rated roof construction. The issue maybe with terminology. It is not uncommon to have a rated roof. Instead of roof assembly, suggest roof construction.
        v. Milad Shabanian Comment
            a) Roof Covering Terminology – Class A Roof Coverings vs Assembly
                1) Marcelo Hirschler – Agrees. UL list Roof Assemblies not Roof Coverings. Drafting a response with amendment to Sub-group lead.
                2) Jason Smart –Not opposed to using the two terms but there needs to be something that distinguishes the two.
                3) Aaron Phillips – Is the table necessary and will it create confusion.
2. **Scope and Roofing** - Robert Raymer rraymer@cbia.org
    a. No report due to time.
    b. Drafted proposal attached

3. **Accessory Buildings –** Milad Shabanian Milad.Shabanian@stantec.com
    a. No report due to time.
    b. Drafted proposal attached
4. **Weathering / Ignition-Resistant Materials** – Marcelo Hirschler mmh@gbhint.com
    a. No report due to time.
    b. Drafted proposal attached
5. **Vents-** Kevin Scott khscottassoc@gmail.com
    a. No report due to time.
    b. Drafted proposal attached
6. **Chapter 6** – Larry Williams larry.williams@ventura.org
    a. No report due to time. Met on 8/5/25. Scheduled to meet in two weeks.
    b. Drafted proposal attached

## IV. ROUNDTABLE — Sujeski

A. Mitchel Baker – AB 130 Update. CBSC plans to release information regarding the impact of AB 130.
    1. Tim Freeman (CBSC) – CBSC is still working drafting the information to be released.

B. Kevin Reinerston – Requested a status update of the changes to implement high fire hazard severity zones for LRA in the CWUIC.
    1. Crystal Sujeski – Emergency regulations to include LRA high will be heard in October 2025 with the California Building Standards Commission.

C. Crystal Sujeski – LRA Moderate zone topic will be agendized for discussion at next months meetings.

## V. PUBLIC COMMENT — Sujeski

**None**

## VI. UPCOMING MEETING DATE FOR 2024 — Sujeski

A. **Meetings will be held the first Wednesday of each month at 1:00 pm and will remain virtual**
    i. Next Meeting – September 3, 2025, October

## 7. MEETING ADJOURNED (Motion Required) 3:00 PM — Sujeski

| | |
|---|---|
| Motion: | Jena Garcia Motioned to Adjourn<br>Tim Freeman Seconded. |
| Action: | Approved |

If you would like to watch the recording of this meeting, please visit the link below:

https://youtu.be/utGYWw4xFzY

CWUI Chapter 6 Subgroup:
Updated 8/7/2025

Chair: Larry Williams, Assist Fire Marshal (retired), VCFD
Co-Chair: Kevin Reinertson (??)

8/5/2025 Meeting:

Attending;
Larry Williams
Kevin Reinertson
Joshua Costello
Adria Smith

Updated 8/5/2025: CWUI Ch 6 Subgroup.: Removed VCFD from Title and item numbers.

CWUI CH. 6 Subgroup Proposed Amendments to the 2025 California Wildland Urban Interface Code

8/5/2025: Consider no major changes for a full cycle until (2028 CWUI).

**Item 6-1. Amend as follows**:

**CHAPTER 6 FIRE PROTECTION REQUIREMENTS**

**User note:**
**About this chapter:**

*In addition to the building construction requirements in the California Building Code and California Residential Code, this chapter contains requirements for development and construction in Local Responsibility Areas (LRA) designated as Very High Fire Hazard Severity Zones and areas designated by the State Fire Marshal as State Responsibility Areas (SRA). While many of these provisions are found in Title 14 and Title 19 of the California Code of Regulations, they are replicated here for the code user. The local jurisdiction has the authority to apply the same regulations to LRA when the regulations are adopted by local ordinance.*

*The requirements in this chapter reference the process for ~~adoption of Very High Fire Hazard Severity Zones in the LRA;~~ criteria for evaluating existing subdivisions that are at significant fire risk and are without an adequate secondary egress; and criteria for fire safety provisions required in the Safety Element of a city or county General Plan.*

*The chapter includes mitigation strategies to reduce the hazards of fire originating within a structure spreading to wildland and fire originating in wildland spreading to structures. These strategies are included in the following requirements:*

1. *Development of fire protection plans.*
2. *Development of landscape plans and long-term vegetation management.*
3. *Creation and maintenance of defensible space to protect structures and subdivisions.*

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Reason: Development and adoption of LRA Very High FHSZs is already covered in Chapter 3.

8/5/2025: Subgroup Supports

**Item 6-2: Add new definition Note: Add to either Chapter 2 or 6:**

***601.3 Chapter 6 definitions.***
*When used in this chapter, the term listed below shall be defined as follows:*

***Vegetation.*** *Means all plants, including trees, shrubs, grass, and perennial or annual plants.*

Reason: This definition is from GC 51177. Many sections within Chapter 6 have requirements for "vegetation", but it is not defined.

8/5/2025 Support. Put in Chapter 2.

**Item 6-3: Amend as follows:**

***602.3.2 Final fire protection plan.***
*Final fire protection plan shall include items listed in Section 602.3.1 and the following:*

*1. A map identifying all proposed plants, and existing vegetation proposed to remain, in the fuel modification zones with a legend that includes a symbol for each proposed plant species. The plan shall include specific information on each species proposed, including but not limited to:*
   *1.1. The plant life-form;*
   *1.2. The scientific and common name; and*
   *1.3. The expected height and width for mature growth.*
*2. Identification of irrigated and non-irrigated zones.*
*3. Requirements for vegetation reduction around emergency access and evacuation routes.*
*4. Identification of points of access for equipment and personnel to maintain vegetation in common areas.*
*5. Legally binding statements regarding community responsibility for maintenance of fuel modification zones.*
*6. Legally binding statements to be included in covenants, conditions and restrictions regarding property owner responsibilities for vegetation maintenance.*

Reason: This is clarifying the original intent that existing vegetation to remain must be evaluated to determine if it is following defensible space requirements and any impact it may have to proposed and existing buildings. This requirement is already in place for landscape plans under Section 603.3.1.

8/5/2025 Support. Revised to put in item 1 and revised reason.

**Item 6-4: Amend as follows:**

***603.3.1 Contents.***
*Landscape plans shall contain the following:*

1. *Delineation of the 5-foot (1524 mm), 30-foot (9144 mm) and 100-foot (3048 mm) fuel management zones from all structures.*
2. *Identification of existing vegetation to remain and proposed new vegetation.*
3. *Identification of irrigated areas.*
4. *A plant legend with both botanical and common names, and identification of all plant material symbols.*
5. *Identification of ground coverings within the 30-foot (9144 mm) zone.*
6. *Identification of all hardscapes within the 100-foot fuel management zone from all structures.*
7. *Identification of all slope grade breaks between zones: 0-20%, 20-40%, and over 40%.*

Reasons: Item (1): The new 0-5 foot zone is a requirements within PRC 4291 and GC 51182. While there are not formal requirements issued for this new zone, we need to start the process of identifying this beforehand and also recommending to plant so that any plants installed will not have to be modified or removed when the new zone does take effect.
New item (6): Knowing where the hardscape is located is necessary when reviewing landscape plans and plant spacings.
New item (7): Vegetation spacing is based upon percent of slopes under BOF *General Guidelines for Creating Defensible Space* (February 8, 2006) requirements incorporated in CCR Title 14, Sec 1299.03

8/5/2025: Defer discussion on item 6. Items 1 and 7 ok.

**Item 6-5: Amend as follows: Note: Actual changed in numbers will require input from a working group. VCFD supporting information provided below.**

***603.4.1 Shrubs.***
*All new plantings of shrubs shall comply with the following:*

1. *Shrubs shall not exceed 6 feet (1829 mm) in height.*
2. *Groupings of shrubs are limited to a maximum aggregate diameter of 10 feet (3048 mm).*
3. *Shrub groupings shall be separated from other groupings a minimum of 15 feet (4572 mm).*
4. *Shrub groupings shall be separated from structures a minimum of 30 feet (9144 mm).*
5. *Where shrubs are located below or within a tree's drip line, the lowest tree branch shall be a minimum of three times the height of the understory shrubs or 10 feet (3048 mm), whichever is greater.*

Reason: There is no requirement based upon zone (0,1,2). There is no width requirement for a single shrub. The 10-foot width limitation is for groupings of shrubs as a single shrub is not a grouping. The amount of fuel loading and dead material within the shrubs is tremendous using these numbers.

8/5/2025: Need further discussion with SFM if we can make any changes to these items. We support more specific requirements for vegetation in Zone 1.

VCFD Reasons:
VCFD had previously adopted these limits many years ago and changed them in Arril 2019 after post fire reviews of the Thomas Fire (2017), Woolsey Fire (2018) and other fires that occurred during the 2016-2019 timeframe. The concept was to provide height and width requirements based upon each Zone (0,1,2). Less height and density the closer to the structure. Note: VCFD does not allow new vegetation within Zone 0.

Discussion / rational of why change was made to VCFD Standard 515 – Defensible Space regarding Mosaic Plant Group Spacing:
**Discussion:**
BOF Guide allows group of shrubs not exceeding 10-foot width but does not have a height limit. Spacing per table based upon height of shrub and slope. Other Calfire document mentions max 6 foot high.

VCFD had prior 10-foot diameter, 6 foot high and 15-30 foot spacing. Slope was not considered.

10 foot by 6 foot or higher allows more dead and debris within the interior of the shrub group.

New VCFD standard 515 incorporates reduced height (up to 6", 6-12", 12-18", 18" to 4', 4' to 6'), but allows increased width based upon height of shrubs and slopes. Basically follows BOF Guide for 2x,4x or 6x spacing between groups based upon <20%, 20-40% and >40% slopes. Also classifies difference between ground cover (under 18") and shrubs (up to 6'). Still allows shrubs to 6 feet high, but limits to 4 foot diameter

**Rational:**

- Reduced height decreases amount of dead and debris within the shrubs subject to ignition.
- Reduces heat BTU output per sq foot thus reducing radiant heat exposure.
- Reduces flame lengths
- Faster consumption of smaller shrubs will reduce heat exposure time frame.
- Allows water to penetrate better for cooling and extinguishment.
- Allows faster removal by hand tools if needed.
- Allows for larger area of landscape coverage in a safe manner.
- Provides increased erosion protection.

VCFD Standard 515: **Table 3 – Fire Department FMZ Height, Area, and Spacing Requirements***

| **Type of Vegetation** | **Zone** | **Maximum Height** | **Maximum Area /diameter** | **% of Slope / Minimum horizontal Spacing** |
|---|---|---|---|---|
| Ground Cover | 1 & 2 | 6-inches | Not Applicable | Not Applicable |
| Mosaic Grouping of Ground Cover (GC) | 1 | 12-inches | Groupings shall not exceed 200 sq. ft. without minimum spacing to next grouping | <20%: 2 x GC height<br>20%-40%: 4 x GC height<br>>40%: 6 x GC height |
| | 2 | 18-inches | Groupings shall not exceed 500 sq. ft. without minimum spacing to next grouping | <20%: 2 x GC height<br>20%-40%: 4 x GC height<br>>40%: 6 x GC height |
| Single Shrub | 1 | 4 feet<br>(2 feet within Zone 1 Transitional area based upon slope) | 4-foot diameter | <20%: 2 x shrub height<br>20%-40%: 4 x shrub height<br>>40%: 6 x shrub height |
| | 2 | 6-feet | 4-foot diameter | <20%: 2 x shrub height<br>20%-40%: 4 x shrub height<br>>40%: 6 x shrub height |
| Grouping of shrubs | 1 | Not Allowed | Not Applicable | Not Applicable |
| | 2 | 4-feet | Groupings shall not exceed 50 sq. ft. without minimum spacing to next grouping | <20%: 20-feet<br>20%-40%: 40 feet<br>>40%: Not Allowed |
| Single Tree | 1 | Not Applicable | Tree canopy at full maturity not allowed within 10 feet of any structure | <20%: 20-feet<br>20%-40%: 30 feet<br>>40%: 40-feet |
| | 2 | Not Applicable | Not Applicable | <20%: 10-feet<br>20%-40%: 20 feet<br>>40%: 30 feet |

**Item 6-6: Amend as follows:**

***603.4.2 Trees.***
*Trees shall be managed as follows within the 30-foot zone (9144 mm) of a structure:*

1. *New trees shall be planted and maintained so that the tree's drip line at maturity is a minimum of 10 feet (3048 mm) from any combustible structure.*
2. *The horizontal distance between crowns of new trees, and crowns of* new and existing ~~*adjacent*~~ *trees shall not be less than 10 feet (3048 mm).*
3. *Existing trees shall be trimmed to provide a minimum separation of 10 feet (3048 mm) away from chimney and stovepipe outlets per California Code of Regulations, Title 14, Section 1299.03.*

Reason: Item #2: Added 2 commas and wording to specify that this requirement applies to space between new trees, and also space between new and existing trees.

8/5/2025: work on language. Tree to tree, new or existing. Suggested language:
*The horizontal distance between crowns of trees shall not be less than 10 feet (3048 mm).*

8/5/2025: 603.4.2.1:Re-title to read Non fire-smart trees.

**Item 6-7: Amend as follows:**

**604.1 General.**
~~*Hazardous*~~ ~~*v*~~*Vegetation and fuels shall be managed to reduce the severity of potential exterior wildfire exposure to buildings and to reduce the risk of fire spreading to buildings as required by applicable laws and regulations.*
~~*Defensible space shall be managed around all buildings and structures in State Responsibility Areas (SRA) as required in Public Resources Code 4291.*~~

Reason: The term "hazardous" is not defined and is subjective. Delete the word "Hazardous" as the PRC and GC apply to all vegetation and fuels within the required defensible space zone. but the term "Vegetation" is defined in GC 51177. See proposal to add definition for Vegetation in Item 6-2 above. Delete second sentence as it is covered under Section 604.3.

8/5/2025: Support

**Item 6-8: Amend as follows:**

***604.3 Requirements.***
~~*Hazardous*~~ ~~*v*~~*Vegetation and fuels around all buildings and structures shall be maintained* and spaced *in accordance with the following laws and regulations:*

1. *Public Resources Code, Section 4291.*
2. *California Code of Regulations, Title 14, Division 1.5, Chapter 7, Subchapter 3, Article 3, Section 1299.03.*
3. *California Government Code, Section 51182.*
4. *California Code of Regulations, Title 19, Division 1, Chapter 7, Subchapter 1, Section 3.07.*

Reasons: Delete the word "Hazardous" as indicated above in Item 6-8.
Add the word "spaced" as this was added to GC51182 and PRC 4291 under SB63. Spacing is a critical component of proper defensible space and should be specifically mentioned when listing requirements. It is also required under the BOF *General Guidelines for Creating Defensible Space* (February 8, 2006) requirements incorporated in CCR Title 14, Sec 1299.03.

8/5/2025: no concerns from group. Can support

8/5/2025: Recommend further discussion of Sections 603 and 604 overall. Need to look at title and

scope of each section. Some 603 should go into 604 and some in 604 should go into 603. Possible rewrite / update / formatting of both sections.

**Item 6-9: Review and modify if needed based upon CWUI Accessory Building work group proposed changes and BOF changes to 1299 sections.**

***604.4 Outbuildings.***
*Outbuildings shall have a minimum clearance of 10 feet (3048 mm) down to bare mineral soil in all directions. Vegetation more than 10 feet (3048 mm) but less than 20 feet (6096 mm) from outbuildings shall be fire-smart vegetation.*

Discussion: If the Outbuilding is located within the 100-foot defensible space zone for a Building, should the same requirements for the Building apply? If the house is not CWUI Chapter 5 compliant, then we are requiring more restrictive requirements for the Outbuilding than the home. Further discussion with CWUI work group needed.

BOF is proposing in Zone 0 regulations: Outbuildings are not permitted in Zone 0. If that is approved, then we suggest adding it to this section.

8/5/2025: don't amend for Zone 0 yet. See what Accessory subgroup comes up with.

**Item 6-10: Amend as follows: Also review and modify if needed based upon BOF changes to 1299 sections.**

**607.1 General.**
Firewood and combustible material shall not be stored in unenclosed spaces beneath buildings or structures, or on decks or under eaves, canopies or other projections or overhangs. *Firewood piles for consumption on the premises shall be located 30 feet or more from structures unless completely covered by a fire-resistant material. Exposed wood piles located within the defensible space shall have a minimum clearance of ten feet (3048 mm) down to bare mineral soil in all directions.*

Reason and Discussion:
There is no limit on the amount of firwood that can be stored adjacent to a building and no requirements regarding minimum set back from a building when the pile is not-exposed (covered or enclosed). At a minimum, firewood shall not be allowed within Zone 0, even if covered/enclosed. BOF is proposing firewood not allowed in Zone 0 too.

Regarding size of firewood piles, a reasonable limit should be allowed for consumption on site. VCFD has a limit of 1000 cubic feet. This is approximately 7 cords (4'x4'x8' = 1 cord). Even this may be too much. All other firewood should be stored outside the 100-foot defensible space zones. See Section 607.2 for additional proposed changes and discussion. VCFD most likely will be reducing the 1000 cubic feet limit.

VCFD amended 2022 Fire Code:
**4907.7.2.3 Firewood**. Firewood shall be removed from Zone 0.

**4907.7.6.3 Firewood piles.** Exposed firewood piles not exceeding 1,000 cubic feet within a WUI Area shall be located a minimum of 30 feet from any Building and/or combustible vegetation. See Section 4911.10.4 for firewood piles exceeding 1,000 cubic feet.

**Exception:** Firewood piles completely covered in a fire-resistant material and located a minimum of 5 feet from any Building.

BOF is proposing the following Zone 1 Requirements: Relocate exposed firewood piles outside of Zone 1 unless they are completely ~~cover~~ enclosed in a fire-resistant material.

8/5/2025: Needs further discussion by group.

**Item 6-11: Review and discussion needed by workgroup:**

**607.2 Storage for off-site use.**
Firewood and combustible materials not for consumption on the premises shall be stored so as to not pose a hazard. See Appendix A.

Discussion: This requirement "stored as to not pose a hazard" is subjective. While the section refers you to Appendix A for requirements, Appendix A is not adopted by the OSFM and would require a local agency to adopt it in order to use the limitations on Appendix A, Section A105.4 (copied below). If this section was applied, you could have a pile of 5000 sq ft (50,000 cubic feet), not exceeding 10 feet in height. These is no set back distance from any building. However, one could imply Section 105.4.2 would require a minimum 40-foot setback if the building was "combustible", but we do not believe that is the intent and that the section is speaking of combustible material other than buildings. Based upon that, VCFD has amended this section. VCFD will be revising our local amendments to address firewood piles both for onsite consumption and for off-site use regarding pile sizes and locations.

Excerpt from 2025 CWUI Appendix A:

**A105.4 Combustible materials.**
Outside storage of combustible materials such as, but not limited to, wood, rubber tires, building materials or paper products shall comply with the other applicable sections of this code and this section.

**A105.4.1 Individual piles.**
Individual piles shall not exceed 5,000 square feet (465 $m^2$) of contiguous area. Piles shall not exceed 50,000 cubic feet (1416 $m^3$) in volume or 10 feet (3048 mm) in height.

**A105.4.2 Separation.**
A clear space of not less than 40 feet (12 192 mm) shall be provided between piles. The clear space shall not contain combustible material or *nonfire-smart* vegetation.

VCFD Added section to current VCFD Ordinance (2022 Fire Code):

**4911.10.4.3 Separation.** A clear space of at least 40 feet (12 192 mm) shall be provided between piles and any Building. A minimum 10-foot (3 048 mm) clear space shall be provided for piles less than 1,000 cubic feet. The clear space shall not contain Combustible Material or non-fire-resistive vegetation. See Section 4907.7.5.3 for firewood piles under 1,000 cubic feet when located in a WUI Area.

Further discussion is needed by the CWUI workgroup. One recommendation would be to amend Section 607.2 and bring over the Appendix A A105.4 requirements with further amendments.

8/5/2025: Needs further discussion by group.

**Item 6-12: Amend as follows:**

***610.2 Subdivision map findings.***

*Pursuant to Government Code (GC), Section 66474.02, before approving a tentative map, or a parcel map for which a tentative map was not required, for an area located in an SRA or an LRA Very High Fire Hazard Severity Zone, as both are defined in GC Section 51177, a legislative body of a county, except as provided in GC Section 66474.02(c), shall make findings as required by GC Section 66474.02 regarding compliance with the SRA Fire Safe Regulations and the availability of structural fire protection and suppression services. These findings and accompanying map shall be transmitted to the Board of Forestry and Fire Protection and comply with the requirements in Title 14, Division 1.5, Chapter 7, Subchapter 1, Article 1.*

Reason: Refers user to the actual findings that must be made. Other option would be to reprint GC 66474.02 in its entirety.

8/5/2025: Not discussed.

**2025 Intervening Code Cycle**

**CWUIC**

**Accessory Structures Subcommittee**

**Meeting Notes** July 25, 2025

**Participants**

| Name | Company | Present | Absent |
|---|---|---|---|
| Kevin Scott | KH Scott & Associates LLC | X | |
| Milad Shabanian | MS Built Environment Solutions LLC | X | |
| Jason Smart | American Wood Council (AWC) | X | |
| Steve Hawks | Insurance Institute for Business and Home Safety (IBHS) | | |
| Faraz Hedayati | Insurance Institute for Business and Home Safety (IBHS) | X | |
| David Mutter | O'Hagin, Inc. | X | |
| John Morgan | Cal Fire / Office of the State Fire Marshal | X | |
| Crystal Sujeski | Cal Fire / Office of the State Fire Marshal | | X |
| Kevin Reinertson | Fire Service, California, Division Chief (Retired) | X | |
| Larry William | Ventura County FD, Assistant Fire Marshal (Retired) | X | |
| Slate Bryer | Director of Codes and Compliance, New Cal Metals | | X |
| Adria Smith | Deputy Fire Marshal at Fountain Valley Fire Department | | X |
| Joshua Costello | County of Los Angeles Fire Department, Codes and Ordinances Unit, Fire Prevention Division | | X |
| Michelle Rinehart | | X | |
| Greg Andersen | Insurance Institute for Business and Home Safety (IBHS) | X | |

## I. Meeting Notes:

a. The workgroup proposed removing the exceptions related to Accessory structures in chapter 1.
b. Worked on proposed exceptions for Chapter 5 Section 501.1
c. Removed unnecessary language in Section 504.11
d. Added roof requirements to Section 504.11.2.

## II. Drafted language:

***101.3.1 Application.*** *New buildings located in any Fire Hazard Severity Zone or Wildland-Urban Interface (WUI) Fire Area designated by the enforcing agency constructed after the application date shall comply with the provisions of this code. This shall include all new buildings with residential, commercial, educational, institutional or similar occupancy type use, which shall be referred to in this code as "applicable buildings", as well as new buildings and structures accessory to those applicable buildings ~~(see Exceptions 1 and 4)~~.*

***Exceptions:***

~~*1. Group U occupancy accessory buildings of any size located at least 50 feet (15 240 mm) from an applicable building on the same lot.*~~

~~*2. Group U occupancy agricultural buildings, as defined in Section 202 of the California Building Code of any size located at least 50 feet (15 240 mm) from an applicable building.*~~

*3. Group C occupancy special buildings conforming to the limitations specified in Section 450.4.1 of the California Building Code.*

*4. ~~New accessory buildings and miscellaneous structures specified in Section 504.11 shall comply only with the requirements of that section~~.*

*5. Additions to and remodels of buildings originally constructed prior to July 1, 2008.*

**501.1 Scope.**

Buildings and structures *in a wildland-urban interface area* shall be constructed in accordance with the *California* Building Code and this chapter ~~code~~.

**[NTOE: move this to chapter 1 Section 101.3.1]**

**Exceptions:**

1. *Group U* accessory structures not exceeding 120 square feet (11 $m^2$) in floor area where located ~~not less than 50~~ 30 feet (15 240 mm) or more from *applicable* buildings and 30 ft or more from the lot line.
2. *Group U* agricultural buildings ~~not less than~~ 50 feet (15 240 mm) or more from *applicable* buildings and 50 ft or more from the lot line.

**504.11 *Accessory ~~buildings and miscellaneous~~* structures.** *Accessory ~~buildings~~ and ~~miscellaneous~~ structures ~~that have the potential to pose a significant exterior fire exposure hazard during wildfires~~ shall be constructed to conform to the ignition-resistance requirements of this section.*

**504.11.1 Applicability.**

Section~~s~~ 504.11.2 ~~through 504.11.6~~ applies~~y~~ to buildings accessory to an *applicable* building on the same lot ~~and attached or detached miscellaneous structures that require a building permit~~, including but not limited to trellises, arbors, patio covers, gazebos and similar structures.

**Exceptions:**

1. Decks shall comply with the requirements of Section 504.7.3.
2. Awnings and canopies shall comply with the requirements of Section 3105 of the California Building Code.

**504.11.2 Accessory structures**

Unless excluded in Section 501.1, accessory structures ~~located less than 50 feet (15 240 mm) from an *applicable* building or less than 30 ft from lot line~~ shall comply with following requirements:

1. Roof assemblies shall comply with Section 504.2.
2. Exterior walls shall comply with Section 504.5.
3. Underfloor areas shall comply with Section 504.6.
4. Gutters and downspouts shall comply with Section 504.4.
5. Vents shall comply with Section 504.10.

Where accessory structures are located less than 20 feet (6096 mm) from an *applicable* building or lot line, exterior glazing and exterior doors in the detached accessory structure shall not be located in walls that face the *applicable* building or lot line.

**Exception:** Exterior glazing complying Section 504.8 and exterior doors complying Section 504.9.

~~**504.11.2 Miscellaneous structures and accessory buildings within 3 feet.** Miscellaneous structures that require a permit, and accessory buildings of any size, when separated from an applicable building on the same lot by a distance of less than 3 feet (914 mm), shall be constructed of noncombustible materials or ignition-resistant building materials as described in Section 503.2.4.~~

~~**504.11.3 Accessory buildings greater than 120 square feet, located 3 feet or more but less than 50 feet.** Accessory buildings that are greater than 120 square feet (11.15 m²) in size and separated from an applicable building on the same lot by a distance of 3 feet (914 mm) or more but less than 50 feet (15 240 mm) shall be constructed of noncombustible materials or of ignition-resistant building materials as described in Section 503.2.4.~~

~~**504.11.4 Accessory buildings 120 square feet or less, located 3 feet or more but less than 50 feet.** When required by the code official, accessory buildings 120 square feet (11.15 m²) or less and separated from an applicable building on the same lot by a distance of 3 feet (914 mm) or more but less than 50 feet (15 240 mm) shall be constructed of noncombustible materials or of ignition-resistant building materials as described in Section 503.2.4.~~

~~**504.11.5 Miscellaneous structures located 3 feet or more but less than 50 feet.** When required by the code official, miscellaneous structures that require a permit and are separated from an applicable building on the same lot by a distance of 3 feet (914 mm) or more but less than 50 feet (15 240 mm) shall be constructed of noncombustible materials or of ignition-resistant building materials as described in Section 503.2.4.~~

~~**504.11.6 Roof construction.** Roof assemblies and roof coverings of accessory buildings required to be constructed entirely of noncombustible materials or of ignition-resistant building materials shall comply with Sections 504.2 and 504.2.1. Roofs shall have a roofing assembly installed in accordance with its listing and the manufacturer's installation instructions. Roof assemblies in Fire Hazard Severity Zones shall comply with a Class A fire classification when tested in accordance with ASTM E108 or UL 790.~~

**Reason Statement:**

{Reason Statement will be added based on IBHS NIST and AWC studies on accessory structures}

## III. Next meeting

Aug 1, 2025, 1 pm PT.

## IV. Contact information

Please reach out to Milad Shabanian (Milad.shabanian@stantec.com) for additional information or participate in Accessory Structures Workgroup activities.

# 2025 California Wildland-Urban Interface Code

## Intervening Cycle

Window failure creates a pathway for embers, flames, and hot gases to enter a building and ignite interior combustibles.

Proposed language (shown legislatively)

**504.8 Exterior glazing**. Exterior windows, window walls and glazed doors, windows within exterior doors, and skylights shall be constructed of any of the following:

1. Multilayered glazed panels with at least ~~one pane of~~ the inner pane being tempered glass complying with Section 2406 of the California Building Code.
2. Glass block.
3. Glazing with a fire-protection rating of not less than 20 minutes when tested according to NFPA 257 or UL 9, and shall be exempt from the hose stream test.
4. Glazing meeting the performance requirements of SFM Standard 12-7A-2.

**Rationale**

**AB 2322**
**DRAFT PROPOSED TEXT FOR CA Part 7 CWUIC**

***Revise as follows:***
***501.1 Scope.*** *Buildings and structures in a wildland-urban interface area shall be constructed in accordance with the California Building Code and this code.*

~~***501.1.1 New non-residential, critical infrastructure facilities.*** *New non-residential, critical infrastructure facilities shall also comply with Sections 504.12.*~~

**504.1 General.** *Ignition-resistant* construction shall be in accordance with Sections 504.2 through ~~*504.11.6*~~ *504.12.4*.

***Add the following:***
***504.12 New non-residential, critical infrastructure buildings.*** *New non-residential, critical infrastructure buildings listed below shall comply with Sections 504.12.1 through 504.12.4.*

1. *Buildings containing one or more Group A occupancy having an occupant load greater than 300 and a cumulative occupant load of the Group A occupancies greater than 2,500.*
2. *Buildings containing Group E or Group I-4 occupancies or combination thereof, with an occupant load greater than 250.*
3. *Buildings containing educational occupancies above the 12th grade with ~~an~~ a student occupant load greater than 1,000.*
4. *Buildings and other structures containing Group H occupancies with quantities of toxic, highly toxic or explosive materials exceeding the MAQs per control area in Tables 307.1(1) or 307.1(2).*
   ***Exception:*** *Not required where it can be demonstrated by a hazard assessment in accordance with Section 5001.3.3.17 of the California Fire Code that a release of the toxic, highly toxic or explosive materials is not sufficient to pose a threat to the public.*
5. *Buildings containing Group I-2 occupancies with 50 or more care recipients.*
6. *Buildings containing Group I-2 occupancies having emergency surgery or emergency treatment facilities.*
7. *Buildings containing Group I-3 occupancies, except for Group I-3 Conditions 6, 7 and 8.*
8. *Any ~~occupancy~~ building with an occupant load greater than 5,000.*
9. *Fire, rescue, ambulance and police stations and emergency vehicle garages.*
10. *Designated emergency preparedness, communications and operations centers and other facilities required for emergency response.*
11. *Aviation control towers, air traffic control centers and emergency aircraft hangers.*
12. *Designated earthquake, hurricane or other emergency shelters.*
13. *Buildings and other structures having critical national defense functions.*

**Commented [KS1]:** This is not needed.
501.1 already says to comply with this code; and Section 504.12 is part of this code.
Replaced with revision to 504.1

**Commented [KS2]:** Since it is not a table, the footnote is shown as an exception to Item 4.
The highlighted wording is also revised from the original footnote.

14. Power-generating stations and ~~other public utility~~ power storage facilities required as emergency backup facilities for any facility on this list.

15. Buildings containing ~~P~~power generating stations ~~and other~~ for public utilit~~y~~ies ~~facilities~~.

16. Buildings containing public ~~W~~water treatment facilities for potable water~~,~~ and wastewater treatment ~~and other public water facilities~~.

17. Public water storage facilities and pump stations required to maintain water pressure for fire suppression.

18. ~~Private~~ Public water storage facilities and pump stations required to maintain water pressure for fire suppression ~~for any building on this list~~.

~~a. The building official can exclude buildings containing toxic, highly toxic or explosive materials, provided it can be demonstrated by a hazard assessment in accordance with Section 1.5.3 of ASCE 7 that a release of the toxic, highly toxic or explosive materials is not sufficient to pose a threat to the public.~~

***504.12.1 Exterior building elements.*** Exterior building elements, including roofs, walls, decks and other exterior elements shall be constructed of ignition-resistant building materials and have a fire-resistance rating as required in Table 504.12.1.

**Table 504.12.1**
**Protection of the Exterior Building Elements**

| ~~Fire Hazard Severity Zone~~ | ~~Exterior Elements Wall[a] Fire-resistance Rating~~ | ~~Door Fire-protection Rating~~ | ~~Window Fire-protection Rating~~ | ~~Roof Assembly~~ | ~~Smoke & Heat Vents~~ | ~~Skylights~~ |
|---|---|---|---|---|---|---|
| ~~Moderate~~ | ~~2-HR~~ | ~~1-HR~~ | ~~1-HR~~ | ~~2-HR roof assembly with Class A roof covering~~ | ~~Steel with Class A rating~~ | ~~1-HR[b a]~~ |
| ~~High~~ | ~~3-HR~~ | ~~1½-HR~~ | ~~1½-HR~~ | ~~3-HR roof assembly with Class A roof covering~~ | ~~Steel with Class A rating~~ | ~~1-HR[b a]~~ |
| ~~Very High~~ | ~~4-HR~~ | ~~2-HR~~ | ~~2-HR~~ | ~~4-HR roof assembly with Class A roof covering~~ | ~~Steel with Class A rating~~ | ~~NP~~ |

| Exterior Building Component | Fire Hazard Severity Zone | | |
|---|---|---|---|
| | Moderate | High | Very High |
| Exterior Elements Fire-resistance Rating[a] | 2-HR | 3-HR | 4-HR |
| Door Fire-protection Rating | 1-HR | 1½-HR | 2-HR |
| Window Fire-protection Rating | 1-HR | 1½-HR | 2-HR |
| Roof Construction and Associated Secondary Members | 2-HR | 3-HR | 4-HR |
| Roof Assembly Classification | Class A | Class A | Class A |
| Smoke and Heat Vents | Steel with Class A rating | Steel with Class A rating | Steel with Class A rating |
| Skylights Fire-protection Rating | 1-HR[b] | 1-HR[b] | NP |

NP = Not Permitted.

a. Applies to exterior structural elements as well.

b. Operable skylights shall be ~~protected~~ designed in accordance with Section 504.12.3.

***504.12.2 Penetrations.*** *Membrane and through penetrations in the exterior building envelope shall be protected in accordance with Section 714 of the California Building Code ~~Section 714~~.*

***504.12.3 Opening ~~protectives~~ through the exterior walls.*** *Doors, windows and other openings in the exterior building envelope shall be protected with opening protectives as required in Table 504.12.1. In addition, all doors shall be self-closing and all windows ~~and skylights~~ shall be ~~either~~ fixed or self-closing.*

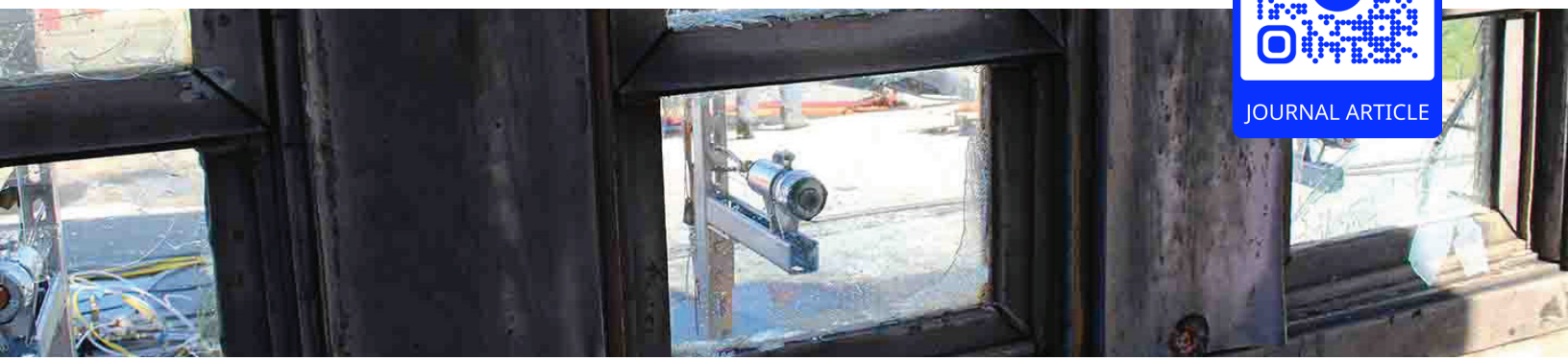
***504.12.4 Openings through the roof assembly.*** *Skylights, smoke and heat vents and ~~other~~ ventilation openings through the roof assembly shall be protected as required in Table 504.12.1. In addition, all skylights shall be fixed or self-closing.*

# Window Pane Failure During Exterior Fire Exposure

**Authors:** Joseph Willi, Daniel Gorham, Gavin Horn

Fire Safety Research Institute

JOURNAL ARTICLE



## Research Motivation

Window failure as a result of exterior fire exposure creates a pathway for embers, flames, and hot gases to enter a building and ignite interior combustibles. There is a need to better understand window failure during exterior fire exposure to properly inform building codes and homeowner guidance in both wildland urban interface and urban communities.

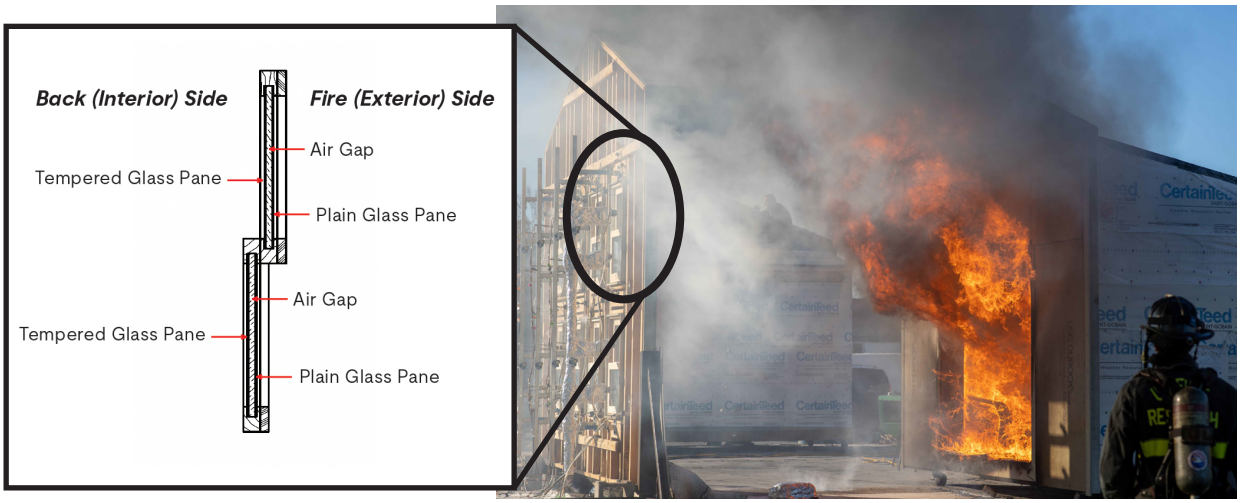
## Research Objectives

- Identify differences in the failure of four types of double pane window assemblies with plain glass and/or tempered glass panes during exterior fire exposures.
- Quantify the heat flux measured behind the four types of window pane assemblies and compare to critical heat flux values for ignition of common household materials.

## Key Findings

- Window pane assemblies with plain glass on the fire (exterior) side and tempered glass on the back (interior) side outperformed windows with the opposite configuration (see Figure 1).
- Window pane assemblies with both panes tempered glass performed the best of the four types considered in this study.
- Heat transfer through windows has the potential to ignite interior combustibles even without window failure.
- Frames and other window components should also be considered when addressing window failure from exterior fire exposure.

***Figure 1***




UL Research Institutes

Outlook

## CWUI subgroup - Windows

**From** Gorham, Daniel <Daniel.Gorham@ul.org>

**Date** Thu 8/7/2025 8:23 AM

**To** Jennifer Hatfield <jen@jhatfieldandassociates.com>; Northup, Randy@CALFIRE <Randy.Northup@fire.ca.gov>; Willi, Joseph <Joseph.Willi@ul.org>

**Cc** Garcia, Jena@CALFIRE <Jena.Garcia@fire.ca.gov>; Sujeski, Crystal@CALFIRE <Crystal.Sujeski@fire.ca.gov>; Morgan, John@CALFIRE <John.Morgan@fire.ca.gov>; Baker, Mitchel@HCD <Mitchel.Baker@hcd.ca.gov>

2 attachments (2 MB)

Window Pane Failure During Exterior Fire Exposure Fact Sheet.pdf; Proposal_window requirements.docx;



Good morning all,

Thank you for expressing willing and interest to participate in a CWUI subgroup on windows! Joseph Willi provided a presentation at the August 7th meeting of the California Wildland Urban Interface Work Group based on the **Window Pane Failure During Exterior Fire Exposure** (https://doi.org/10.1007/s10694-024-01656-z). In addition to the journal article, attached is the fact sheet document Joe mentioned during the presentation.

This research was partially motivated by the (then Chapter 7A) California Wildland Urban Interface Code section 504.8 which allows four options for compliance with the exterior glazing (including windows) requirements. The first option, which I believe to be the most common avenue for compliance, requires multilayered glazed panels with at least one pane of tempered glass. This requirement leads to several questions, including: 1) why not require all panes to be tempered; and 2) if only one pane is tempered, which pane should it be? Findings from the research Joe presented suggest that for dual-pane window assemblies both panes tempered provided the most resistance failure from an exterior fire (such as what might be common a wildfire or wildfire-initiated conflagration in the wildland urban interface). If only one pane is tempered window pane assemblies with the back (interior) side tempered provided more resistance to failure compared to the opposite configuration.

Based on this, we are proposing a 2025 intervening cycling revision to section 504.8. The attached word document shows two options for revision – the first is to change the requirement to specify that all panes shall be tempered glass, while the second option is to change the requirement to specify that at least the inner pane be tempered glass. Please take some time to review the journal article and our propose revision. I would like to setup a meeting for this subgroup the week of August 18-22 during which we can discuss the proposed revision and incorporate comments and feedback. This allows at least a week before the next CWUI Work Group meeting scheduled for September 6th, at which I will provide an update on this subgroup's activities.

My preference is to meet the morning (8am – 12pm PT) of Wednesday August 20 or normal working hours Thursday August 21. If you could let me know your general availability for that week, I will provide a scheduling poll to find the best time to meeting.

Thanks again for your participation in this effort, and let me know if you have any questions or concerns.

**Daniel Gorham**
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# 2025 California Wildland-Urban Interface Code

## Intervening Cycle – proposed revision

**Option 1: All panes tempered**

**504.8 Exterior glazing**. Exterior windows, window walls and glazed doors, windows within exterior doors, and skylights shall be constructed of any of the following:

1. Multilayered glazed panels with ~~at least one pane of~~ all panes being tempered glass complying with Section 2406 of the California Building Code.
2. Glass block.
3. Glazing with a fire-protection rating of not less than 20 minutes when tested according to NFPA 257 or UL 9, and shall be exempt from the hose stream test.
4. Glazing meeting the performance requirements of SFM Standard 12-7A-2.

**Option 2: At least inner pane tempered**

**504.8 Exterior glazing**. Exterior windows, window walls and glazed doors, windows within exterior doors, and skylights shall be constructed of any of the following:

1. Multilayered glazed panels with at least ~~one pane of~~ the inner pane being tempered glass complying with Section 2406 of the California Building Code.
2. Glass block.
3. Glazing with a fire-protection rating of not less than 20 minutes when tested according to NFPA 257 or UL 9, and shall be exempt from the hose stream test.
4. Glazing meeting the performance requirements of SFM Standard 12-7A-2.

**Rationale**

Recent research (https://www.doi.org/10.1007/s10694-024-01656-z) found that the type of glass (tempered or annealed) of dual-pane window [multilayered glazed panels] is an indicator in the performance of the window assembly to resist exterior fire. Window pane assemblies with both panes tempered glass performed the best of the four types [(1) both panes plain glass, (2) both panes tempered glass, (3) plain glass fire side pane and tempered glass back side pane, and (4) tempered glass fire side pane and plain glass back side pane] considered in this study. Window pane assemblies with plain glass on the fire (exterior) side and tempered glass on the back (interior) side outperformed windows with the opposite configuration.

## SECTION 101—SCOPE AND GENERAL REQUIREMENTS

**101.3.1 Application.** New buildings located in any Fire Hazard Severity Zone or Wildland-Urban Interface (WUI) Fire Area designated by the enforcing agency constructed after the application date shall comply with the provisions of this code. This shall include all new buildings with residential, commercial, educational, institutional or similar occupancy type use, which shall be referred to in this code as "applicable buildings," as well as new buildings and structures accessory to those applicable buildings.

**Exceptions:**

1. Group U occupancy accessory buildings of any size located at least 50 feet (15 240 mm) from an applicable building on the same lot.
2. Group U occupancy agricultural buildings, as defined in Section 202 of the California Building Code of any size located at least 50 feet (15 240 mm) from an applicable building.
3. Group C occupancy special buildings conforming to the limitations specified in Section 450.4.1 of the California Building Code.
4. New accessory buildings and miscellaneous structures specified in Section 504.11 shall comply only with the requirements of that section.
5. ~~Additions to and remodels of buildings originally constructed prior to July 1, 2008.~~

**Comment:**

Exception 5 seems to be at odds with the clarification provided in Section 101.5 Additions or Alterations (highlighted portion), which states:

> ***101.5 Additions or alterations.*** *Additions or alterations shall be permitted to be made to any building or structure without requiring the existing building or structure to comply with all of the requirements of this code, provided that the addition or alteration conforms to that required for a new building or structure.*

The SFM should consider whether Exception 5 is still needed, providing it does not conflict with H&S 17922(d).

**For Reference: Health & Safety Code 17922(d)**

*(d) Regulations other than building standards which are adopted, amended, or repealed by the department, and building standards adopted and submitted by the department for approval pursuant to Chapter 4 (commencing with Section 18935) of Part 2.5, governing* ***alteration and repair of existing buildings*** *and moving of apartment houses and dwellings shall permit the replacement, retention, and extension of original materials and the continued use of original methods of construction as long as the hotel, lodginghouse, motel, apartment house, or dwelling, or portions thereof, or building and structure accessory thereto, complies with the provisions published in the California Building Standards Code and the other rules and regulations of the department or alternative local standards adopted pursuant to subdivision (b) of Section 13143.2 or Section 17958.5 and does not become or continue to be a substandard building. Building additions or alterations which increase the area, volume, or size of an existing building, and foundations for apartment houses and dwellings moved, shall comply with the requirements for new buildings or structures specified in this part, or in building standards published in the California Building Standards Code, or in the other rules and regulations adopted pursuant to this part. However, the additions and alterations shall not cause the building to exceed area or height limitations applicable to new construction.*

**101.3.1.1 Application date and where required.** New buildings for which an application for a building permit is submitted on or after ***the effective date of this code*** ~~July 1, 2008~~, located in any Fire Hazard Severity Zone or Wildland-Urban Interface Area shall comply with this code, including all of the following areas:

All unincorporated lands designated by the State Board of Forestry and Fire Protection as State Responsibility Area (SRA) including:

Moderate Fire Hazard Severity Zones.
High Fire Hazard Severity Zones.
Very High Fire Hazard Severity Zones.
Land designated as a Very High Fire Hazard Severity Zone by cities and other local agencies.
Land designated as a wildland-urban interface area by cities and other local agencies.

**Exceptions:**

~~1. New buildings located in any Fire Hazard Severity Zone within a State Responsibility Area, for which an application for a building permit is submitted on or after January 1, 2008, shall comply with this code.~~

2. New buildings located in any Fire Hazard Severity Zone within a State Responsibility Area or any wildland-urban interface area designated by cities and other local agencies for which an application for a building permit is submitted on or after December 1, 2005, but prior to July 1, 2008, shall only comply with the following sections of this chapter:
   2.1. Section 507.1 – Roofing.
   2.2. Section 504.10 – Attic Ventilation.

**General Comment:**

I have reviewed the existing statute, Health & Safety Code 13100-13135, 13140-13147, Public Resources Code 4201-4204, and 4291-4299. Perhaps the most relevant statute is H&S 13108.5, which directs the SFM to develop the WUI building standards. None of these statutes explicitly cite 2008 as a clear demarcation of one set of preexisting building standards from the new ones.

**Comments/Questions:**

**Regarding Section 101.3.1.1:**

I believe the SFM chose to include "July 1, 2008" in the standards to highlight the effective date of the **"new"** WUI building standards, which took effect for the first time in July 2008. Is this reference still needed, or could it be replaced with "***the effective date of these standards***"

**Regarding Section 101.3.1.1. Exception 1:**

Question: Why does the SFM reference **January** 1, 2008? This Exception seems to be at odds with the earlier reference to July 1, 2008. What is the intent of this Exception? Is it still needed?

**Regarding Section 101.3.1.1 Exception 2:**

Question: This Exception, which limits compliance to only roof and attic ventilation provisions, specifically applies to "***new buildings*** *…. for which an application for a building permit is submitted on or after December 1, 2005, but prior to July 1, 2008…*".

Once again, I am confused about what purpose this Exception serves today and in the future. Is it still needed?