# 45-DAY EXPRESS TERMS FOR PROPOSED BUILDING STANDARDS OF THE STATE FIRE MARSHAL REGARDING THE 2022 CALIFORNIA RESIDENTIAL CODE,

# CALIFORNIA CODE OF REGULATIONS, TITLE 24, PART 2.5

# (SFM 05/21)

The State agency shall draft the regulations in plain, straightforward language, avoiding technical terms as much as possible and using a coherent and easily readable style. The agency shall draft the regulation in plain English. A notation shall follow the express terms of each regulation listing the specific statutes authorizing the adoption and listing specific statutes being implemented, interpreted, or made specific (Government Code Section 11346.2(a)(1)).

If using assistive technology, please adjust your settings to recognize underline, strikeout, italic and ellipsis.

## LEGEND for EXPRESS TERMS (Based on model codes - Parts 2, 2.5, 3, 4, 5, 9, 10)

* Model Code language appears upright
* Existing California amendments appear in *italic*
* Amended model code or new California amendments appear *underlined & italic*
* Repealed model code language appears ~~upright and in strikeout~~
* Repealed California amendments appear in *~~italic and strikeout~~*
* Ellipsis ( ...) indicate existing text remains unchanged

The Office of the State Fire Marshal (SFM) proposes to adopt the 2021 edition of the International Residential Code (IBC) into the 2022 edition of the California Residential Code (CRC). SFM further proposes to:

Repeal the adoption by reference of the 2018 International Residential Code and incorporate and adopt by reference in its place the 2021 International Residential Code for application and effectiveness in the 2022 California Residential Code.

Repeal certain amendments to the 2018 International Residential Code and/or California Building Standards not addressed by the model code that are no longer necessary.

Adopt new building standards or necessary amendments to the 2021 International Residential Code that address inadequacies of the 2021 International Residential Code as they pertain to California laws.

Bring forward previously existing California building standards or amendments, which represent no change in their effect from the 2019 California Building Standards Code.

Codify non-substantive editorial and formatting amendments from the format based upon the 2018 International Residential Code to the format of the 2021 International Residential Code.

# 45-DAY EXPRESS TERMS

**CHAPTER 1**

**SCOPE AND ADMINISTRATION**

***DIVISION I***

***CALIFORNIA ADMINISTRATION***

# Item 1-1 Chapter 1, Administration, Division I, California Administration, Section 1.1.0 General through 1.1.12

[The SFM is proposing to maintain the adoption of those existing California provisions contained in Sections 1.1 through 1.1.12 with modification as shown below.]

# Item 1-2 Chapter 1, Administration, Division I, California Administration, Section 1.1.1 Title

***1.1.1 Title.*** *These regulations shall be known as the California Residential Code, may be cited as such and will be referred to herein as “this code.” The California Residential Code is Part 2.5 of thirteen parts of the official compilation and publication of the adoption, amendment, and repeal of building regulations to the California Code of Regulations, Title 24, also referred to as the California Building Standards Code. This part incorporates by adoption the ~~2018~~ 2021 International Residential Code of the International Code Council (ICC) with necessary California amendments.*

# Item 1-3 Chapter 1, Administration, Division I, California Administration, Section 1.11. through 1.11.11

[The SFM is proposing to maintain the adoption of those existing California provisions contained Sections 1.11 through 1.11.11 with modifications as shown below]

# Item 1-4 Chapter 1, Administration, Division I, California Administration, Section 1.11.1

[The SFM is proposing to add a definition of Specified State-Occupied.]

***1.11.1 SFM—Office of the State Fire Marshal.*** *Specific scope of application of the agency responsible for enforcement, the enforcement agency and the specific authority to adopt and enforce such provisions of this code, unless otherwise stated.*

***Application.*** *Institutional, educational or any similar occupancy****.*** *Any building or structure used or intended for use as an asylum, jail, prison, mental hospital, hospital, sanitarium, home for the ~~aged~~ elderly, children’s nursery, children’s home or institution, school or any similar occupancy of any capacity.*

***…***

***Any state institution or other state-owned or specified state-occupied building****.*

***Specified state-occupied buildings.*** *Any building, structure or area which meets the criteria of any of the following;*

1. *A building where the state has contracted into a build-to-suit lease.*
2. *A courthouse holding facility or trial court with a detention area.*
3. *A building used by the Department of Corrections and Rehabilitation as a community correctional reentry center.*
4. *100% state occupied.*
5. *A state leased building that has a total floor area exceeding 55,000 square feet, is greater than 4 stories or 55 feet in height, and has assembly occupancy greater than 5,000 square feet and is 75 percent or more occupied by state entities,*
6. *A building that contains 5,000 square feet or more space of state leased Group H or Group L occupancy.*
7. *A state leased building with facilities housing state records or state artifacts, or any combination of both of historical significance,*
8. *Properties leased by California State University (CSU) or University of California (UC)*
9. *State institutions and their real property.*

*Therefore, all leased buildings that do not meet the criteria as listed above, become the responsibility of the local jurisdiction and are subject to local ordinances.*

***Authority -*** *Health and Safety Code Sections 13108, 13145, 13146, 16022.5 and 17921.*

***Reference -*** *Health and Safety Code Sections 13108, 13143, 13145, 13146, 16022.5 and 17921.*

**…**

# Item 1-5 Chapter 1, Administration, Division I, California Administration, Section 1.11.4.4 Fire Clearance Preinspection

***1.11.4.4 Fire Clearance Preinspection.*** *Pursuant to Health and Safety Code Section 13235, Fire Clearance Preinspection, fee, upon receipt of a request from a prospective licensee of a community care facility, as defined in Section 1502, of a residential care facility for the elderly, as defined in Section 1569.2, or of a child day care facility, as defined in Section 1596.750, the local fire enforcing agency, as defined in Section 13244, or State Fire Marshal, whichever has primary jurisdiction, shall conduct a preinspection of the facility prior to the final fire clearance approval. At the time of the preinspection, the primary fire enforcing agency shall price consultation and interpretation of the fire safety regulations and shall notify the prospective licensee of the facility in writing of the specific fire safety regulations which shall be enforced in order to obtain fire clearance approval. A fee equal to, but not exceeding, the actual cost of the preinspection services may be charged for the preinspection of a facility. ~~with a capacity to serve 26 or more persons.~~*

# Item 1-6 Chapter 1, Administration, Division I, California Administration, Section 1.11.4.5 Care Facilities

***1.11.4.5 Care Facilities.*** *The primary fire enforcing agency shall complete the final fire clearance inspection for a community care facility, residential care facility for the elderly, or child day care facility within 30 days of receipt of the request for the final inspection, or as of the date the prospective facility requests the final prelicensure inspection by the State Department of Social Services, whichever is later.*

*Pursuant to Health and Safety Code Section 13235, a preinspection fee equal to, but not exceeding, the actual cost of the preinspection services may be charged for the preinspection of a facility. ~~with a capacity to serve 25 or less clients. A fee equal to, but not exceeding, the actual cost of the preinspection may be charged for a preinspection of a facility with a capacity to serve 26 or more clients.~~*

*Pursuant to Health and Safety Code Section 13131.5, a reasonable final inspection fee, not to exceed the actual cost of inspection services necessary to complete a final*

*inspection may be charged for occupancies classified as residential-care facilities for the elderly (RCFE).*

*Pursuant to Health and Safety Code Section 1569.84, neither the State Fire Marshal nor any local public entity shall charge any fee for enforcing fire inspection regulations*

*pursuant to state law or regulation or local ordinance, with respect to residential-care facilities for the elderly (RCFE) which service six or fewer persons.*

# Item 1-7 Chapter 1, Administration, Division I, California Administration, Section 1.11.11 Adopting Agency Identification

***1.11.11 Adopting Agency Identification.*** *The provisions of this code applicable to buildings identified in this Section 1.11 will be identified in the Matrix Adoption Tables under the acronym SFM.*

**CHAPTER 1**

**SCOPE AND ADMINISTRATION**

***DIVISION II***

**SCOPE AND ADMINISTRATION**

# Item 1-8 Chapter 1, Scope and Administration, Division II

[The SFM proposes to adopt Chapter 1, Administration, Division II Administration Sections R101.1-R102.6, R104.2-R104.4, R104.9-R104.9.1, R105.1, R105.2 Building items: 1-10, R105.2.1-R105.2.2, R105.3-R105.3.1, R105.4, R105.6-R105.7, R106, R107, R109.1, R109.1.4, R109.1.5, R109.1.5.1, R109.1.6, R110, R111, R113.1-R113.2, R114]

# Item 1-9 Chapter 1, Scope and Administration, Division II, User Note

User note:

About this chapter: Chapter 1, *Division II* establishes the limits of applicability of this code and describes how the code is to be applied and enforced. Chapter 1, *Division II* is in two parts: Part 1—Scope and Application (Sections R101–R102) and Part 2—

Administration and Enforcement (Sections R103–R114). Section R101 identifies which buildings and structures come under its purview and references other Parts of T-24 as applicable. Standards and codes are scoped to the extent referenced (see Section R102.4).

The one- and two-family dwelling code is intended to be adopted as a legally enforceable document, and it cannot be effective without adequate provisions for its administration and enforcement. The provisions of Chapter 1 establish the authority and duties of the building official appointed by the authority having jurisdiction and also establish the rights and privileges of the design professional, contractor and property owner.

***Note: Specific sections of Chapter 1, Division II adopted by a State Agency will be indicated in the Matrix Adoption Table. ~~Division II is not adopted by the Department of Housing and Community Development or the State Fire Marshal except where specifically indicated.~~***

# Item 1-10 Chapter 1, Administration, Division II, Administration

[The SFM is proposing editorial corrections.]

**R101.2 Scope.** The provisions of this code shall apply to the construction, alteration, movement, enlargement, replacement, repair, equipment, use and occupancy, location, removal and demolition of detached one- and two-family dwellings and townhouses not more than three stories above grade plane in height with a separate means of egress and their accessory structures not more than three stories above grade plane in height.

**Exception:** The following shall be permitted to be constructed in accordance with this code where provided with ~~a~~ an automatic ~~spinkler~~ sprinkler system complying with Section ~~P2904~~ *R313*:

…

# Item 1-11 Chapter 1, Administration, Division II, Administration

[The SFM is proposing to modify Section 105.2 based on proposed changes in Chapter 7A, Section 710A for accessory building and structures.]

**R105.2 Work exempt from permit.** Exemption from permit requirements of this code shall not be deemed to grant authorization for any work to be done in any manner in violation of the provisions of this code or any other laws or ordinances of

this jurisdiction. Permits shall not be required for the following:

**Building:**

1. Other than storm shelters, one-story detached accessory structures, provided that the floor area does not exceed *120* square feet (*11.15* m2). *It is permissible that these structures still be regulated by Section 710A, despite exemption from permit.*

… (2 through 10 text remain unchanged)

**Notation:**

Authority: Health and Safety Code Sections 13108, 13108.5, 13113, 13113.5, 13114, 13132, 13132.7, 13133, 13135, 13143, 13143.1, 13143.2, 13143.6, 13143.9, 13145, 13146, 13210, 13211, 16022.5, 17921, 18897.3, 18928, 18949.2, 25500 through 25545, Government Code Section 51189, Public Education Code 17074.50.

Reference(s): Health and Safety Code Sections 13108, 13143, 13145, 13146, 13211, 16022.5, 17921, 18949.2, Government Code Sections 51176, 51177, 51178 and 51179, Public Resources Code Sections 4201 through 4204.

**CHAPTER 2**

**DEFINITIONS**

# Item 2-1 Chapter 2, Definitions

[The SFM proposes to carry forward the existing adopted sections in Chapter 2 with existing amendments and modification as show below.]

[The SFM proposes to adopt the definitions of Energy Storage Systems; Fuel Cell Power System, Stationary; Intermodal Shipping Container; Jurisdiction; Kitchen; Live/work unit; Manufactures installation instructions; Permit; Person, Photovoltaic Module; Photovoltaic Panel; Photovoltaic Panel System; Photovoltaic Shingles; Platform Construction; Plenum; Rated Design; Refrigerant, Refrigerating system; Registered Design Professional; Roof Assembly; Skylight; Skylight unit; Skylights and sloped Glazing; Sleeping Unit; Solar Energy System, Solar Heat Gain Coefficient; Solar Thermal System; Standard Reference Design; Stationary Fuel Cell Power plant; Storm Shelter; Structural Composite Lumber; Townhouse Unit, Vent; Water Distribution System; Water Main; Yard]

# Item 2-2 Chapter 2, Section R202 General Definitions, Child Care

[The SFM is proposing a definition for Child Care.]

*CHILD CARE* *For the purposes of these regulations, means the care of children during any period of a 24-hour day where permanent sleeping accommodations are not provided. The time-period shall not be more than 24-hours.* *Note: “Child care” shall not be construed to preclude the use of cots or mats for napping purposes, provided all employees, attendants and staff personnel are awake and on duty in the area where napping occurs.*

# Item 2-3 Chapter 2, Section R202 General Definitions, Day-Care

[The SFM proposes to amend the definition of Day-Care.]

***DAY-CARE.*** *For the purposes of these regulations, shall mean the care of persons during any period of a 24-hour day where permanent sleeping accommodations are not provided. The time-period shall not be more than 24-hours.*

***Note:*** *“Day-care” shall not be construed to preclude the use of cots or mats for napping purposes, provided all employees, attendants and staff personnel are awake and on duty in the area where napping occurs.*

# Item 2-4 Chapter 2, Definitions, Energy Storage Systems

[The SFM proposes to carry forward the existing California amended definition of ESS to correlate with the definition in the California Fire Code and delete the model code definition that is slightly different.]

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

**~~[RB] ENERGY STORAGE SYSTEMS (ESS).~~** ~~One device or multiple devices, assembled together, capable of storing electrical energy to be supplied at a future time.~~

# Item 2-5 Chapter 2, Definitions, Exterior Wall Assemby

***EXTERIOR WALL ASSEMBLY.*** *A system or assembly of exterior wall components, including exterior wall covering materials, that provides protection of the building structural members, including framing and sheathing materials, and conditioned interior space, from the detrimental effects of the exterior environment.*

# Item 2-6 Chapter 2, Definitions, Exterior Wall Covering

***EXTERIOR WALL COVERING.*** *A material or assembly of materials applied on the exterior side of exterior walls for the purpose of providing a weather-resisting barrier, insulation or for aesthetics, including but not limited to, veneers, siding, exterior insulation and finish systems, architectural trim and embellishments such as cornices, soffits, facias, gutters and leaders.*

# Item 2-7 Chapter 2, Section R202 General Definitions, Inflatable Amusement Device

[The SFM proposes a new definition.]

***INFLATABLE AMUSEMENT DEVICE.*** *A device made of flexible fabric or other combustible materials that is inflated by one or more air-blowers providing internal air pressure to maintain its shape. Such a device is designed for recreational activities that allow occupants to bounce, climb, slide, negotiate an obstacle course or participate in interactive play.*

# Item 2-8 Chapter 2, Section R202 General Definitions, Large-Scale Fire Testing

[Withdrawn]

# Item 2-9 Chapter 2, Section R202 General Definitions, Photovoltaic (PV) Panel System, Ground-Mounted

[The SFM proposes a new definition.]

***PHOTOVOLTAIC (PV) PANEL SYSTEM, GROUND-MOUNTED.*** *An independent photovoltaic (PV) panel system without useable space underneath, installed directly on the ground.*

# Item 2-10 Chapter 2, Section R202 General Definitions, Photovoltaic (PV) Support Structure Elevated

[The SFM proposes a new definition.]

***PHOTOVOLTAIC (PV) SUPPORT STRUCTURE, ELEVATED.*** *An independent photovoltaic (PV) panel support structure designed with useable space underneath with minimum clear height of 7 feet 6 inches (2286 mm), intended for secondary use such as providing shade or parking of motor vehicles.*

# Item 2-11 Chapter 2, Section R202 General Definitions, Toddler

[The SFM proposes a new definition.]

***TODDLER.*** *Any child between 18 months to 36 months of age.*

# Item 2-12 Chapter 2, Section R202 General Definitions, *WILDLAND-URBAN INTERFACE (WUI)*

[The SFM proposes a new definition.]

***WILDLAND-URBAN INTERFACE (WUI).***  *A geographical area identified by the state as a “Fire Hazard Severity Zone” in accordance with the Public Resources Code Sections 4201 through 4204 and Government Code Sections 51175 through 51189, or other areas designated by the enforcing agency to be at a significant risk from wildfires.*

**Notation:**

Authority: Health and Safety Code Sections 13108, 13108.5, 13113, 13113.5, 13114, 13132, 13132.7, 13133, 13135, 13143, 13143.1, 13143.2, 13143.6, 13143.9, 13145, 13146, 13210, 13211, 16022.5, 17921, 18897.3, 18928, 18949.2, 25500 through 25545, Government Code Section 51189, Public Education Code 17074.50.

Reference(s): Health and Safety Code Sections 13108, 13143, 13145, 13146, 13211, 16022.5, 17921, 18949.2, Government Code Sections 51176, 51177, 51178 and 51179, Public Resources Code Sections 4201 through 4204.

**CHAPTER 3**

**BUILDING PLANNING**

# Item 3-1 Chapter 3, Building Planning

[The SFM proposes to adopt Sections R301.1, R302, R303.6-R303.9.1, R304, R305, R308, R309.5, R309.6, R310, R311, R312, R313, R314, R315, R316.2, R316.2.1, R316.3, R319, R321, R324, R325, R326, R328, R329, R330, R335, R336, R337, R338 of Chapter 3 and carry forward existing amendments with modifications as shown below.]

**SECTION R302**

**FIRE-RESISTANT CONSTRUCTION**

# Item 3-2 Chapter 3, Building Planning, Section R302

[The SFM is proposing editorial corrections.]

**R302.2.6 Structural independence.** Each individual townhouse shall be structurally independent.

**Exceptions:**

1. …

6. Townhouse units protected by a fire sprinkler system complying with Section ~~P2904~~ *R313* or NFPA 13D.

**R302.3 Two-family dwellings.** …

**Exceptions:**

1. A fire-resistance rating of 1/2 hour shall be permitted in buildings equipped throughout with an automatic sprinkler system installed in accordance with ~~P2904~~ *R313*.
2. …

**SECTION R310**

**EMERGENCY ESCAPE AND RESCUE OPENINGS**

# Item 3-3 Chapter 3, Building Planning, Section R310 Emergency Escape and Rescue Openings

[The primary purpose of this proposal is to correlate the regulations in the Residential code with the Building Code.]

**R310.1 Emergency escape and rescue opening required.** Basements, habitable attics and every sleeping room shallhave not less than one operable emergency escape andrescue opening. Where basements contain one or moresleeping rooms, an emergency escape and rescue openingshall be required in each sleeping room. Emergency escapeand rescue openings shall open directly into a public way. ~~or~~~~to a yard or court having a minimum width of 36 inches (914~~~~mm) that opens to a public way.~~

**Exceptions:**

1. ~~Storm shelters and basements used only to house mechanical equipment not exceeding a total floor area of 200 square feet (18.58 m2).~~
2. *Basements with a ceiling height of less than 80 inches (2032 mm) shall not be required to have emergency escape and rescue openings.*
3. *Emergency escape and rescue openings are not required from basements or sleeping rooms that have an exit door or exit access door that opens directly into a public way or to a yard, court or exterior egress balcony that opens to a public way.*
4. *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.*
5. *Storm shelters are not required to comply with this section where the shelter is constructed in accordance with ICC 500.*

~~2. Where the dwelling unit or townhouse unit is equipped with an automatic sprinkler system installed in accordance with Section P2904, sleeping rooms in basements shall not be required to have emergency escape and rescue openings provided that the basement has one of the following:~~

~~2.1. One means of egress complying with Section R311 and one emergency escape and rescue opening.~~

~~2.2. Two means of egress complying with Section R311.~~

~~3. A yard shall not be required to open directly into a public way where the yard opens to an unobstructed path from the yard to the public way. Such path shall have a width of not less than 36 inches (914 mm).~~

1. *Where the dwelling unit or townhouse unit is equipped with an automatic sprinkler system installed in accordance with Section R313, sleeping rooms in basements shall not be required to have emergency escape and rescue openings provided that the basement has one of the following:*
   1. *One means of egress complying with Section R311 and one emergency escape and rescue opening.*
   2. *Two means of egress complying with Section R311.*

**R310.1.1 Operational constraints and opening control devices.** Emergency escape and rescue openings shall be *maintained free of any obstructions other than those* *allowed by this section and shall be* operational from the inside of the room without the use of keys, tools, or special knowledge. Window openingcontrol devices and fall prevention devices complyingwith ASTM F2090 shall be permitted for use on windowsserving as a required emergency escape and rescue openingand shall be not more than 70 inches (178 cm) abovethe finished floor. *The release mechanism shall be maintained* *operable at all times.*

*Such bars, grills, grates or any similar devices shall be equipped with an approved exterior release device for use by the fire department only when required by the authority having jurisdiction.*

*Where security bars (burglar bars) are installed on emergency egress and rescue windows or doors, on or after July 1, 2000, such devices shall comply with California Building Standards Code, Part 12, Chapter 12-3 and other applicable provisions of this code.*

**…**

**R310.2.3 Maximum height from floor.** Emergency escape and rescue openings shall have *~~the bottom of the clear opening not greater than 44~~**~~inches (1118 mm)~~* the bottom of the clear opening not greater than 44 inches (1118 mm) *measured from the floor*. ~~above the floor.~~

**…**

**SECTION R313**

**AUTOMATIC FIRE SPRINKLER SYSTEMS**

# Item 3-4 Chapter 3, Building Planning, Section R324 Solar Energy Systems

[The SFM proposed to carry forward the amendments to Section R313, which is Section P2904 relocated. SFM also proposes to bring in updates to 2021 International Residential Code Section P2904 to be incorporated into the 2022 California Residential Code Section R313]

…

***R313.3.2.1* Temperature rating and separation from heat sources.** Except as provided for in Section*R313.3.2.2*, sprinklers shall have a temperature rating

of not less than 135°F (57°C) and not more than ~~170°F (77°C)~~ 225°F (107°C). Sprinklers shall be separated from heat sources as required by the sprinkler manufacturer’s installation

instructions.

..

***R313.3.2.3* Freezing areas.** Piping shall be protected from freezing as required by the *California Plumbing* *Code* or by using one of the following:

1. A dry-pipe automatic sprinkler system that is listed for residential occupancy applications.
2. ~~Where sprinklers are required in areas that are subject to freezing, d~~Dry-sidewall or dry-pendent sprinklers extending from a nonfreezing area into a freezing area. ~~shall be installed.~~
3. *Where fire sprinkler piping cannot* *be adequately protected against freezing, the system shall be designed and installed in accordance with NFPA 13D.*

*…*

***R313.3.3.2* Shutoff valves prohibited.** With the exception of shutoff valves for the entire water distribution system or a single master control valve for the automatic sprinkler system that is locked in the open position, valves shall not be installed in any location where the valve would isolate piping serving one or more sprinklers.

…

***R313.3.4.1* Determining required flow rate for each sprinkler.** The minimum required flow for each sprinklershall be determined using the sprinkler manufacturer’spublished data for the specific sprinkler modelbased on all of the following:

1. The area of coverage.
2. The ceiling configuration, in accordance with Sections R313.3.4.1.1 through R313.3.4.1.3.
3. The temperature rating.
4. Any additional conditions specified by the sprinkler manufacturer.

***R313.3.4.1.1* Ceiling configurations.** Manufacturer's published flow rates for sprinklers tested under a ceiling 8 feet (2438 mm) in height, in accordance with the sprinkler listing, shall be used for the following ceiling configurations, provided that the ceiling surface does not have significant irregularities, lumps or indentations and is continuous in a single plane.

1. Ceilings that are horizontal or that have a slope not exceeding 8 units vertical in 12 units horizontal (67 percent), without beams, provided that the ceiling height, measured to the highest point, does not exceed 24 feet (7315 mm) above the floor. Where the slope exceeds 2 units vertical in 12 units horizontal (17 percent), the highest sprinkler installed along the sloped portion of a ceiling shall be positioned above all communicating openings connecting the sloped ceiling compartment with an adjacent space.
2. Ceilings that are horizontal or that have a slope not exceeding 8 units vertical in 12 units horizontal (67 percent), with beams, provided that the ceiling height, measured to the highest point, does not exceed 24 feet (7315 mm) above the floor. Beams shall not exceed 14 inches (350 mm) in depth, and pendent sprinklers shall be installed under the beams as described at the end of this section. The compartment containing the beamed ceiling shall not exceed 600 square feet (56 m2) in area. Where the slope does not exceed 2 units vertical in 12 units horizontal (17 percent), the highest sprinkler in the compartment shall be above all communicating openings connecting the compartment with an adjacent space. Where the slope exceeds 2 units vertical in 12 units horizontal (17 percent), the highest sprinkler installed along the sloped portion of a ceiling shall be positioned above all communicating openings connecting the sloped ceiling compartment with an adjacent space.
3. Ceilings that have a slope exceeding 2 units vertical in 12 units horizontal (17 percent) but not exceeding 8 units vertical in 12 units horizontal (67 percent), with beams of any depth, provided that the ceiling height, measured to the highest point, does not exceed 24 feet (7315 mm) above the floor. Sidewall or pendent sprinklers shall be installed in each pocket formed by beams. The compartment containing the sloped, beamed ceiling shall not exceed 600 square feet (56 m2) in area. Pendent, recessed pendent and flush-type pendent sprinklers installed directly under a beam having a maximum depth of 14 inches (356 mm) shall have the sprinkler deflector located not less than 1 inch (25 mm) or more than 2 inches (51 mm) below the bottom of the beam. Pendent sprinklers installed adjacent to the bottom of a beam having a maximum depth of 14 inches (356 mm) shall be positioned such that the vertical centerline of the sprinkler is not more than 2 inches (51 mm) from the edge of the beam, with the sprinkler deflector located not less than 1 inch (25 mm) or more than 2 inches (51 mm) below the bottom of the beam. Pendent sprinklers shall also be permitted to be installed less than 1 inch (25 mm) below the bottom of a beam where in accordance with manufacturer's instructions for installation of flush sprinklers.

***R313.3.4.1.2* Ceiling configurations with special sprinkler listings.** For ceiling configurations not specified in Section R313.3.4.1.1, the manufacturer's published flow rate for sprinklers that have been listed for protection of such configurations shall be used.

***R313.3.4.1.3* Other ceiling configurations.** For ceiling configurations not addressed by Section R313.3.4.1.1 or R313.3.4.1.2, the flow rate shall be subject to approval by the code official.

…

**TABLE *R313.3.5.2 (2)***

**MINIMUM WATER METER PRESSURE LOSS (PLm)a**

| **FLOW RATE**  **(gallons per**  **minute, gpm)b** | **5/8-INCH METER**  **PRESSURE LOSS (pounds**  **per square inch, psi)** | **3/4-INCH METER**  **PRESSURE LESS (pounds**  **per square inch, psi)** | **1-INCH METER PRESSURE**  **LOSS (pounds per square**  **inch, psi)** |
| --- | --- | --- | --- |
| 8 | ~~2~~ 3 | ~~1~~ 3 | 1 |
| 10 | 3 | ~~1~~ 3 | 1 |
| 12 | 4 | ~~1~~ 3 | 1 |
| 14 | ~~5~~ 6 | ~~2~~ 5 | 1 |
| 16 | 7 | ~~3~~ 6 | 1 |
| 18 | 9 | ~~4~~ 7 | ~~1~~ 2 |
| 20 | 11 | ~~4~~ 9 | 2 |
| ~~22~~ 23 | ~~NP~~ 14 | ~~5~~ 11 | ~~2~~ 3 |
| ~~24~~ | ~~NP~~ | ~~5~~ | ~~2~~ |
| 26 | ~~NP~~ 18 | ~~6~~ 14 | ~~2~~ 3 |
| ~~28~~ | ~~NP~~ | ~~6~~ | ~~2~~ |
| ~~30~~ 31 | ~~NP~~ 26 | ~~7~~ 22 | ~~2~~ 4 |
| ~~32~~ 39 | ~~NP~~ 38 | ~~7~~ 35 | ~~3~~ 6 |
| ~~34~~ | ~~NP~~ | ~~8~~ | ~~3~~ |
| ~~36~~ 52 | NP | ~~8~~ NP | ~~3~~ 10 |

For SI: 1 inch = 25.4 mm, 1 pound per square inch = 6.895 kPa, 1 gallon per minute = 0.063 L/s.

NP = Not permitted unless the actual water meter pressure loss is known.

* + - * 1. Table R313.3.5.2(2) establishes conservative values for water meter pressure loss or installations where the water meter loss is unknown. Where the actual water meter pressure loss is ~~known~~ published and available from the meter manufacturer, PLm shall be the ~~actual loss~~ published pressure loss for the selected meter.
        2. Flow rate from Section R313.3.4.2. Add 5 gpm to the flow rate required by Section R313.3.4.2 where the water service pipe supplies more than one dwelling.

**SECTION 324**

**SOLAR ENERGY SYSTEMS**

# Item 3-5 Chapter 3, Building Planning, Section R324 Solar Energy Systems

[The primary purpose of this proposal is to establish appropriate fire testing and listing criteria for overhead photovoltaic (PV) support structures that could have people or vehicles in the space beneath them.]

**…**

**R324.6.2.1 Alternative setback at ridge.** Where an automatic sprinkler system is installed within the dwelling in accordance with NFPA 13D or Section ~~P2904~~ *R313*, setbacks at ridges shall comply with one of the following:

* 1. For photovoltaic arrays occupying not more than 66 percent of the plan view total roof area, not less than an 18-inch (457 mm) clear setback is required on both sides of a horizontal ridge.
  2. For photovoltaic arrays occupying more than 66 percent of the plan view total roof area, not less than a 36-inch (914 mm) clear setback is required on both sides of a horizontal ridge.

…

***R324.8 Elevated photovoltaic (PV) support structures.*** *Elevated PV support structures shall comply with either R324.8.1 or R324.8.3.*

***Exception****: Elevated PV support structures that are installed over agricultural use.*

***R324.8.1 PV panels installed over open-grid framing or non-combustible deck.*** *Elevated PV support structures with PV panels installed over*

*open-grid framing or over a noncombustible deck shall have PV panels tested, listed, and labeled with a fire type rating in accordance with UL 1703*

*or with both UL 61730-1 and UL 61730-2. Photovoltaic panels marked “not fire rated” shall not be installed on elevated PV support structures.*

***R324.8.2 PV panels installed over a roof assembly.*** *Elevated PV support structures with a PV panel system installed over a roof assembly shall have a fire classification in accordance with Section R324.4.*

**SECTION R325**

**MEZZANINES**

# Item 3-6 Chapter 3, Building Planning, Section R325 Mezzanines

[The SFM proposes correct the reference for residential sprinklers.]

**…**

**R325.3 Area limitation.** The aggregate area of a mezzanine or mezzanines shall be not greater than one-third of the floor area of the room or space in which they are located. The enclosed portion of a room shall not be included in a determination of the floor area of the room in which the mezzanine is located.

**Exception:** The aggregate area of a mezzanine located within a dwelling unit equipped with a fire sprinkler system in accordance with Section ~~P2904~~ *R313* shall not be greater than one-half of the floor area of the room, provided that the mezzanine meets all of the following requirements:

**…**

**SECTION R326**

**HABITABLE ATTICS**

# Item 3-7 Chapter 3, Building Planning, Section R326 Habitable Attics

[The SFM proposes correct the reference for residential sprinklers.]

…

**R326.3 Story Above Grade Plane.** A habitable attic shall be considered a story above grade plane.

**Exceptions:** A habitable attic shall not be considered to be a story above grade plane provided that the habitable attic meets all the following:

1. The aggregate area of the habitable attic is:
   1. Not greater than one-third of the floor area of the story below or
   2. Is not greater than one-half of the floor area of the story below where the habitable attic is located within a dwelling unit equipped with a fire sprinkler system in accordance with Section ~~P2904~~ *R313*.
2. The occupiable space is enclosed by the roof assembly above, knee walls, if applicable, on the sides and the floor-ceiling assembly below.
3. The floor of the habitable attic does not extend beyond the exterior walls of the story below.
4. Where a habitable attic is located above a third story, the dwelling unit or townhouse unit shall be equipped with a fire sprinkler system in accordance with Section ~~P2904~~ *R313*.

**SECTION R328**

**ENERGY STORAGE SYSTEMS**

# Item 3-8 Chapter 3, Building Planning, Section R328 Energy Storage Systems

[The SFM proposes to adopt Section R328, carry forward existing amendments, repeal and replace some amendments with model code language as shown below.]

**R328.1 General.** *~~Energy Storage Systems (ESS) shall comply with the provisions of this section.~~* Energy Storage Systems (ESS) shall comply with the provisions of this section.

***~~Exceptions:~~* Exceptions:**

*~~1. ESS listed and labeled in accordance with UL 9540 and marked “For use in residential dwelling units”, where installed in accordance with the manufacturer’s instructions and California Electrical Code.~~*

1. ESS listed and labeled in accordance with UL 9540 and marked “For use in residential dwelling units”, where installed in accordance with the manufacturer’s instructions and *California Electrical Code.*

~~2. ESS less than 1 kWh (3.6 megajoules).~~

1. ESS less than 1 kWh (3.6 megajoules).

**R328.2 Equipment listings.** *~~ESS~~* Energy storage systems (ESS)shall be listed and labeled in accordance with UL 9540.

**Exception:**

Where approved, repurposed unlisted battery systems from electric vehicles are allowed to be installed outdoors or in detached sheds located not less than 5 feet (1524 mm) from exterior walls, property lines and public ways.

**R328.3 Installation.** *~~ESS~~* ESSshall be installed in accordance with the manufacturer’s instructions and their listing.

***~~R327.3.1 Spacing~~*** *~~Individual units shall be separated from each other by not less than 3 feet (914 mm) except where smaller separation distances are documented to be adequate based on large-scale fire testing complying with Section 1206.1.5 of the California Fire Code.~~*

**R328.3.1 Spacing**. Individual units shall be separated from each other by not less than three feet (914 mm) except where smaller separation distances are documented to be adequate based on large scale fire testing complying with Section 1207.1.5 of the *California* *Fire Code*.

***~~R327.4 Locations.~~*** *~~ESS shall be installed only in the following locations:~~*

1. *~~Detached garages and detached accessory structures.~~*
2. *~~Attached garages separated from the dwelling unit living space in accordance with Section R302.6.~~*
3. *~~Outdoors or on the exterior side of exterior walls located not less than 3 feet (914 mm) from doors and windows directly entering the dwelling unit.~~*
4. *~~Enclosed utility closets, basements, storage or utility spaces within dwelling units with finished or noncombustible walls and ceilings. Walls and ceilings of unfinished wood-framed construction shall be provided with not less than 5/8 inch Type X gypsum wallboard.~~*

*~~ESS shall not be installed in sleeping rooms, closets, spaces opening directly into sleeping rooms or in habitable spaces of dwelling units.~~*

**R328.4 Locations.** ESS shall be installed only in the following locations:

1. Detached garages and detached accessory structures.
2. Attached garages separated from the dwelling unit living space in accordance with Section R302.6.
3. Outdoors or on the exterior side of exterior walls located not less than 3 feet (914 mm) from doors and windows directly entering the dwelling unit.
4. Enclosed utility closets, basements, storage or utility spaces within dwelling units with finished or noncombustible walls and ceilings. Walls and ceilings of unfinished wood-framed construction shall be provided with not less than 5/8 inch Type X gypsum wallboard.

ESS shall not be installed in sleeping rooms, or closets or spaces opening directly into sleeping rooms *or in habitable spaces of dwelling units*.

***~~R327.5 Energy ratings.~~*** *~~Individual ESS units shall have a maximum rating of 20 kWh. The aggregate rating of the ESS shall not exceed:~~*

1. *~~40 kWh within utility closets, basements, and storage or utility spaces.~~*
2. *~~80 kWh in attached or detached garages and detached accessory structures.~~*
3. *~~80 kWh on exterior walls.~~*
4. *~~80 kWh outdoors on the ground.~~*

*~~ESS installations exceeding the permitted individual or aggregate ratings shall be installed in accordance with Sections 1206.1 through 1206.9 of the California Fire Code.~~*

**R328.5 Energy ratings.** Individual ESS units shall have a maximum rating of 20 kWh. The aggregate rating of the ESS shall not exceed:

1. 40 kWh within utility closets, basements, and storage or utility spaces.
2. 80 kWh in attached or detached garages and detached accessory structures.
3. 80 kWh on exterior walls.
4. 80 kWh outdoors on the ground.

ESS installations exceeding the permitted individual or aggregate ratings shall be installed in accordance with Sections 1207 of the *California* *Fire Code*.

**R328.6Electrical installation.** *~~ESS~~* ESSshall be installed in accordance with *the California* *Electrical Code*. Inverters shall be listed and labeled in accordance with UL 1741 or provided as part of the UL 9540 listing. Systems connected to the utility grid shall use inverters listed for utility interaction.

***~~R327.7 Fire detection.~~*** *~~Rooms and areas within dwelling units, basements, and attached garages in which ESS are installed shall be protected by smoke alarms in accordance with Section R314. A listed heat detector, shall be installed in locations within dwelling units and attached garages where smoke alarms cannot be installed based on their listing.~~*

**R328.7 Fire detection.** *ESS installed in group R-3 and townhomes shall comply with the following:*

1. *Rooms and areas within dwellings units, sleeping units, basements and attached garages in which ESS are installed shall be protected by smoke alarms in accordance with Section R314.*
2. *A listed heat alarm interconnected to the smoke alarms shall be installed in locations within dwelling units, sleeping units and attached garages where smoke alarms cannot be installed based on their listing.*

**R328.8 Protection from impact.** *~~ESS~~* ESS installed in a location subject to vehicle damage ~~shall be protected by approved barriers.~~ *~~Appliances in garages shall also be installed in accordance with Section 304.3 of the California Mechanical Code~~ in accordance with Section R328.8.1 or R328.8.2 shall be provided with impact protection in accordance with Section R328.8.3.*

***R328.8.1 Garages.*** *Where an ESS is installed in the normal driving path of vehicle travel within a garage, impact protection complying with Section R328.8.3 shall be installed. The normal driving path is a line perpendicular to the garage vehicle opening to the back wall, extending 3 ft. (914 mm) to either side along the back wall and to a height of 48 in. (1219 mm), (See Figure R328.8.1)*

***Exception:*** *Where the clear height of the vehicle garage opening is 7 ft. 6 in, (2286 mm) or less, ESS installed not less than 36 inches (914 mm) above finished floor are not subject to vehicle impact protection requirements.*

***R328.8.2 Other locations subject to vehicle impact.*** *Where an ESS is installed in a location other than as defined in Section R328.8.1, and is subject to vehicle damage, impact protection shall be provided in accordance with Section R328.8.3.*

***R328.8.3 Impact Protection Options.*** *Where ESS is required to be protected from impact in accordance with Section R328.8.1 or R328.8.2 such protection shall comply with one of the following (see Figure R328.8.3):*

1. *Bollards constructed in accordance with one of the following:*
   1. *48 inches (1219 mm) in length by 3 inches (76mm) in diameter schedule. 80 steel pipe embedded in a concrete pier 12 inches (304 mm) deep and 6 inches (152 mm) in diameter, with 36 inches (914 mm) of pipe exposed, filled with concrete, and spaced at a maximum interval of 5 feet (1524 mm). Each bollard shall be located not less than 6 inches (152 mm) from an ESS.*
   2. *36 inches (914 mm) in height by 3 inches (76 mm) in diameter schedule 80 steel pipe fully welded to an 8 inch (203 mm) by 8 inch (203 mm) by ¼ inch (6.4 mm) thick steel plate and bolted to a concrete floor by means of 4 - ½ inch (13 mm) concrete anchors with 3 inch (76 mm) minimum embedment. Spacing shall be not greater than 60 inches. (1524 mm), and each bollard shall be located not less than 6 inches (152 mm) from the ESS.*
   3. *Pre-manufactured steel pipe bollards shall be filled with concrete and anchored in accordance with the manufacturer's installation instructions, with spacing not greater than 60 inches. (1524 mm). Located not less than 6 inches (152mm) from the ESS.*
2. *Wheel barriers constructed in accordance with one of the following:*
   1. *6 inches (152 mm) in height by 6 inches (152 mm) in width wheel barrier made of concrete or polymer, anchored to the concrete floor not less than every 36 inches (914 mm) and located not less than 54 inches (1372 mm) from the ESS. Minimum 2 - ½ inch (13 mm) diameter concrete anchors with 3-inch (76 mm) embedment per barrier shall be used. Spacing between barriers shall be no greater than 36 inches. (914 mm).*
   2. *Pre-manufactured wheel barriers shall be anchored in accordance with the manufacturers installation instructions.*
3. *Approved method designed to resist a 2000 lb. (8899 Newtons) impact in the direction of travel at 24 inches (608 mm) above grade.*

***Figure R328.8.1***

***ESS Vehicle Impact Protection***

**ESS Vehicle Impact Protection
A new Figure R328.8.1 has been added to illustrate the zones in which a typical residential garage ESS installation would trigger the need for impact protection. This figure is based on existing International Mechanical Code (IMC) commentary related to the installation of fuel-fired appliances that may pose a fire hazard when damaged. The IMC commentary Figure 304.6 (2) has been modified to reflect common ESS installation locations and takes a similar approach to mitigating the risk of impact.**

***Figure R328.8.3***

***ESS Vehicle Impact Protection Options***

**ESS Vehicle Impact Protection Options
The proposed options for impact protection were inspired by existing IMC commentary figure 304.6(2). These options have been modified to provide a consistent amount of force resistance across the available choices, something the IMC commentary does not do. These options more reasonably reflect the expected impact scenario described in the commentary text:
“The barriers shown in the commentary figure will not eliminate all possibility of a motor vehicle contacting the appliances but will offer a reasonable warning to a driver who is slowly navigating near the appliances” 
And:
“Although this section does not specifically require the impact protection provided to stop any type of vehicle at any speed, the intent is for the impact protection to cause the driver to want to stop vehicle movement out of concern for damage that could be occurring. The choice of the type, structural capacity and the location of barriers is the responsibility of the designer.”
**

**R328.9 Ventilation.** Indoor installations of *~~ESS~~* ESSthat include batteries that produce hydrogen or other flammable gases during charging shall be provided with *~~mechanical~~* mechanical ventilation in accordance with *the California Mechanical* *Code*.

***~~R327.11 Electric vehicle use.~~*** *~~The temporary use of an owner or occupant's electric powered vehicle to power a dwelling unit while parked in an attached or detached garage or outdoors shall comply with the vehicle manufacturer's instructions and the California Electrical Code.~~*

**R328.10 Electric vehicle use.** The temporary use of an owner or occupant's electric powered vehicle to power a dwelling unit while parked in an attached or detached garage or outdoors shall comply with the vehicle manufacturer's instructions and *California Electrical Code.*

**R328.11 Documentation and labeling.** The following information shall be provided:

1. A copy of the manufacturer’s installation, operation, maintenance, and decommissioning instructions shall be provided to the owner or placed in a conspicuous location near the ESSequipment.
2. A label on the installed system containing the contact information for the qualified maintenance and service providers.

***~~R327.10~~ R328.12 Toxic and highly toxic gas.*** *… (text remains unchanged)*

# Item 3-9 Chapter 3, Building Planning, Section R336 Large Family Day Care Homes

[The SFM proposes to update the Health and Safety Code Section 1597.46 for Large Family Day Care Homes.]

***SECTION R336***

***LARGE FAMILY DAY-CARE HOMES***

***R336.1 Large family day-care homes.***

***R336.2 Health and Safety Code Section 1597.46.*** *For purposes of clarification, Health and Safety Code Section 1597.46 is repeated.*

1. *~~A city, county, or city and county shall not prohibit large family day-care homes on lots zoned for single family dwellings, but shall do one of the following:~~*
   1. *~~Classify these homes as a permitted use of residential property for zoning purposes.~~*
   2. *~~Grant a nondiscretionary permit to use a lot zoned for a single-family dwelling to any large family day care home that complies with local ordinances prescribing reasonable standards, restrictions, and requirements concerning spacing and concentration, traffic control, parking, and noise control relating to such homes, and complies with subdivision (d) and any regulations adopted by the State Fire Marshal pursuant to that subdivision. Any noise standards shall be consistent with local noise ordinances implementing the noise element of the general plan and shall take into consideration the noise level generated by children. The permit issued pursuant to this paragraph shall be granted by the zoning administrator, if any, or if there is no zoning administrator by the person or persons designated by the planning agency to grant such permits, upon the certification without a hearing.~~*
   3. *~~Require any large family day-care home to apply for a permit to use a lot zoned for single-family dwellings. The zoning administrator, if any, or if there is no zoning administrator, the person or persons designated by the planning agency to handle the use permits shall review and decide the applications. The use permit shall be granted if the large family day-care home complies with local ordinances, if any, prescribing reasonable standards, restrictions, and requirements concerning spacing and concentration, traffic control, parking, and noise control relating to such homes, and complies with subdivision (d) and any regulations adopted by the State Fire Marshal pursuant to that subdivision.~~*

*~~Any noise standards shall be consistent with local noise ordinances implementing the noise element of the general plan and shall take into consideration the noise levels generated by children.~~*

*~~The local government shall process any required permit as economically as possible, and fees charged for review shall not exceed the costs of the review and permit process. Not less than 10 days prior to the date on which the decision will be made on the application, the zoning administrator or person designated to handle such use permits shall give notice of the proposed use by mail or delivery to all owners shown on the last equalized assessment roll as owning real property within a 100 foot radius of the exterior boundaries of the proposed large family day care home. No hearing on the application for a permit issued pursuant to this paragraph shall be held before a decision is made unless a hearing is requested by the applicant or other affected person. The applicant or other affected person may appeal the decision. The appellant shall pay the cost, if any of the appeal.~~*

1. *~~A large family day-care home shall not be subject to the provisions of Division 13 (commencing with Section 21000) of the Public Resources Code.~~*
2. *~~Use of a single-family dwelling for the purposes of a large family day-care home shall not constitute a change of occupancy for purposes of Part 1.5 (commencing with Section 17910) of Division 13 (State Housing Law), or for purposes of local building and fire codes.~~*
3. *~~Large family day-care homes shall be considered as single-family residences for the purposes of the State Uniform Building Standards Code and local building and fire codes, except with respect to any additional standards specifically designed to promote the fire and life safety of the children in these homes adopted by the State Fire Marshal pursuant to this subdivision.~~*

*1597.46.*

1. *A large family daycare home shall abide by all standards, in addition to the requirements of the State Uniform Building Standards Code, that are specifically designed to promote fire and life safety in large family daycare homes. The State Fire Marshal shall adopt separate building standards specifically relating to the subject of fire and life safety in family daycare homes, which shall be published in Title 24 of the California Code of Regulations. These standards shall apply uniformly throughout the state and shall include, but not be limited to, all of the following:*
   1. *The requirement that a large family daycare home contain a fire extinguisher or smoke detector device, or both, that meets childcare standards established by the State Fire Marshal.*
   2. *Specification as to the number of required exits from the home.*
   3. *Specification as to the floor or floors on which childcare may be provided and the number of required exits on each floor.*
2. *A large family daycare home for children shall have one or more carbon monoxide detectors in the facility that meet the standards established in Chapter 8 (commencing with Section 13260) of Part 2 of Division 12. The department shall account for the presence of these detectors during inspections.*
3. *Enforcement of this section shall be in accordance with Sections 13145 and 13146. A city, county, city and county, or district shall not adopt or enforce a building ordinance or local rule or regulation relating to the subject of fire and life safety in large family daycare homes that is inconsistent with those standards adopted by the State Fire Marshal, except to the extent the building ordinance or local rule or regulation applies to all residences with the same zoning designation in which childcare is provided.*

*(Repealed and added by Stats. 2019, Ch. 244, Sec. 12. (SB 234) Effective January 1, 2020.)*

***R336.6 Compliance.*** *Every large family day-care home shall comply with the provisions for Group R-3 occupancies and, if appropriate, Section R336.1. For the purposes of Section R336.1, the first story shall be designated as the floor used for residential occupancy nearest to the street level which provides primary access to the building.*

*~~Enforcement of the provisions shall be in accordance with the Health and Safety Code Sections 13145 and 13146. No city, county, city and county, or district shall adopt or enforce any building ordinance or local rule or regulation relating to the subject of fire and life safety in large-family day-care homes which is inconsistent with those standards adopted by the State Fire Marshal, except to the extent the building ordinance or local rule or regulation applies to single-family residences in which day care is not provided.~~*

# Item 3-10 Chapter 3, Building Planning, Section R337 Materials and Construction methods for Exterior Wildfire Exposure

[The SFM proposes to adopt amend Section R337 based on recommendations for the SFM WUI workgroup, which are comprised of various stakeholders.]

***SECTION R337***

***MATERIALS AND CONSTRUCTION***

***METHODS FOR EXTERIOR WILDFIRE EXPOSURE***

***SECTION R337.1***

***SCOPE, PURPOSE AND APPLICATION***

***R337.1.1 Scope.*** *~~This chapter~~ Section R337 and all subsections applies to building materials, systems and/or assemblies used in the exterior design and construction of new buildings located within a Wildland-Urban Interface (WUI) Fire Area as defined in Section R337.2A.*

***R337.1.2 Purpose.*** *The purpose of ~~this chapter~~ Section R337 is to establish minimum standards for the protection of life and property by increasing the ability of a building located in any Fire Hazard Severity Zone within State Responsibility Areas or any Wildland-Urban Interface Fire Area to resist the intrusion of flame or burning embers projected by a vegetation fire and contributes to a systematic reduction in conflagration losses.*

***R337.1.3 Application.*** *New buildings located in any Fire Hazard Severity Zone or any Wildland-Urban Interface Fire Area designated by the enforcing agency constructed after the application date shall comply with the provisions of this chapter. This shall include all new buildings with residential, commercial, educational, institutional, or similar occupancy type use, which shall be referred to in this chapter as “applicable building” (see definition in Section 702A), 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 from an applicable building on the same lot.*
2. *Group U occupancy agricultural buildings, as defined in Section 202 of this code, of any size located at least 50 feet 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 710A shall comply only with the requirements of that section.*
5. *Additions to and remodels of buildings originally constructed prior to July 1, 2008.*
6. *~~Buildings of an accessory character classified as a Group U occupancy and not exceeding 120 square feet in floor area, when located at least 30 feet from an applicable building.~~*
7. *~~Buildings of an accessory character classified as Group U occupancy of any size located least 50 feet from an applicable building.~~*
8. *~~Buildings classified as a Group U Agricultural Building, as defined in Section 202 of this code (see also Appendix C – Group U Agricultural Buildings), when located at least 50 feet from an applicable building.~~*
9. *~~Additions to and remodels of buildings originally constructed prior to the applicable application date.~~*
10. *~~Group C, special buildings conforming to the limitations specified in Section 450.4.1 of the California Building Code.~~*

*~~For the purposes of this section and R377.10, applicable building includes all buildings that have residential, commercial, educational, institutional, or similar occupancy type use.~~*

***R337.1.3.1 Application date and where required.*** *(text remains unchanged)*

***R337.1.4 Inspection and certification.*** *Building permit applications and final completion approvals for buildings within the scope and application of this chapter shall comply with the following:*

1. *Building permit issuance. The local building official shall, prior to construction, provide the owner or applicant a certification that the building as proposed to be built complies with all applicable state and local building standards, including those for materials and construction methods for wildfire exposure as described in this chapter. Issuance of a building permit by the local building official for the proposed building shall be considered as complying with this section.*
2. *Building permit final. The local building official shall, upon completion of construction, provide the owner or applicant with a copy of the final inspection report that demonstrates the building was constructed in compliance with all applicable state and local building standards, including those for materials and construction methods for wildfire exposure as described in this chapter. Issuance of a certificate of occupancy by the local building official for the proposed building shall be considered as complying with this section.*

***R337.1.5 Vegetation management compliance.*** *Prior to building permit final approval, the property shall be in compliance with the vegetation management requirements prescribed in California Fire Code Section 4906 and 4907, including California Public Resources Code 4291 or California Government Code Section 51182. Acceptable methods of compliance inspection and documentation shall be determined by the enforcing agency and shall be permitted to include any of the following:*

1. *Local, state, or federal fire authority or designee authorized to enforce vegetation management requirements.*
2. *Enforcing agency.*
3. *Third party inspection and certification authorized to enforce vegetation management requirements.*
4. *Property owner certification authorized by the enforcing agency.*

***~~R337.1.6 Application to accessory buildings and miscellaneous structures.~~*** *~~New accessory buildings and miscellaneous~~**~~structures specified in Section R337.10 shall~~**~~comply only with the requirements of that section.~~*

***SECTION R337.2***

***DEFINITIONS***

*For the purposes of Section R337 ~~this~~ ~~chapter~~, certain terms are defined below:*

***APPLICABLE BUILDING.*** *A building that has residential, commercial, educational, institutional, or similar occupancy type use.*

***~~CDF~~ DIRECTOR*** *means the Director of the California Department of Forestry and Fire Protection (CAL FIRE).*

***EXTERIOR COVERING.*** *The exposed siding or cladding material applied to the exterior side of an exterior wall, roof eave soffit, floor projection or exposed underfloor framing.*

***EXTERIOR WALL ASSEMBLY.*** *A system or assembly of exterior wall components, including exterior wall covering materials, that provides protection of the building structural members, including framing and sheathing materials, and conditioned interior space, from the detrimental effects of the exterior environment.*

***EXTERIOR WALL COVERING.*** *A material or assembly of materials applied on the exterior side of exterior walls for the purpose of providing a weather-resisting barrier, insulation or for aesthetics, including but not limited to, veneers, siding, exterior insulation and finish systems, architectural trim and embellishments such as cornices, soffits, facias, gutters and leaders.*

***FIRE PROTECTION PLAN.*** *~~is a~~ A document prepared for a specific project or development proposed for a Wildland- Urban Interface Fire Area. It describes ways to minimize and mitigate potential for loss from wildfire exposure. ~~The Fire Protection Plan shall be in accordance with this Article. When required by the enforcing agency for the purposes of granting modifications, a fire protection plan shall be submitted. Only locally adopted ordinances that have been filed with the California Building Standards Commission in accordance with Section 101.14 or the Department of Housing and Community Development in accordance with Section 101.15 shall apply.~~*

***FIRE HAZARD SEVERITY ZONES.*** *~~are~~ ~~g~~Geographical areas designated pursuant to California Public Resources Codes Sections 4201 through 4204 and classified as Very-High, High, or Moderate in State Responsibility Areas or as Local Agency Very-High Fire Hazard Severity Zones designated pursuant to California Government Code Sections 51175 through 51189. See California Fire Code ~~Article 86~~ Chapter 49.*

*The California Code of Regulations, Title 14, Section 1280 entitles the maps of these geographical areas as “Maps of the Fire Hazard Severity Zones in the State Responsibility Area of California.”*

***FIRE-RESISTANT VEGETATION.*** *Plants, shrubs, trees and other vegetation which exhibit properties, such as high moisture content, little accumulation of dead vegetation, and low sap or resin content, that make them less likely to ignite or contribute heat or spread flame in a fire than native vegetation typically found in the region.*

*[Note: The following sources contain examples of types of vegetation that can be considered as fire resistant vegetation. (Fire resistant Plants for Home Landscapes, A Pacific Northwest Extension publication; Home Landscaping for Fire, University of California Division of Agriculture and Natural Resources; Sunset Western Garden Book)]*

***IGNITION-RESISTANT MATERIAL.*** *A type of building material that ~~resists ignition or sustained flaming combustion sufficiently so as to reduce losses from wildland-urban interface conflagrations under worst-case weather and fuel conditions with wildfire exposure of burning embers and small flames, as prescribed in~~ complies with the requirements in Section R337.4 ~~R337.3 and SFM Standard 12-7A-5, Ignition-Resistant Material~~.*

***~~LOCAL AGENCY~~ ~~VERY HIGH FIRE HAZARD SEVERITY ZONE~~*** *~~means an area designated by a local agency upon the recommendation of the CDF Director pursuant to Government Code, Sections 51177(c), 51178 and 5118, that is not a state responsibility area and where a local agency, city, county, city and county, or district is responsible for fire protection.~~*

***LOCAL RESPONSIBILITY AREA (LRA).*** *Areas of the state in which the financial responsibility of preventing and suppressing fires is the primary responsibility of a city, county, city and county, or district.*

***LOG WALL CONSTRUCTION.*** *(text remains unchanged)*

***RAFTER TAIL****. (text remains unchanged)*

***ROOF EAVE****. (text remains unchanged)*

***ROOF EAVE SOFFIT.*** *(text remains unchanged)*

***STATE RESPONSIBILITY AREA (SRA).*** *~~means~~ ~~l~~Lands that are classified by the Board of Forestry pursuant to Public Resources Code Section 4125 where the financial responsibility of preventing and suppressing forest fires is primarily the responsibility of the state.*

***WILDFIRE.*** *~~is~~ ~~a~~Any uncontrolled fire spreading through vegetative fuels that threatens to destroy life, property or resources as defined in Public Resources Code Sections 4103 and 4104.*

***WILDFIRE EXPOSURE.*** *~~is~~ ~~o~~One or a combination of radiant heat, convective heat, direct flame contact and burning embers being projected by vegetation fire to a structure and its immediate environment.*

***WILDLAND-URBAN INTERFACE ~~FIRE AREA~~ (WUI).*** *~~is a~~ A geographical area identified by the state as a “Fire Hazard Severity Zone” in accordance with the Public Resources Code Sections 4201 through 4204 and Government Code Sections 51175 through 51189, or other areas designated by the enforcing agency to be at a significant risk from wildfires.*

***SECTION R337.3***

***STANDARDS OF QUALITY***

***R337.3.1 General.*** *Building material, systems, assemblies and methods of construction used in ~~this chapter~~ Section R337 shall be in accordance with Section R337.3.*

***R337.3.2 Qualification by testing.*** *(text to remain unchanged)*

***R337.3.3 Approved agency.*** *Product evaluation testing shall be performed by an approved agency as defined in Section 1702 of the California Building Code. The scope of accreditation for the approved agency shall include building product compliance with ~~code~~ the California Building Code.*

***R337.3.4 Labeling.*** *Material and material assemblies tested in accordance with the requirements of Section R337.3 shall bear an identification label showing the fire test results. That identification label shall be issued by a testing and/or inspecting agency approved by the State Fire Marshal.*

1. *Identification mark of the approved testing and/or inspecting agency.*
2. *Contact and identification information of the manufacturer.*
3. *Model number or identification of the product or material.*
4. *Pre-test weathering specified in this ~~chapter~~ section.*
5. *Compliance standard as described under Section R337.3.7.*

***R337.3.5 Weathering and surface treatment protection.***

***R337.3.5.1 General.*** *(text remains unchanged)*

***R337.3.5.2 Weathering.*** *Fire-retardant-treated wood and fire-retardant-treated wood shingles and shakes shall meet the fire test performance requirements of this ~~chapter~~ section after being subjected to the weathering conditions contained in the following standards, as applicable to the materials and the conditions of use.*

***R337.3.5.2.1 Fire-retardant-treated wood.*** *(text remains unchanged)*

***R337.3.5.2.2 Fire-retardant-treated wood shingles and shakes.*** *(text remains unchanged)*

***R337.3.5.3 Surface treatment protection.*** *(text remains unchanged)*

***R337.3.6 Alternates for materials, design, tests and methods of construction.*** *(text remains unchanged)*

***R337.3.7 Standards of quality.*** *The State Fire Marshal standards for exterior wildfire exposure protection listed below and as referenced in this chapter are located in the California Referenced Standards Code, Part 12 and Chapter 44 of this code.*

***SFM Standard 12-7A-1,*** *Exterior Wall Siding and Sheathing. A fire resistance test standard consisting of a 150 kW intensity direct flame exposure for a 10-minute duration.*

***SFM Standard 12-7A-2,*** *Exterior Windows. A fire resistance test standard consisting of a 150 kW intensity direct flame exposure for an a 8-minute duration.*

***SFM Standard 12-7A-3,*** *Horizontal Projection Underside A fire resistance test standard consisting of a 300 kW intensity direct flame exposure for a 10-minute duration.*

***SFM Standard 12-7A-4,*** *Decking. A two-part test consisting of a heat release rate (Part A) deck assembly combustion test with an under deck exposure of 80 kW intensity direct flame for a 3-minute duration, and a (Part B) sustained deck assembly combustion test consisting of a deck upper surface burning ember exposure with a 12 mph wind for 40 minutes using a 2.2lb (1kg) burning "Class A" size 12"x12"x 2.25" (300 mm x 300 mm x 57 mm) roof test brand.*

***SFM Standard 12-7A-4A,*** *Decking Alternate Method A. A heat release rate deck assembly combustion test with an under deck exposure of 80 kW intensity direct flame for a 3-minute duration.*

***~~SFM Standard 12-7A-5,~~*** *~~Ignition-resistant Material. A generic building material surface burning flame spread test standard consisting of an extended 30 minute ASTM E84 or UL 723 test method as is used for fire-retardant-treated wood.~~*

***ASTM D2898*** *Standard Practice for Accelerated Weathering of Fire-Retardant-Treated Wood for Fire Testing.*

***ASTM D3909/D3909M*** *Standard Specification for Asphalt Roll Roofing (Glass Felt) Surfaced with Mineral Granules.*

***ASTM E84*** *Standard Test Method for Surface Burning Characteristics of Building Materials.*

***ASTM E119,*** *Standard Test Methods for Fire Tests of Building Construction and Materials*

***ASTM E2632/E2632M*** *Standard Test Method for Evaluating the Under-Deck Fire Test Response of Deck Materials.*

***ASTM E2707*** *Standard Test Method for Determining Fire Penetration of Exterior Wall Assemblies Using a Direct Flame Impingement Exposure.*

***ASTM E2726/E2726M*** *Standard Test Method for Evaluating the Fire-Test-Response of Deck Structures to Burning Brands.*

***ASTM E2768*** *Standard Test Method for Extended Duration Surface Burning Characteristics of Building Materials (30 min Tunnel Test)*

***ASTM E2886/E2886M*** *Standard Test Method for Evaluating the Ability of Exterior Vents to Resist the Entry of Embers and Direct Flame Impingement.*

***ASTM E2957*** *Standard Test Method for Resistance to Wildfire Penetration of Eaves, Soffits and Other Projections.*

***NFPA 257*** *Standard on Fire Test for Window and Glass Block Assemblies.*

***UL 263*** *Standard for Fire Tests of Building Construction and Materials*

***UL 723*** *Standard for Test for Surface Burning Characteristics of Building Materials.*

***SECTION R337.4***

***IGNITION-RESISTANT CONSTRUCTION***

***R337.4.1 General.*** *The materials prescribed herein for ignition resistance shall conform to the requirements of ~~this chapter~~ Section R337.*

***R337.4.2 Ignition-resistant materials.*** *Ignition-resistant materials shall comply with one of the following:*

1. *The requirements in Section R337.4.3 or ~~when tested in accordance with the test procedures set forth in ASTM E84 or UL 723,~~*
2. *One of the alternative methods in Section R337.4.4. ~~The test procedures and requirements set forth in SFM Standard 12-7A-5 “Ignition-Resistant Material”,~~*

*~~or~~*

1. *~~One of the alternative methods in Section R337.4.4.~~*

***R337.4.3 Conditions of acceptance for ignition-resistant materials ~~tested in accordance with ASTM E84 or UL 723~~****~~. A~~ The material shall comply with the conditions of acceptance**in 1 and 2 below or with the conditions of acceptance of ASTM E2768 ~~when the test is continued for an~~**~~additional 20-minute period, meaning for a total test~~**~~period of an “extended” 30-minute test period.~~*

1. *The material shall exhibit a listed flame spread index not exceeding 25 when tested in accordance with ASTM E84 or UL 723 ~~and shall show no evidence of progressive combustion following the extended 30-minute test period~~.*
2. *Additionally, the ASTM E84 or UL 723 test shall be continued for an additional 20-minute period, and the ~~The~~ material shall exhibit a flame front that does not progress more than 101/2 feet (3200 mm) beyond the centerline of the burner at any time during the ~~extended 30-minute~~ test period.*

***R337.4.3.1 Fire Testing of Wood Structural Panels*** *Wood structural panels shall be tested with a ripped or cut longitudinal gap of 1/8" (3.2 mm).*

***R337.4.4 Alternative methods for determining ignition-resistant material.*** *Any one of the following shall be**accepted as meeting the definition of ignition-resistant*

*material:*

1. *Noncombustible material. Material that complies with the definition for noncombustible materials in Section R202.*
2. *Fire-retardant-treated wood. Fire-retardant-treated wood identified for exterior use that complies with the requirements of Section 2303.2 of the California Building Code.*
3. *Fire-retardant-treated wood shingles and shakes. Fire-retardant-treated wood shingles and shakes, as defined in Section 1505.6 of the California Building Code and listed by State Fire Marshal for use as “Class B” roof covering, shall be accepted as an Ignition-resistant wall covering material when installed over solid sheathing.*

***SECTION R337.6***

***VENTS***

***R337.6.1 General.*** *~~Where provided, ventilation openings for enclosed attics, enclosed eave soffit spaces, enclosed rafter spaces formed where ceilings are applied directly to the underside of roof rafters, and underfloor ventilation shall be in accordance with Section 1203 of the California Building Code and Sections R337.6.1 through R337.6.3 of this section to resist building ignition from the intrusion of burning embers and flame through the ventilation opening.~~ Where provided, ventilation openings for enclosed attics, gable ends, ridge ends, under eaves and cornices, enclosed eave soffit spaces, enclosed rafter spaces formed where ceilings are applied directly to the underside of roof rafters, underfloor ventilation, foundations and crawl spaces, or any other opening intended to permit ventilation, either in a horizontal or vertical plane, shall be in accordance with Section 1202 of the California Building Code and Sections R337.6.1 through R337.6.2 to resist building ignition from the intrusion of burning embers and flame through the ventilation openings.*

***R337.6.2 Requirements.*** *Ventilation openings ~~for enclosed attics, enclosed eave soffit spaces, enclosed rafter spaces formed where ceilings are applied directly to the underside of roof rafters, and underfloor ventilation openings~~ shall be fully covered with ~~Wildland~~ Wildfire Flame and Ember Resistant ~~(WUI)~~ vents approved and listed by the California State Fire Marshal, or WUI vents tested ~~listed~~ to ASTM E2886 and listed, by complying with all the following requirements:*

1. *There shall be no flaming ignition of the cotton material during the Ember Intrusion Test.*
2. *There shall be no flaming ignition during the Integrity Test portion of the Flame Intrusion Test.*
3. *3.The maximum temperature of the unexposed side of the vent shall not exceed 662°F (350°C).*

***~~R337.6.2.1~~*** *~~The requirements of 706.A.2 shall apply to gable ends, ridge ends, crawl spaces, foundations and all other ventilation vents that mount on a vertical wall.~~*

***R337.6.2.1 Off ridge and ridge vents.*** *Vents that are installed on a sloped roof, such as dormer vents, shall comply with all the following:*

* 1. *Vents shall be covered with a mesh where the dimensions of the mesh therein shall be a minimum of 1/16-inch (1.6 mm) and shall not exceed 1/8-inch (3.2 mm) in diameter.*
  2. *The mesh material shall be noncombustible.*
  3. *The mesh material shall be corrosion resistant.*

***~~R337.6.3~~******~~Ventilation openings on the underside of eaves and cornices.~~*** *~~Vents shall not be installed on the underside of eaves and cornices unless the vents are Wildland Flame and Ember Resistant (WUI) vents approved and listed by the California State Fire Marshal, or WUI vents listed to ASTM E2886, by complying with all the following requirements:~~*

1. *~~There shall be no flaming ignition of the cotton material during the Ember Intrusion Test.~~*
2. *~~There shall be no flaming ignition during the Integrity Test portion of the Flame Intrusion Test.~~*
3. *~~The maximum temperature of the unexposed side of the vent shall not exceed 662°F (350°C).~~*

***~~Exceptions:~~***

1. *~~The enforcing agency shall be permitted to accept or approve special eave and cornice vents that resist the intrusion of flame and burning embers.~~*
2. *~~Vents shall be permitted to be installed on the underside of eaves and cornices in accordance with all of the following conditions:~~*
   1. *~~The attic space being ventilated is fully protected by an automatic sprinkler system installed in accordance with Section 903.3.1.1 and,~~*
   2. *~~The exterior wall covering and exposed underside of the eave are of noncombustible materials, or ignition-resistant materials, as determined in accordance with SFM Standard 12-7A-5 Ignition-Resistant Material and the requirements of Section R337.4.3, and the vent is located more than 12 feet (3.66 m) from the ground or walking surface of a deck, porch, patio or similar surface.~~*

***SECTION R337.7***

***EXTERIOR COVERING***

***R337.7.1 Scope.*** *(text remains unchanged)*

***R337.7.2 General.*** *The following exterior covering materials and/or assemblies shall comply with this section:*

1. *Exterior wall coverings. ~~covering material~~*
2. *Exterior wall assemblies. ~~assembly~~*

*(3 through 7 text remains unchanged)*

***Exceptions to R337.7.2:***

1. *Exterior wall architectural trim, embellishments, fascias, and gutters.*
2. *Roof or wall top cornice projections and similar assemblies.  
   ~~Roof assembly projections over gable end walls.  
   Solid wood rafter tails and solid wood blocking installed between rafters having minimum dimension 2 inch (50.8 mm) nominal.~~*
3. *Deck walking surfaces shall comply with Section R337.9 only.*

***R337.7.3 Exterior wall coverings ~~walls~~.*** *The exterior wall covering ~~or wall assembly~~ shall comply with one or more of the following requirements, except as permitted for exterior wall assemblies complying with Section R337.7.4:*

1. *Noncombustible material*
2. *Ignition-resistant material* *the ignition-resistant material shall be labeled for exterior use and shall meet the requirements of Section R337.4.2*
3. *Fire-retardant-treated wood. The fire-retardant-treated wood shall be labeled for exterior use and shall meet the requirements of Section 2303.2 of the California Building Code.*
4. *~~Sawn lumber or glue-laminated wood with the smallest minimum nominal dimension of 4 inches (102 mm). Sawn or glue-laminated planks splined, tongue-and-grove, or set close together and well spiked.~~*
5. *~~Log wall construction assembly.~~*
6. *~~Wall assemblies that have been tested in accordance with the test procedures for a 10-minute direct flame contact exposure test set forth in ASTM E2707 with the conditions of acceptance shown in Section R337.7.3.1.~~*
7. *~~Wall assemblies that meet the performance criteria in accordance with the test procedures for a 10-minute direct flame contact exposure test set forth in SFM Standard 12-7A-1.~~*

***~~Exception:~~*** *~~Any of the following shall be deemed to meet the assembly performance criteria and intent of this section:~~*

1. *~~One layer of 5/8-inch Type X gypsum sheathing applied behind the exterior covering or cladding on the exterior side of the framing.~~*
2. *~~The exterior portion of a 1-hour fire resistive exterior wall assembly designed for exterior fire exposure including assemblies using the gypsum panel and sheathing products listed in the Gypsum Association Fire Resistance Design Manual.~~*

***~~R337.7.3.1~~*** *~~Conditions of acceptance when tested in accordance with ASTM E2707. The ASTM E2707 test shall be conducted on a minimum of three test specimens and the conditions of acceptance in Items 1 and 2 below shall be met. If any one of the three tests does not meet the conditions of acceptance, three additional tests shall be run. All of the additional tests shall meet the conditions of acceptance.~~*

* 1. *~~Absence of flame penetration through the wall assembly at any time.~~*
  2. *~~Absence of evidence of glowing combustion on the interior surface of the assembly at the end of the 70-min test.~~*

***R337.7.3.1 ~~R337.3.2~~ Extent of exterior wall covering.*** *Exterior wall coverings shall extend from the top of the foundation to the roof, and terminate at 2 inch (50.8 mm) nominal solid wood blocking between rafters at all roof overhangs, or in the case of enclosed eaves, terminate at the enclosure.*

***R337.7.4 Exterior wall assemblies****. Exterior wall assemblies of buildings or structures shall be constructed using one or more of the following methods, unless they are covered by an exterior wall covering complying with R337.7.3:*

1. *Assembly of sawn lumber or glue laminated wood with the smallest minimum nominal dimension of 4 inches (102 mm). Sawn or glue-laminated planks splined, tongue-and-grove, or set close together and well spiked.*
2. *Log wall construction assembly*
3. *Assembly that has been tested in accordance with the test procedures for a 10-minute direct flame contact exposure test set forth in ASTM E2707 with the conditions of acceptance shown in Section R337.7.4.1.*
4. *Assembly that meets the performance criteria in accordance with the test procedures for a 10-minute direct flame contact exposure test set forth in SFM Standard 12-7A-1.*
5. *Assembly suitable for exterior fire exposure with a 1-hour fire resistance rating, rated from the exterior side, as tested in accordance with ASTM E119 or UL 263.*
6. *Assembly suitable for exterior fire exposure containing one layer of 5/8-inch Type X gypsum sheathing applied behind the exterior wall covering or cladding on the exterior side of the framing.*
7. *Assembly suitable for exterior fire exposure containing any of the gypsum panel and sheathing products listed in the Gypsum Association Fire Resistance Design Manual as complying with a 1-hour fire resistance rating, as tested in accordance with ASTM E119 or UL 263.*

***R337.7.4.1 Conditions of acceptance when tested in accordance with ASTM E2707.*** *The ASTM E2707 test shall be conducted on a minimum of three test specimens and the conditions of acceptance in 1 and 2 below shall be met. If any one of the three tests do not meet the conditions of acceptance, three additional tests shall be run. All the additional tests shall meet the conditions of acceptance.*

* 1. *Absence of flame penetration through the wall assembly at any time.*
  2. *Absence of evidence of glowing combustion on the interior surface of the assembly at the end of the 70-min test.*

***R337.7.5~~4~~ Open roof eaves.*** *The exposed roof deck on the underside of unenclosed roof eaves shall consist of one or more of the following:*

1. *Noncombustible material*
2. *Ignition-resistant material the ignition-resistant material shall be labeled for exterior use and shall meet the requirements of Section 704A.2.*
3. *Fire-retardant-treated wood. The fire-retardant-treated wood shall be labeled for exterior use and shall meet the requirements of Section 2303.2 of the California Building Code.  
   ~~One layer of 5/8-inch Type X gypsum sheathing applied behind an exterior covering on the underside exterior of the roof deck~~*
4. *Materials approved for not less than 1-hour fire-resistance-rated construction on the exterior side, as tested in accordance with ASTM E119 or UL 263.  
   ~~The exterior portion of a 1-hour fire resistive exterior wall assembly applied to the underside of the roof deck designed for exterior fire exposure including assemblies using the gypsum panel and sheathing products listed in the Gypsum Association Fire Resistance Design Manual~~*
5. *One layer of 5/8-inch Type X gypsum sheathing applied behind an exterior covering on the underside of the roof deck.*
6. *The exterior portion of a 1-hour fire resistance rated exterior assembly, as tested in accordance with ASTM E119 or UL 263, applied to the underside of the roof deck designed for exterior fire exposure including assemblies using the gypsum panel and sheathing products listed in the Gypsum Association Fire Resistance Design Manual.*

***Exception~~s~~ to R337.7.5:*** *The following materials do not require protection:*

1. *~~Solid wood rafter tails on the exposed underside of open roof eaves having a minimum nominal dimension of 2 inch (50.8 mm)~~*
2. *~~Solid wood blocking installed between rafter tails on the exposed underside of open roof eaves having a minimum nominal dimension of 2 inch (50.8 mm)~~*
3. *~~Gable end overhangs and roof assembly projections beyond an exterior wall other than at the lower end of the rafter tails~~*
4. *Fascia and other architectural trim boards*

***R337.7.6~~5~~******Enclosed roof eaves and roof eave soffits.*** *The exposed underside of enclosed roof eaves having either a boxed-in roof eave soffit with a horizontal underside, or sloping rafter tails with an exterior covering applied to the underside of the rafter tails, shall be protected by one or more of the following:*

1. *Noncombustible material*
2. *Ignition-resistant material. The ignition-resistant material shall be labeled for exterior use and shall meet the requirements of Section R337.4.2.*
3. *Fire-retardant-treated wood. The fire-retardant-treated wood shall be labeled for exterior use and shall meet the requirements of Section 2303.2 of the California Building Code.*

*~~3. One layer of 5/8-inch Type X gypsum sheathing applied behind an exterior covering on the underside of the rafter tails or soffit~~*

1. *Materials approved for not less than 1-hour fire-resistance-rated construction on the exterior side, as tested in accordance with ASTM E119 or UL 263.*

*~~4. The exterior portion of a 1-hour fire resistive exterior wall assembly applied to the underside of the rafter tails or soffit including assemblies using the gypsum panel and sheathing products listed in the Gypsum Association Fire Resistance Design Manual~~*

1. *One layer of 5/8-inch Type X gypsum sheathing applied behind the exterior covering or cladding on the underside of the rafter tails or soffit.*
2. *The exterior portion of a 1-hour fire resistive exterior assembly applied to the underside of the rafter tails or soffit including assemblies using the gypsum panel and sheathing products listed in the Gypsum Association Fire Resistance Design Manual.*
3. *~~5~~. Boxed-in roof eave soffit assemblies with a horizontal underside that meet the performance criteria in Section R337.7.11 ~~R337.7.10~~ when tested in accordance with the test procedures set forth in ASTM E2957.*
4. *~~6~~. Boxed-in roof eave soffit assemblies with a horizontal underside that meet the performance criteria in accordance with the test procedures set forth in SFM Standard 12-7A-3.*

***Exception~~s~~ to R337.7.6:*** *The following materials do not require protection:*

1. *~~Gable end overhangs and roof assembly projections beyond an exterior wall other than at the lower end of the rafter tails~~*
2. *Fascia and other architectural trim boards.*

***R337.7.7~~6~~******Exterior porch ceilings.*** *The exposed underside of exterior porch ceilings shall be protected by one or more of the following:*

1. *Noncombustible material*
2. *Ignition-resistant material.* *The ignition-resistant material shall be labeled for exterior use and shall meet the requirements of Section R337.4.2.*
3. *Fire-retardant-treated wood. The fire-retardant-treated wood shall be labeled for exterior use and shall meet the requirements of Section 2303.2 of the California Building Code.*

*~~3. One layer of 5/8-inch Type X gypsum sheathing applied behind the exterior covering on the underside of the ceiling.~~*

1. *Materials approved for not less than 1-hour fire-resistance-rated construction on the exterior side, as tested in accordance with ASTM E119 or UL 263.*

*~~4. The exterior portion of a 1-hour fire resistive exterior wall assembly applied to the underside of the ceiling assembly including assemblies using the gypsum panel and sheathing products listed in the Gypsum Association Fire Resistance Design Manual~~*

1. *One layer of 5/8-inch Type X gypsum sheathing applied behind the exterior covering on the underside of the ceiling*
2. *The exterior portion of a 1-hour fire resistance rated exterior assembly, as tested in accordance with ASTM E119, applied to the underside of the ceiling assembly including assemblies using the gypsum panel and sheathing products listed in the Gypsum Association Fire Resistance Design Manual*
3. *~~5~~. Porch ceiling assemblies with a horizontal underside that meet the performance criteria in Section R337.7.11 ~~R337.7.10~~ when tested in accordance with the test procedures set forth in ASTM E2957.*
4. *~~6~~. Porch ceiling assemblies with a horizontal underside that meet the performance criteria in accordance with the test procedures set forth in SFM Standard 12-7A-3*

***Exception to R337.7.7:*** *Architectural trim boards do not require protection.*

***R337.7.8 ~~7~~* *Floor projections.*** *The exposed underside of a cantilevered floor projection where a floor assembly extends over an exterior wall shall be protected by one or more of the following:*

1. *Noncombustible material*
2. *Ignition-resistant material. The ignition-resistant material shall be labeled for exterior use and shall meet the requirements of Section R337.4.2.*
3. *Fire-retardant-treated wood. The fire-retardant-treated wood shall be labeled for exterior use and shall meet the requirements of Section 2303.2 of the California Building Code.*

*~~3.One layer of 5/8-inch Type X gypsum sheathing applied behind an exterior covering on the underside of the floor projection~~*

1. *Materials approved for not less than 1-hour fire-resistance-rated construction on the exterior side, as tested in accordance with ASTM E119 or UL 263.*

*~~4. The exterior portion of a 1-hour fire resistive exterior wall assembly applied to the underside of the floor projection including assemblies using the gypsum panel and sheathing products listed in the Gypsum Association Fire Resistance Design Manual~~*

1. *One layer of 5/8-inch Type X gypsum sheathing applied behind an exterior covering on the underside of the floor projection.*
2. *The exterior portion of a 1-hour fire resistance rated exterior assembly, as tested in accordance with ASTM E119 or UL 263, applied to the underside of the floor projection including assemblies using the gypsum panel and sheathing products listed in the Gypsum Association Fire Resistance Design Manual.*
3. *~~5~~. The underside of a floor assembly that meets the performance criteria in Section R337.7.11 ~~R337.7.10~~ when tested in accordance with the test procedures set forth in ASTM E2957.*
4. *~~6~~. The underside of a floor assembly that meets the performance criteria in accordance with the test procedures set forth in SFM Standard 12-7A-3.*

***Exception to R337.7.8****: Architectural trim boards do not require protection.*

***R337.7.9~~8~~ Underfloor protection.*** *The underfloor area of elevated or overhanging buildings shall be enclosed to grade in accordance with the requirements of this chapter or the underside of the exposed underfloor shall be protected by ~~consist of~~ one or more of the following:*

1. *Noncombustible material*
2. *Ignition-resistant material. The ignition-resistant material shall be labeled for exterior use and shall meet the requirements of Section R337.4.2.*
3. *Fire-retardant-treated wood. The fire-retardant-treated wood shall be labeled for exterior use and shall meet the requirements of Section 2303.2 of the California Building Code.*

*~~3. One layer of 5/8-inch Type X gypsum sheathing applied behind an exterior covering on the underside of the floor projection~~*

1. *Materials approved for not less than 1-hour fire-resistance-rated construction on the exterior side, as tested in accordance with ASTM E119 or UL 263.*

*~~4. The exterior portion of a 1-hour fire resistive exterior wall assembly applied to the underside of the floor including assemblies using the gypsum panel and sheathing products listed in the Gypsum Association Fire Resistance Design Manual~~.*

1. *One layer of 5/8-inch Type X gypsum sheathing applied behind an exterior covering on the underside of the floor projection.*

*~~5. The underside of a floor assembly that meets the performance criteria in accordance with the test procedures set forth in either of the following:~~*

* 1. *~~SFM Standard 12-7A-3; or~~*
  2. *~~ASTM E2957~~*

1. *The exterior portion of a 1-hour fire resistance rated exterior assembly, as tested in accordance with ASTM E119 or UL 263, applied to the underside of the floor including assemblies using the gypsum panel and sheathing products listed in the Gypsum Association Fire Resistance Design Manual.*
2. *The underside of a floor assembly that meets the performance criteria in Section R337.7.11 when tested in accordance with the test procedures set forth in ASTM E2957.*
3. *The underside of a floor assembly that meets the performance criteria in accordance with the test procedures set forth in SFM Standard 12-7A-3.*

***Exception to R337.7.9:*** *Structural columns and beams do not require protection when constructed with sawn lumber or glue laminated wood with the smallest minimum nominal dimension of 4 inches (102 mm). Sawn or glue-laminated planks shall be splined, tongue-and-grove, or set close together and well spiked.*

***R337.7.10 ~~9~~ Underside of appendages.*** *When required by the enforcing agency the underside of overhanging appendages shall be enclosed to grade in accordance with the requirements of this chapter or the underside of the exposed underfloor shall be protected by one or more ~~consist of one~~ of the following:*

1. *Noncombustible material*
2. *Ignition-resistant material.* *The ignition-resistant material shall be labeled for exterior use and shall meet the requirements of Section R337.7.2.*
3. *Fire-retardant-treated wood. The fire-retardant-treated wood shall be labeled for exterior use and shall meet the requirements of Section 2303.2 of the California Building Code.*

*~~3. One layer of 5/8-inch Type X gypsum sheathing applied behind an exterior covering on the underside of the floor projection~~*

1. *Materials approved for not less than 1-hour fire-resistance-rated construction on the exterior side, as tested in accordance with ASTM E119 or UL 263.*

*~~4. The exterior portion of a 1-hour fire resistive exterior wall assembly applied to the underside of the floor including assemblies using the gypsum panel and sheathing products listed in the Gypsum Association Fire Resistance Design Manual~~*

1. *One layer of 5/8-inch Type X gypsum sheathing applied behind an exterior covering on the underside of the appendage projection.*

*~~5. The underside of a floor assembly that meets the performance criteria in accordance with the test procedures set forth in either of the following:~~*

* 1. *~~SFM Standard 12-7A-3; or~~*
  2. *~~ASTM E2957~~*

1. *The exterior portion of a 1-hour fire resistance rated exterior assembly, as tested in accordance with ASTM E119 or UL 263, applied to the underside of the appendage, including assemblies using the gypsum panel and sheathing products listed in the Gypsum Association Fire Resistance Design Manual.*
2. *The underside of an appendage assembly that meets the performance criteria in Section 707A.11 when tested in accordance with the test procedures set forth in ASTM E2957.*
3. *The underside of an appendage assembly that meets the performance criteria in accordance with the test procedures set forth in SFM Standard 12-7A-3.*

***Exception to R337.7.10:*** *Structural columns and beams do not require protection when constructed with sawn lumber or glue-laminated wood with the smallest minimum nominal dimension of 4 inches (102 mm). Sawn or glue-laminated planks shall be splined, tongue-and-grove, or set close together and well spiked.*

***~~R337.7.10~~ R337.7.11 Conditions of acceptance when tested in accordance with ASTM E2957.*** *(text remains unchanged)*

***SECTION R337.9***

***DECKING***

***R337.9.3 Decking Surfaces.*** *The walking surface material of decks, porches, balconies and stairs shall be constructed with one of the following materials:*

* 1. *Material that complies with the performance requirements of Section 709A.4 when tested in accordance with both ASTM E2632 and ASTM E2726.*
  2. *Ignition-resistant material that complies with the performance requirements of 704A.3 ~~when tested in accordance with ASTM E84 or UL 723~~.*
  3. *Material that complies with the performance requirements of both SFM Standard 12-7A-4 and Section 704A.3 ~~SFM Standard 12-7A-5~~.*

*(4 through 7 text remains unchanged)*

***R337.9.4 Requirements for type of ~~ignition-resistant~~ material in Section R337.9.3, item (1)****. The material shall be tested in accordance with both ASTM E2632 and ASTM E2726 and shall comply with the conditions of acceptance in 709A.4.1 and 709A4.2. The material shall also be tested in accordance with ASTM E84 or UL 723 and comply with the performance requirements of Section 704A.3.*

***SECTION R337.10***

***ACCESSORY BUILDINGS AND MISCELLANEOUS STRUCTURES***

***R337.10.1 General.*** *~~Accessory buildings and miscellaneous structures defined in this section that have the potential to pose a significant exterior fire exposure hazard to applicable buildings during wildfires shall be constructed to conform to the requirements of this section.~~**Group U occupancy 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.*

***R337.10.2 Applicability.*** *~~T~~Unless otherwise addressed by the exceptions of Section R337.1.3, the provisions of this section shall apply to buildings accessory to an applicable building on the same lot ~~the buildings covered by Section R337.1.3 Exception~~*

*~~1~~. This section shall also apply to ~~specified~~ attached and 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 R337.9.*
  2. *Awnings and canopies shall comply with the requirements of Section 3105 of the California Building Code.*
  3. *Exterior wall architectural trim, embellishments, and fascias.*

***R337.10.3 Where required****.* *~~No requirements shall apply to accessory buildings or miscellaneous structures when located at least 50 feet from an applicable building. Applicable accessory buildings and attached miscellaneous structures, or detached miscellaneous structures that are installed at a distance of less than 3 feet from an applicable building, shall comply with this section. When required by the enforcing agency, detached miscellaneous structures that are installed at a distance of more than 3 feet but less than 50 feet from an applicable building shall comply with the requirements of this section.~~ 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 shall comply with Section R337.10.3.1. Accessory buildings that are greater than 120 square feet, when separated from an applicable building on the same lot by a distance of 3 feet or more but less than 50 feet shall comply with Section R337.10.3.2.*

*When required by the enforcing agency, miscellaneous structures that require a permit, and accessory buildings that are 120 square feet or less, when separated from an applicable building on the same lot by a distance of 3 feet or more but less than 50 feet shall comply with either Section R337.10.3.4 or Section R337.10.3.3, respectively.*

*No requirements shall apply to accessory buildings or miscellaneous structures when located 50 feet or more from an applicable building on the same lot.*

***~~R337.10.3.1 Accessory building requirements.~~*** *~~Applicable accessory buildings that are less than 120 square feet in floor area, and are located more than 30 feet but less than 50 feet from an applicable building shall be constructed of noncombustible materials or of ignition resistant materials as described in Section R337.4.2.~~*

***337.10.3.1~~2~~ ~~Attached miscellaneous structure requirements~~Structures and accessory buildings within 3 feet.*** *~~Applicable miscellaneous~~ Miscellaneous structures that require a permit, and accessory buildings, ~~that are~~ attached to~~,~~ or ~~installed at~~ separated from an applicable building on the same lot by a distance of less than 3 feet ~~from an applicable building~~ shall be constructed of noncombustible materials or of ignition-resistant materials as described in Section R337.4.2.*

***R337.10.3.2 Accessory buildings greater than 120 square feet, located 3 or more feet but less than 50 feet.*** *Accessory buildings that are greater than 120 square feet in size and separated from an applicable building on the same lot by a distance of 3 feet or more but less than 50 feet shall be constructed of noncombustible materials or of ignition-resistant materials as described in Section R337.4.2.*

***R337.10.3.3 Accessory buildings 120 square feet or less, located 3 or more feet but less than 50 feet.*** *When required by the enforcing agency, accessory buildings 120 square feet or less and separated from an applicable building on the same lot by a distance of 3 feet or more but less than 50 feet shall be constructed of noncombustible materials or of ignition-resistant materials as described in Section R337.4.2.*

***R337.10.3.~~3~~4 ~~Detached m~~Miscellaneous structures located 3 or more feet but less than 50 feet ~~structure requirements~~.*** *When required by the enforcing agency, ~~applicable detached~~ miscellaneous structures that require a permit and are ~~installed at~~ separated from an applicable building on the same lot by a distance of ~~more than~~ 3 feet or more but less than 50 feet ~~from an applicable building~~ shall be constructed of noncombustible materials or of ignition-resistant materials as described in Section R337.4.2.*

***R337.10.4 Roof construction.*** *Roofs of accessory buildings required to be constructed entirely of noncombustible materials or of ignition-resistant materials shall comply with the requirements of Section 337 and Chapter 9. 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 rating when tested in accordance with ASTM E108 or UL790.*

**Notation:**

Authority: Health and Safety Code Sections 13108, 13108.5, 13113, 13113.5, 13114, 13132, 13132.7, 13133, 13135, 13143, 13143.1, 13143.2, 13143.6, 13143.9, 13145, 13146, 13210, 13211, 16022.5, 17921, 18897.3, 18928, 18949.2, 25500 through 25545, Government Code Section 51189, Public Education Code 17074.50.

Reference(s): Health and Safety Code Sections 13108, 13143, 13145, 13146, 13211, 16022.5, 17921, 18949.2, Government Code Sections 51176, 51177, 51178 and 51179, Public Resources Code Sections 4201 through 4204.

**CHAPTER 4**

**FOUNDATIONS**

# Item 4-1 Chapter 4, Foundations

[The SFM proposes to **not** adopt Chapter 4.]

**Notation:**

Authority: Health and Safety Code Sections 13108, 13108.5, 13113, 13113.5, 13114, 13132, 13132.7, 13133, 13135, 13143, 13143.1, 13143.2, 13143.6, 13143.9, 13145, 13146, 13210, 13211, 16022.5, 17921, 18897.3, 18928, 18949.2, 25500 through 25545, Government Code Section 51189, Public Education Code 17074.50.

Reference(s): Health and Safety Code Sections 13108, 13143, 13145, 13146, 13211, 16022.5, 17921, 18949.2, Government Code Sections 51176, 51177, 51178 and 51179, Public Resources Code Sections 4201 through 4204.

**CHAPTER 5**

**FLOORS**

# Item 5-1 Chapter 5, Floors

[The SFM proposes to **not** adopt Chapter 5.]

**Notation:**

Authority: Health and Safety Code Sections 13108, 13108.5, 13113, 13113.5, 13114, 13132, 13132.7, 13133, 13135, 13143, 13143.1, 13143.2, 13143.6, 13143.9, 13145, 13146, 13210, 13211, 16022.5, 17921, 18897.3, 18928, 18949.2, 25500 through 25545, Government Code Section 51189, Public Education Code 17074.50.

Reference(s): Health and Safety Code Sections 13108, 13143, 13145, 13146, 13211, 16022.5, 17921, 18949.2, Government Code Sections 51176, 51177, 51178 and 51179, Public Resources Code Sections 4201 through 4204.

**CHAPTER 6**

**WALL CONSTRUCTION**

# Item 6-1 Chapter 6, Wall Construction

[The SFM proposes to **not** adopt Chapter 6.]

**Notation:**

Authority: Health and Safety Code Sections 13108, 13108.5, 13113, 13113.5, 13114, 13132, 13132.7, 13133, 13135, 13143, 13143.1, 13143.2, 13143.6, 13143.9, 13145, 13146, 13210, 13211, 16022.5, 17921, 18897.3, 18928, 18949.2, 25500 through 25545, Government Code Section 51189, Public Education Code 17074.50.

Reference(s): Health and Safety Code Sections 13108, 13143, 13145, 13146, 13211, 16022.5, 17921, 18949.2, Government Code Sections 51176, 51177, 51178 and 51179, Public Resources Code Sections 4201 through 4204.

**CHAPTER 7**

**WALL COVERING**

# Item 7-1 Chapter 7, Wall Covering

[The SFM proposes to **not** adopt Chapter 7.]

**Notation:**

Authority: Health and Safety Code Sections 13108, 13108.5, 13113, 13113.5, 13114, 13132, 13132.7, 13133, 13135, 13143, 13143.1, 13143.2, 13143.6, 13143.9, 13145, 13146, 13210, 13211, 16022.5, 17921, 18897.3, 18928, 18949.2, 25500 through 25545, Government Code Section 51189, Public Education Code 17074.50.

Reference(s): Health and Safety Code Sections 13108, 13143, 13145, 13146, 13211, 16022.5, 17921, 18949.2, Government Code Sections 51176, 51177, 51178 and 51179, Public Resources Code Sections 4201 through 4204.

**CHAPTER 8**

**ROOF-CEILING CONSTRUCTION**

# Item 8-1 Chapter 8, Roof-Ceiling Construction

[The SFM proposes to adopt Section R801.1, R802.1 - R802.1.6, R803.2.1.2, R806 of Chapter 8.]

**SECTION R806**

**ROOF VENTILATION**

# Item 8-2 Chapter 8, Roof-Ceiling Construction

[The SFM proposes to adopt add section R806.1.1 to ensure that vents in the Wildland Urban Area are protected from the intrusion of burning embers and flame.]

**…**

***R806.1.1 Vents in the Wildland Urban Interface ~~Area~~ (WUI).*** *Where provided, ventilation openings for enclosed attics, gable ends, ridge ends, under eaves and cornices, enclosed eave soffit spaces, enclosed rafter spaces formed where ceilings are applied directly to the underside of roof rafters, underfloor ventilation, foundations and crawl spaces, or any other opening intended to permit ventilation, either in a horizontal or vertical plane, shall be in accordance with Sections R337.6.1 through R337.6.2 to resist building ignition from the intrusion of burning embers and flame through the ventilation openings.*

**…**

**Notation:**

Authority: Health and Safety Code Sections 13108, 13108.5, 13113, 13113.5, 13114, 13132, 13132.7, 13133, 13135, 13143, 13143.1, 13143.2, 13143.6, 13143.9, 13145, 13146, 13210, 13211, 16022.5, 17921, 18897.3, 18928, 18949.2, 25500 through 25545, Government Code Section 51189, Public Education Code 17074.50.

Reference(s): Health and Safety Code Sections 13108, 13143, 13145, 13146, 13211, 16022.5, 17921, 18949.2, Government Code Sections 51176, 51177, 51178 and 51179, Public Resources Code Sections 4201 through 4204.

**CHAPTER 9**

**ROOF ASSEMBLIES**

# Item 9-1 Chapter 9, Roof Assemblies

[The SFM proposes to adopt Sections R901; R902; R904; R905.16- R905.17.6; R907, of Chapter 9, carry forward existing amendments and propose modifications as show below.]

**SECTION R902**

**FIRE CLASSIFICATION**

# Item 9-2 Chapter 9, Roof Assemblies

[The SFM proposes to amend R902.1.1-R902.2 to correlate with changes made in the California Building Code for Roof coverings in the Wildland Urban Interface area.]

***R902.1.1 Roof coverings within ~~very-high~~ fire hazard severity zones.*** *The entire roof covering of every existing**structure where more than 50 percent of the total roof*

*area is replaced within any one-year period, the entire roof covering of every new structure, and any roof covering applied in the alteration, repair or replacement of the roof of every existing structure, shall be a fire-retardant roof covering that is at least Class A.*

***Exception:*** *The requirements shall not apply in any jurisdiction that adopts the model ordinance approved by the State Fire Marshal pursuant to Section 51189 of the Government Code or an ordinance that substantially conforms to the model ordinance and transmits a copy to the State Fire Marshal.*

***~~R902.1.2 Roof coverings within state responsibility areas.~~*** *~~The entire roof covering of every existing structure~~**~~where more than 50 percent of the total roof area is~~*

*~~replaced within any one-year period, the entire roof covering of every new structure, and any roof covering applied in the alteration, repair or replacement of the roof~~*

*~~of every existing structure, shall be a fire-retardant roof covering that is at least Class B.~~*

***~~Exception:~~*** *~~Areas designated as moderate fire hazard severity zones.~~*

***~~R902.1.3~~ R902.1.2 Roof coverings in all other areas.*** *The entire roof covering of every existing structure where more than 50 percent of the total roof area is replaced within any one year period, the entire roof covering of every new structure, and any roof covering applied in the alteration, repair or replacement of the roof of every existing structure, shall be a fire-retardant roof covering that is at least Class C.*

***~~R902.1.4~~ R902.1.3 Roofing requirements a wildland-urban interface fire area.*** *Roofing requirements for structures located**in a wildland-urban interface fire area shall also comply**with Section R337.5.*

**…**

**R902.3 Building-integrated photovoltaic product.** Building-integrated photovoltaic products installed as the roof covering shall be tested, listed and labeled for fire classification in accordance with Section R902.1 *through ~~R902.1.4~~ R902.1.3.*

**…**

**R902.4 Rooftop-mounted photovoltaic *(PV)* panel systems.** Rooftop-mounted photovoltaic *(PV)* panel systems installed on orabove the roof covering shall be tested, listed and identifiedwith a fire classification in accordance with UL2703. *Listed systems shall be**installed in accordance with the manufacturer’s installation**instructions and their listing.* Class A, B or C photovoltaic panel systems and modulesshall be installed *~~areas designated by this section~~,* injurisdictions designated by law as requiring their use orwhere the edge of the roof is less than 3 feet (914 mm) from a lot line.

…

**SECTION R907**

**ROOFTOP-MOUNTED PHOTOVOLTAIC PANEL SYSTEMS**

# Item 9-3 Chapter 9, Roof Assemblies

[The SFM proposes to move existing amendments from R918 for Rooftop mounted photovoltaic panel systems to the appropriate section R907.]

**R907.1 Rooftop-mounted photovoltaic *(PV)* panel systems.** Rooftop-mounted photovoltaic panel systems shall be designed and installed in accordance with this section, Section R324 and ~~NFPA 70~~ *the California Electrical Code*.

***R907.2 Fire classification.*** *Rooftop-mounted photovoltaic**panel systems shall have the fire classification**as required by Section R902.4.*

***R907.3 Installation.*** *Rooftop-mounted photovoltaic panel systems shall be installed in accordance with the manufacturer’s installation instructions.*

***R907.4 Photovoltaic panels and modules.*** *Photovoltaic panel systems mounted on top of a roof shall be listed and labeled in accordance with UL 2703 and shall be installed in accordance with the manufacturer’s installation instructions.*

***R907.5 Fire safety provisions for photovoltaic panels systems.*** *Solar photovoltaic panel systems installed upon a**roof or as an integral part of a roof assembly shall comply**with the requirements of this code and the**California Fire Code.*

# Item 9-4 Chapter 9, Roof Assemblies

[The SFM proposes to move existing amendments from R918 to section R907, which is a more appropriate location.]

***~~SECTION R918~~***

***~~SOLAR PHOTOVOLTAIC PANELS/MODULES~~***

***~~R918.1 Photovoltaic systems.~~*** *~~Rooftop-mounted photovoltaic shall be designed in accordance with this section.~~*

***~~R918.1.2 Reserved.~~***

***~~R918.1.3 Fire classification.~~*** *~~Rooftop-mounted photovoltaic~~**~~panels and modules shall have the fire classification~~**~~as required by Section R902.4.~~*

***~~R918.1.4 Installation.~~*** *~~Rooftop-mounted photovoltaic systems shall be installed in accordance with the manufacturer’s installation instructions.~~*

***~~R918.1.5 Photovoltaic panels and modules.~~*** *~~Photovoltaic panels and modules mounted on top of a roof shall be listed and labeled in accordance with UL 1703 and shall be installed in accordance with the manufacturer’s installation instructions.~~*

***~~R918.1.6 Fire safety provisions for photovoltaic panels/ modules.~~*** *~~Solar photovoltaic panels/modules installed upon a~~**~~roof or as an integral part of a roof assembly shall comply~~**~~with the requirements of this code (see Section R224) and the~~*

*~~California Fire Code.~~*

**Notation:**

Authority: Health and Safety Code Sections 13108, 13108.5, 13113, 13113.5, 13114, 13132, 13132.7, 13133, 13135, 13143, 13143.1, 13143.2, 13143.6, 13143.9, 13145, 13146, 13210, 13211, 16022.5, 17921, 18897.3, 18928, 18949.2, 25500 through 25545, Government Code Section 51189, Public Education Code 17074.50.

Reference(s): Health and Safety Code Sections 13108, 13143, 13145, 13146, 13211, 16022.5, 17921, 18949.2, Government Code Sections 51176, 51177, 51178 and 51179, Public Resources Code Sections 4201 through 4204.

**CHAPTER 10**

**CHIMNEYS AND FIREPLACES**

# Item 10-1 Chapter 10, Chimneys and Fireplaces

[The SFM proposes to adopt section 1003.9.2 of Chapter 10 and carry forward existing amendments.]

**Notation:**

Authority: Health and Safety Code Sections 1250, 1569.72, 1569.78, 1568.02, 1502, 1597.44, 1597.45, 1597.46, 1597.54, 1597.65, 13108, 13108.5, 13114, 13143, 13143.2, 13143.6, 13146, 13210, 13211, 17921, 18949.2, 25500 through 25545, Government Code Section 51189, Public Education Code 17074.50

Reference(s): Health and Safety Code Sections 13143, 13211, 18949.2, 25500 through 25545, Government Code Sections 51176, 51177, 51178 and 51179, Public Resources Code Sections 4201 through 4204

**CHAPTER 12**

**MECHANICAL ADMINISTRATION**

# Item 12-1 Chapter 12, Mechanical Administration

[Not printed in the California Residential Code.]

**Notation:**

Authority: Health and Safety Code Sections 13108, 13108.5, 13113, 13113.5, 13114, 13132, 13132.7, 13133, 13135, 13143, 13143.1, 13143.2, 13143.6, 13143.9, 13145, 13146, 13210, 13211, 16022.5, 17921, 18897.3, 18928, 18949.2, 25500 through 25545, Government Code Section 51189, Public Education Code 17074.50.

Reference(s): Health and Safety Code Sections 13108, 13143, 13145, 13146, 13211, 16022.5, 17921, 18949.2, Government Code Sections 51176, 51177, 51178 and 51179, Public Resources Code Sections 4201 through 4204.

**CHAPTER 13**

**GENERAL MECHANICAL SYSTEM REQUIREMENTS**

# Item 13-1 Chapter 13, General Mechanical System Requirements

[Not printed in the California Residential Code.]

**Notation:**

Authority: Health and Safety Code Sections 13108, 13108.5, 13113, 13113.5, 13114, 13132, 13132.7, 13133, 13135, 13143, 13143.1, 13143.2, 13143.6, 13143.9, 13145, 13146, 13210, 13211, 16022.5, 17921, 18897.3, 18928, 18949.2, 25500 through 25545, Government Code Section 51189, Public Education Code 17074.50.

Reference(s): Health and Safety Code Sections 13108, 13143, 13145, 13146, 13211, 16022.5, 17921, 18949.2, Government Code Sections 51176, 51177, 51178 and 51179, Public Resources Code Sections 4201 through 4204.

**CHAPTER 14**

**HEATING AND COOLING EQUIPMENT AND APPLIANCES**

# Item 14-1 Chapter 14, Heating And Cooling Equipment And Appliances

[Not printed in the California Residential Code.]

**Notation:**

Authority: Health and Safety Code Sections 13108, 13108.5, 13113, 13113.5, 13114, 13132, 13132.7, 13133, 13135, 13143, 13143.1, 13143.2, 13143.6, 13143.9, 13145, 13146, 13210, 13211, 16022.5, 17921, 18897.3, 18928, 18949.2, 25500 through 25545, Government Code Section 51189, Public Education Code 17074.50.

Reference(s): Health and Safety Code Sections 13108, 13143, 13145, 13146, 13211, 16022.5, 17921, 18949.2, Government Code Sections 51176, 51177, 51178 and 51179, Public Resources Code Sections 4201 through 4204.

**CHAPTER 15**

**EXHAUST SYSTEMS**

# Item 15-1 Chapter 15, Exhaust Systems

[Not printed in the California Residential Code.]

**Notation:**

Authority: Health and Safety Code Sections 13108, 13108.5, 13113, 13113.5, 13114, 13132, 13132.7, 13133, 13135, 13143, 13143.1, 13143.2, 13143.6, 13143.9, 13145, 13146, 13210, 13211, 16022.5, 17921, 18897.3, 18928, 18949.2, 25500 through 25545, Government Code Section 51189, Public Education Code 17074.50.

Reference(s): Health and Safety Code Sections 13108, 13143, 13145, 13146, 13211, 16022.5, 17921, 18949.2, Government Code Sections 51176, 51177, 51178 and 51179, Public Resources Code Sections 4201 through 4204.

**CHAPTER 16**

**DUCT SYSTEMS**

# Item 16-1 Chapter 16, Duct Systems

[Not printed in the California Residential Code.]

**Notation:**

Authority: Health and Safety Code Sections 13108, 13108.5, 13113, 13113.5, 13114, 13132, 13132.7, 13133, 13135, 13143, 13143.1, 13143.2, 13143.6, 13143.9, 13145, 13146, 13210, 13211, 16022.5, 17921, 18897.3, 18928, 18949.2, 25500 through 25545, Government Code Section 51189, Public Education Code 17074.50.

Reference(s): Health and Safety Code Sections 13108, 13143, 13145, 13146, 13211, 16022.5, 17921, 18949.2, Government Code Sections 51176, 51177, 51178 and 51179, Public Resources Code Sections 4201 through 4204.

**CHAPTER 17**

**COMBUSTION AIR**

# Item 17-1 Chapter 17, Combustion Air

[Not printed in the California Residential Code.]

**Notation:**

Authority: Health and Safety Code Sections 13108, 13108.5, 13113, 13113.5, 13114, 13132, 13132.7, 13133, 13135, 13143, 13143.1, 13143.2, 13143.6, 13143.9, 13145, 13146, 13210, 13211, 16022.5, 17921, 18897.3, 18928, 18949.2, 25500 through 25545, Government Code Section 51189, Public Education Code 17074.50.

Reference(s): Health and Safety Code Sections 13108, 13143, 13145, 13146, 13211, 16022.5, 17921, 18949.2, Government Code Sections 51176, 51177, 51178 and 51179, Public Resources Code Sections 4201 through 4204.

**CHAPTER 18**

**CHIMNEYS AND VENTS**

# Item 18-1 Chapter 18, Chimneys And Vents

[Not printed in the California Residential Code.]

**Notation:**

Authority: Health and Safety Code Sections 13108, 13108.5, 13113, 13113.5, 13114, 13132, 13132.7, 13133, 13135, 13143, 13143.1, 13143.2, 13143.6, 13143.9, 13145, 13146, 13210, 13211, 16022.5, 17921, 18897.3, 18928, 18949.2, 25500 through 25545, Government Code Section 51189, Public Education Code 17074.50.

Reference(s): Health and Safety Code Sections 13108, 13143, 13145, 13146, 13211, 16022.5, 17921, 18949.2, Government Code Sections 51176, 51177, 51178 and 51179, Public Resources Code Sections 4201 through 4204.

**CHAPTER 19**

**SPECIAL APPLIANCES, EQUIPMENT AND SYSTEMS**

# Item 19-1 Chapter 19, Special Appliances, Equipment And Systems

[Not printed in the California Residential Code.]

**Notation:**

Authority: Health and Safety Code Sections 13108, 13108.5, 13113, 13113.5, 13114, 13132, 13132.7, 13133, 13135, 13143, 13143.1, 13143.2, 13143.6, 13143.9, 13145, 13146, 13210, 13211, 16022.5, 17921, 18897.3, 18928, 18949.2, 25500 through 25545, Government Code Section 51189, Public Education Code 17074.50.

Reference(s): Health and Safety Code Sections 13108, 13143, 13145, 13146, 13211, 16022.5, 17921, 18949.2, Government Code Sections 51176, 51177, 51178 and 51179, Public Resources Code Sections 4201 through 4204.

**CHAPTER 20**

**BOILERS AND WATER HEATERS**

# Item 20-1 Chapter 20, Boilers And Water Heaters

[Not printed in the California Residential Code.]

**Notation:**

Authority: Health and Safety Code Sections 13108, 13108.5, 13113, 13113.5, 13114, 13132, 13132.7, 13133, 13135, 13143, 13143.1, 13143.2, 13143.6, 13143.9, 13145, 13146, 13210, 13211, 16022.5, 17921, 18897.3, 18928, 18949.2, 25500 through 25545, Government Code Section 51189, Public Education Code 17074.50.

Reference(s): Health and Safety Code Sections 13108, 13143, 13145, 13146, 13211, 16022.5, 17921, 18949.2, Government Code Sections 51176, 51177, 51178 and 51179, Public Resources Code Sections 4201 through 4204.

**CHAPTER 21**

**HYDRONIC PIPING**

# Item 21-1 Chapter 21, Hydronic Piping

[Not printed in the California Residential Code.]

**Notation:**

Authority: Health and Safety Code Sections 13108, 13108.5, 13113, 13113.5, 13114, 13132, 13132.7, 13133, 13135, 13143, 13143.1, 13143.2, 13143.6, 13143.9, 13145, 13146, 13210, 13211, 16022.5, 17921, 18897.3, 18928, 18949.2, 25500 through 25545, Government Code Section 51189, Public Education Code 17074.50.

Reference(s): Health and Safety Code Sections 13108, 13143, 13145, 13146, 13211, 16022.5, 17921, 18949.2, Government Code Sections 51176, 51177, 51178 and 51179, Public Resources Code Sections 4201 through 4204.

**CHAPTER 22**

**SPECIAL PIPING AND STORAGE SYSTEMS**

# Item 22-1 Chapter 22, Special Piping And Storage Systems

[Not printed in the California Residential Code.]

**Notation:**

Authority: Health and Safety Code Sections 13108, 13108.5, 13113, 13113.5, 13114, 13132, 13132.7, 13133, 13135, 13143, 13143.1, 13143.2, 13143.6, 13143.9, 13145, 13146, 13210, 13211, 16022.5, 17921, 18897.3, 18928, 18949.2, 25500 through 25545, Government Code Section 51189, Public Education Code 17074.50.

Reference(s): Health and Safety Code Sections 13108, 13143, 13145, 13146, 13211, 16022.5, 17921, 18949.2, Government Code Sections 51176, 51177, 51178 and 51179, Public Resources Code Sections 4201 through 4204.

**CHAPTER 23**

**SOLAR THERMAL ENERGY SYSTEMS**

# Item 23-1 Chapter 23, Solar Thermal Energy Systems

[Not printed in the California Residential Code.]

**Notation:**

Authority: Health and Safety Code Sections 13108, 13108.5, 13113, 13113.5, 13114, 13132, 13132.7, 13133, 13135, 13143, 13143.1, 13143.2, 13143.6, 13143.9, 13145, 13146, 13210, 13211, 16022.5, 17921, 18897.3, 18928, 18949.2, 25500 through 25545, Government Code Section 51189, Public Education Code 17074.50.

Reference(s): Health and Safety Code Sections 13108, 13143, 13145, 13146, 13211, 16022.5, 17921, 18949.2, Government Code Sections 51176, 51177, 51178 and 51179, Public Resources Code Sections 4201 through 4204.

**CHAPTER 24**

**FUEL GAS**

# Item 24-1 Chapter 24, Fuel Gas

[Not printed in the California Residential Code.]

**Notation:**

Authority: Health and Safety Code Sections 13108, 13108.5, 13113, 13113.5, 13114, 13132, 13132.7, 13133, 13135, 13143, 13143.1, 13143.2, 13143.6, 13143.9, 13145, 13146, 13210, 13211, 16022.5, 17921, 18897.3, 18928, 18949.2, 25500 through 25545, Government Code Section 51189, Public Education Code 17074.50.

Reference(s): Health and Safety Code Sections 13108, 13143, 13145, 13146, 13211, 16022.5, 17921, 18949.2, Government Code Sections 51176, 51177, 51178 and 51179, Public Resources Code Sections 4201 through 4204.

**CHAPTER 25**

**PLUMBING ADMINISTRATION**

# Item 25-1 Chapter 25, Plumbing Administration

[Not printed in the California Residential Code.]

**Notation:**

Authority: Health and Safety Code Sections 13108, 13108.5, 13113, 13113.5, 13114, 13132, 13132.7, 13133, 13135, 13143, 13143.1, 13143.2, 13143.6, 13143.9, 13145, 13146, 13210, 13211, 16022.5, 17921, 18897.3, 18928, 18949.2, 25500 through 25545, Government Code Section 51189, Public Education Code 17074.50.

Reference(s): Health and Safety Code Sections 13108, 13143, 13145, 13146, 13211, 16022.5, 17921, 18949.2, Government Code Sections 51176, 51177, 51178 and 51179, Public Resources Code Sections 4201 through 4204.

**CHAPTER 26**

**GENERAL PLUMBING REQUIREMENTS**

# Item 26-1 Chapter 26, General Plumbing Requirements

[Not printed in the California Residential Code.]

**Notation:**

Authority: Health and Safety Code Sections 13108, 13108.5, 13113, 13113.5, 13114, 13132, 13132.7, 13133, 13135, 13143, 13143.1, 13143.2, 13143.6, 13143.9, 13145, 13146, 13210, 13211, 16022.5, 17921, 18897.3, 18928, 18949.2, 25500 through 25545, Government Code Section 51189, Public Education Code 17074.50.

Reference(s): Health and Safety Code Sections 13108, 13143, 13145, 13146, 13211, 16022.5, 17921, 18949.2, Government Code Sections 51176, 51177, 51178 and 51179, Public Resources Code Sections 4201 through 4204.

**CHAPTER 27**

**PLUMBING FIXTURES**

# Item 27-1 Chapter 27, Plumbing Fixtures

[Not printed in the California Residential Code.]

**Notation:**

Authority: Health and Safety Code Sections 13108, 13108.5, 13113, 13113.5, 13114, 13132, 13132.7, 13133, 13135, 13143, 13143.1, 13143.2, 13143.6, 13143.9, 13145, 13146, 13210, 13211, 16022.5, 17921, 18897.3, 18928, 18949.2, 25500 through 25545, Government Code Section 51189, Public Education Code 17074.50.

Reference(s): Health and Safety Code Sections 13108, 13143, 13145, 13146, 13211, 16022.5, 17921, 18949.2, Government Code Sections 51176, 51177, 51178 and 51179, Public Resources Code Sections 4201 through 4204.

**CHAPTER 28**

**WATER HEATERS**

# Item 28-1 Chapter 28, Water Heaters

[Not printed in the California Residential Code.]

**Notation:**

Authority: Health and Safety Code Sections 13108, 13108.5, 13113, 13113.5, 13114, 13132, 13132.7, 13133, 13135, 13143, 13143.1, 13143.2, 13143.6, 13143.9, 13145, 13146, 13210, 13211, 16022.5, 17921, 18897.3, 18928, 18949.2, 25500 through 25545, Government Code Section 51189, Public Education Code 17074.50.

Reference(s): Health and Safety Code Sections 13108, 13143, 13145, 13146, 13211, 16022.5, 17921, 18949.2, Government Code Sections 51176, 51177, 51178 and 51179, Public Resources Code Sections 4201 through 4204.

**CHAPTER 29**

**WATER SUPPLY AND DISTRIBUTION**

# Item 29-1 Chapter 29, Water Supply And Distribution

[Not printed in the California Residential Code.]

**Notation:**

Authority: Health and Safety Code Sections 13108, 13108.5, 13113, 13113.5, 13114, 13132, 13132.7, 13133, 13135, 13143, 13143.1, 13143.2, 13143.6, 13143.9, 13145, 13146, 13210, 13211, 16022.5, 17921, 18897.3, 18928, 18949.2, 25500 through 25545, Government Code Section 51189, Public Education Code 17074.50.

Reference(s): Health and Safety Code Sections 13108, 13143, 13145, 13146, 13211, 16022.5, 17921, 18949.2, Government Code Sections 51176, 51177, 51178 and 51179, Public Resources Code Sections 4201 through 4204.

**CHAPTER 30**

**SANITARY DRAINAGE**

# Item 30-1 Chapter 30, Sanitary Drainage

[Not printed in the California Residential Code.]

**Notation:**

Authority: Health and Safety Code Sections 13108, 13108.5, 13113, 13113.5, 13114, 13132, 13132.7, 13133, 13135, 13143, 13143.1, 13143.2, 13143.6, 13143.9, 13145, 13146, 13210, 13211, 16022.5, 17921, 18897.3, 18928, 18949.2, 25500 through 25545, Government Code Section 51189, Public Education Code 17074.50.

Reference(s): Health and Safety Code Sections 13108, 13143, 13145, 13146, 13211, 16022.5, 17921, 18949.2, Government Code Sections 51176, 51177, 51178 and 51179, Public Resources Code Sections 4201 through 4204.

**CHAPTER 31**

**VENTS**

# Item 31-1 Chapter 31, Vents

[Not printed in the California Residential Code.]

**Notation:**

Authority: Health and Safety Code Sections 13108, 13108.5, 13113, 13113.5, 13114, 13132, 13132.7, 13133, 13135, 13143, 13143.1, 13143.2, 13143.6, 13143.9, 13145, 13146, 13210, 13211, 16022.5, 17921, 18897.3, 18928, 18949.2, 25500 through 25545, Government Code Section 51189, Public Education Code 17074.50.

Reference(s): Health and Safety Code Sections 13108, 13143, 13145, 13146, 13211, 16022.5, 17921, 18949.2, Government Code Sections 51176, 51177, 51178 and 51179, Public Resources Code Sections 4201 through 4204.

**CHAPTER 32**

**TRAPS**

# Item 32-1 Chapter 32, Traps

[Not printed in the California Residential Code.]

**Notation:**

Authority: Health and Safety Code Sections 13108, 13108.5, 13113, 13113.5, 13114, 13132, 13132.7, 13133, 13135, 13143, 13143.1, 13143.2, 13143.6, 13143.9, 13145, 13146, 13210, 13211, 16022.5, 17921, 18897.3, 18928, 18949.2, 25500 through 25545, Government Code Section 51189, Public Education Code 17074.50.

Reference(s): Health and Safety Code Sections 13108, 13143, 13145, 13146, 13211, 16022.5, 17921, 18949.2, Government Code Sections 51176, 51177, 51178 and 51179, Public Resources Code Sections 4201 through 4204.

**CHAPTER 33**

**STORM DRAINAGE**

# Item 33-1 Chapter 33, Storm Drainage

[Not printed in the California Residential Code.]

**Notation:**

Authority: Health and Safety Code Sections 13108, 13108.5, 13113, 13113.5, 13114, 13132, 13132.7, 13133, 13135, 13143, 13143.1, 13143.2, 13143.6, 13143.9, 13145, 13146, 13210, 13211, 16022.5, 17921, 18897.3, 18928, 18949.2, 25500 through 25545, Government Code Section 51189, Public Education Code 17074.50.

Reference(s): Health and Safety Code Sections 13108, 13143, 13145, 13146, 13211, 16022.5, 17921, 18949.2, Government Code Sections 51176, 51177, 51178 and 51179, Public Resources Code Sections 4201 through 4204.

**CHAPTER 34**

**GENERAL REQUIREMENTS**

# Item 34-1 Chapter 34, Storm Drainage

[Not printed in the California Residential Code.]

**Notation:**

Authority: Health and Safety Code Sections 13108, 13108.5, 13113, 13113.5, 13114, 13132, 13132.7, 13133, 13135, 13143, 13143.1, 13143.2, 13143.6, 13143.9, 13145, 13146, 13210, 13211, 16022.5, 17921, 18897.3, 18928, 18949.2, 25500 through 25545, Government Code Section 51189, Public Education Code 17074.50.

Reference(s): Health and Safety Code Sections 13108, 13143, 13145, 13146, 13211, 16022.5, 17921, 18949.2, Government Code Sections 51176, 51177, 51178 and 51179, Public Resources Code Sections 4201 through 4204.

**CHAPTER 35**

**ELECTRICAL DEFINITIONS**

# Item 35-1 Chapter 35, Electrical Definitions

[Not printed in the California Residential Code.]

**Notation:**

Authority: Health and Safety Code Sections 13108, 13108.5, 13113, 13113.5, 13114, 13132, 13132.7, 13133, 13135, 13143, 13143.1, 13143.2, 13143.6, 13143.9, 13145, 13146, 13210, 13211, 16022.5, 17921, 18897.3, 18928, 18949.2, 25500 through 25545, Government Code Section 51189, Public Education Code 17074.50.

Reference(s): Health and Safety Code Sections 13108, 13143, 13145, 13146, 13211, 16022.5, 17921, 18949.2, Government Code Sections 51176, 51177, 51178 and 51179, Public Resources Code Sections 4201 through 4204.

**CHAPTER 36**

**SERVICES**

# Item 36-1 Chapter 36, Services

[Not printed in the California Residential Code.]

**Notation:**

Authority: Health and Safety Code Sections 13108, 13108.5, 13113, 13113.5, 13114, 13132, 13132.7, 13133, 13135, 13143, 13143.1, 13143.2, 13143.6, 13143.9, 13145, 13146, 13210, 13211, 16022.5, 17921, 18897.3, 18928, 18949.2, 25500 through 25545, Government Code Section 51189, Public Education Code 17074.50.

Reference(s): Health and Safety Code Sections 13108, 13143, 13145, 13146, 13211, 16022.5, 17921, 18949.2, Government Code Sections 51176, 51177, 51178 and 51179, Public Resources Code Sections 4201 through 4204.

**CHAPTER 37**

**BRANCH CIRCUIT AND FEEDER REQUIREMENTS**

# Item 37-1 Chapter 37, Branch Circuit And Feeder Requirements

[Not printed in the California Residential Code.]

**Notation:**

Authority: Health and Safety Code Sections 13108, 13108.5, 13113, 13113.5, 13114, 13132, 13132.7, 13133, 13135, 13143, 13143.1, 13143.2, 13143.6, 13143.9, 13145, 13146, 13210, 13211, 16022.5, 17921, 18897.3, 18928, 18949.2, 25500 through 25545, Government Code Section 51189, Public Education Code 17074.50.

Reference(s): Health and Safety Code Sections 13108, 13143, 13145, 13146, 13211, 16022.5, 17921, 18949.2, Government Code Sections 51176, 51177, 51178 and 51179, Public Resources Code Sections 4201 through 4204.

**CHAPTER 38**

**WIRING METHODS**

# Item 38-1 Chapter 38, Wiring Methods

[Not printed in the California Residential Code.]

**Notation:**

Authority: Health and Safety Code Sections 13108, 13108.5, 13113, 13113.5, 13114, 13132, 13132.7, 13133, 13135, 13143, 13143.1, 13143.2, 13143.6, 13143.9, 13145, 13146, 13210, 13211, 16022.5, 17921, 18897.3, 18928, 18949.2, 25500 through 25545, Government Code Section 51189, Public Education Code 17074.50.

Reference(s): Health and Safety Code Sections 13108, 13143, 13145, 13146, 13211, 16022.5, 17921, 18949.2, Government Code Sections 51176, 51177, 51178 and 51179, Public Resources Code Sections 4201 through 4204.

**CHAPTER 39**

**POWER AND LIGHTING DISTRIBUTION**

# Item 39-1 Chapter 39, Power And Lighting Distribution

[Not printed in the California Residential Code.]

**Notation:**

Authority: Health and Safety Code Sections 13108, 13108.5, 13113, 13113.5, 13114, 13132, 13132.7, 13133, 13135, 13143, 13143.1, 13143.2, 13143.6, 13143.9, 13145, 13146, 13210, 13211, 16022.5, 17921, 18897.3, 18928, 18949.2, 25500 through 25545, Government Code Section 51189, Public Education Code 17074.50.

Reference(s): Health and Safety Code Sections 13108, 13143, 13145, 13146, 13211, 16022.5, 17921, 18949.2, Government Code Sections 51176, 51177, 51178 and 51179, Public Resources Code Sections 4201 through 4204.

**CHAPTER 40**

**DEVICES AND LUMINAIRES**

# Item 40-1 Chapter 40, Devices And Luminaires

[Not printed in the California Residential Code.]

**Notation:**

Authority: Health and Safety Code Sections 13108, 13108.5, 13113, 13113.5, 13114, 13132, 13132.7, 13133, 13135, 13143, 13143.1, 13143.2, 13143.6, 13143.9, 13145, 13146, 13210, 13211, 16022.5, 17921, 18897.3, 18928, 18949.2, 25500 through 25545, Government Code Section 51189, Public Education Code 17074.50.

Reference(s): Health and Safety Code Sections 13108, 13143, 13145, 13146, 13211, 16022.5, 17921, 18949.2, Government Code Sections 51176, 51177, 51178 and 51179, Public Resources Code Sections 4201 through 4204.

**CHAPTER 41**

**APPLIANCE INSTALLATION**

# Item 41-1 Chapter 41, Appliance Installation

[Not printed in the California Residential Code.]

**Notation:**

Authority: Health and Safety Code Sections 13108, 13108.5, 13113, 13113.5, 13114, 13132, 13132.7, 13133, 13135, 13143, 13143.1, 13143.2, 13143.6, 13143.9, 13145, 13146, 13210, 13211, 16022.5, 17921, 18897.3, 18928, 18949.2, 25500 through 25545, Government Code Section 51189, Public Education Code 17074.50.

Reference(s): Health and Safety Code Sections 13108, 13143, 13145, 13146, 13211, 16022.5, 17921, 18949.2, Government Code Sections 51176, 51177, 51178 and 51179, Public Resources Code Sections 4201 through 4204.

**CHAPTER 42**

**SWIMMING POOLS**

# Item 42-1 Chapter 42, Appliance Installation

[Not printed in the California Residential Code.]

**Notation:**

Authority: Health and Safety Code Sections 13108, 13108.5, 13113, 13113.5, 13114, 13132, 13132.7, 13133, 13135, 13143, 13143.1, 13143.2, 13143.6, 13143.9, 13145, 13146, 13210, 13211, 16022.5, 17921, 18897.3, 18928, 18949.2, 25500 through 25545, Government Code Section 51189, Public Education Code 17074.50.

Reference(s): Health and Safety Code Sections 13108, 13143, 13145, 13146, 13211, 16022.5, 17921, 18949.2, Government Code Sections 51176, 51177, 51178 and 51179, Public Resources Code Sections 4201 through 4204.

**CHAPTER 43**

**CLASS 2 REMOTE-CONTROL, SIGNALING AND POWER-LIMITED CIRCUITS**

# Item 43-1 Chapter 43, Class 2 Remote-Control, Signaling And Power-Limited Circuits

[Not printed in the California Residential Code.]

**Notation:**

Authority: Health and Safety Code Sections 13108, 13108.5, 13113, 13113.5, 13114, 13132, 13132.7, 13133, 13135, 13143, 13143.1, 13143.2, 13143.6, 13143.9, 13145, 13146, 13210, 13211, 16022.5, 17921, 18897.3, 18928, 18949.2, 25500 through 25545, Government Code Section 51189, Public Education Code 17074.50.

Reference(s): Health and Safety Code Sections 13108, 13143, 13145, 13146, 13211, 16022.5, 17921, 18949.2, Government Code Sections 51176, 51177, 51178 and 51179, Public Resources Code Sections 4201 through 4204.

**CHAPTER 44**

**REFERENCED STANDARDS**

# Item 44-1 Chapter 44, Referenced Standards

[The SFM proposes to adopt Chapter 17, carry forward existing amendments and propose modifications as shown below.]

**Item 44-2  
Chapter 44, Referenced Standards, ASTM F2374 Standard Practice For Design, Manufacture, Operation, and Maintenance Of Inflatable Amusement Devices**

*ASTM F2374 - Standard Practice for Design, Manufacture, Operation, and Maintenance of Inflatable Amusement Devices*

# Item 44-2.1 Chapter 44, Referenced Standards, SFM 12-7A-5 Ignition Resistant Building Material

***~~SFM 12-7A-5: Ignition Resistant Building Material~~***

*~~R327.2, R327.3.7, R327.4.2, R327.6.3.2, R327.9.3.1~~*

# Item 44-3 Chapter 44, NFPA 13 Installation of Sprinkler Systems

NFPA 13-20~~19~~*22*

*\*See California Fire Code for amendments*

# Item 44-4 Chapter 44, NFPA 13D Installation of Sprinkler Systems

[Update to the latest edition, carry forward existing amendments and renumber the following sections as shown below.]

NFPA 13D-20~~19~~*22*

~~P2904.1, P2904.6.1,~~ R313.1.1, R313.2.1, R324.6.2.1

**\*NFPA 13D, Amended Sections as follows:**

***~~8.3.10~~ 8.3.11 Solar photovoltaic panel structures***

***~~8.3.10.1~~ 8.3.11.1 Sprinklers shall be permitted to be omitted from the following structures:***

*(1) Solar photovoltaic panel structures with no use underneath. Signs may be provided, as determined by the enforcing agency prohibiting any use underneath including storage.*

*(2) Solar photovoltaic (PV) panels supported by framing that have sufficient uniformly distributed and unobstructed openings throughout the top of the array (horizontal plane) to allow heat and gases to escape, as determined by the enforcing agency.*

# Item 44-5 Chapter 44, NFPA 13R Standard for the Installation of Sprinkler Systems in Low-rise Residential Occupancies

NFPA 13R-20~~19~~*22*

# Item 44-6 Chapter 44, NFPA 70 National Electrical Code

NFPA 70-20~~17~~*20*

*\*See California Electrical Code for amendments*

# Item 44-7 Chapter 44, NFPA 72 National Fire Alarm and Signaling Code, *as amended*\*

NFPA 72-~~19~~*22*

***\*NFPA 72, Amended Sections as follows:***

***~~10.7.1~~*** *~~Where approved by the authority having jurisdiction, ECS priority signals when evaluated by stakeholders through risk analysis in accordance with 24.3.11 shall be permitted to take precedence over all other signals.~~*

***Revise Section 17. ~~15~~16 as follows:***

***17.~~15~~16 Fire Extinguisher Electronic Monitoring Device****. [Text remains the same]*

***Delete the amendments to Section 21.3.6 and adopt the model text.***

***~~21.3.6~~*** *~~Smoke detectors shall not be installed in unsprinklered elevator hoistways unless they are installed to activate the elevator hoistway smoke relief equipment or where required by Chapter 30 of the California Building Code.~~*

***Revise Section 12.3~~.7~~.8******as follows:***

***12.3~~.7~~.8*** *~~(4)~~(5) [Text remains the same]*

***23.8.1.2 Positive Alarm Sequence***

***23.8.1.2.1*** *Systems that have positive alarm features complying with 23.8.1.2 shall be permitted if approved by the authority having jurisdiction. Operation of a patient room smoke detector in Group I-2, and R-2.1 occupancies shall not include a positive alarm sequence feature.*

***Revise Section 23.8.5.1.2 as follows:***

***~~23.8.5.1.2~~ 23.8.5.1.2\**** *Where connected to a supervising station, fire alarm systems employing automatic fire detectors or water flow detection devices shall include a manual fire alarm box to initiate a signal to the supervising station.*

***Exception:*** *Fire alarm systems dedicated to elevator recall control, supervisory service and fire sprinkler monitoring as permitted in section ~~21.3~~ 17.15 of NFPA 72.*

***Revise Section 29.5.2.1.1 as follows:***

***~~29.5.2.1.1\*~~ 29.8.2.1.1\*******Smoke and Heat Alarms.*** *Where connected to a supervising station u~~U~~nless exempted by applicable laws, codes, or standards, smoke or heat alarms used to provide a fire-warning function, and when two or more alarms are installed within a dwelling unit, suite of rooms, or similar area, shall be arranged so that the operation of any smoke or heat alarm causes all alarms within these locations to sound.*

*Note: Exception to ~~29.5.2.1.1~~* ***29.8.2.1.1*** *not adopted by the SFM.*

***Add Section ~~29.7.2.1~~ 29.10.2.1 as follows:***

***~~29.7.2.1~~ 29.10.2.1 [Text remains the same]***

***Add Section ~~29.7.6.7.1~~ 29.10.6.8.1 as follows:***

***~~29.7.6.7.1~~ 29.10.6.8.1 [Text remains the same]***

*[Delete amendment 23.8.3.4 and adopt NFPA 72 language in 29.11.3.4]*

***~~Revise Section 23.8.3.4 as follows:~~***

***~~23.8.3.4 Specific location requirements~~****~~. The installation of smoke alarms and smoke detectors shall comply with the following requirements:~~*

* 1. *~~Smoke alarms and smoke detectors shall not be located where ambient conditions, including humidity and temperature, are outside the limits specified by the manufacturer's published instructions.~~*
  2. *~~Smoke alarms and smoke detectors shall not be located within unfinished attics or garages or in other spaces where temperatures can fall below 40ºF (4ºC) or exceed 100ºF (38ºC).~~*
  3. *~~Where the mounting surface could become considerably warmer or cooler than the room, such as a poorly insulated ceiling below an unfinished attic or an exterior wall, smoke alarms and smoke detectors shall be mounted on an inside wall.~~*
  4. *~~Smoke alarms or smoke detectors shall be installed a minimum of 20 feet horizontal distance from a permanently installed cooking appliance.~~*

***~~Exceptions~~****~~: Ionization smoke alarms with an alarm silencing switch or photoelectric smoke alarms shall be permitted to be installed 10 feet (3 m) or greater from a permanently installed cooking appliance.~~*

*~~Photoelectric smoke alarms shall be permitted to be installed greater than 6 feet (1.8 m) from a permanently installed cooking appliance where the kitchen or cooking area and adjacent spaces have no clear interior partitions and the 10 ft distances would prohibit the placement of a smoke alarm or smoke detector required by other sections of the code.~~*

*~~Smoke alarms listed for use in close proximity to a permanently installed cooking appliance.~~*

* 1. *~~Effective January 1, 2022, smoke alarms and smoke detectors used in household fire alarm systems installed between 6 ft (1.8 m) and 20 ft (6.1 m) along a horizontal flow path from a stationary or fixed cooking appliance shall be listed for resistance to common nuisance sources from cooking.~~*
  2. *~~Installation near bathrooms. Smoke alarms shall be installed not less than a 3-foot (0.91 m) horizontal distance from the door or opening of a bathroom that contains a bathtub or shower unless this would prevent placement of a smoke alarm required by other sections of the code.~~*
  3. *~~Smoke alarms and smoke detectors shall not be installed within a 36 in. (910 mm) horizontal path from the supply registers of a forced air heating or cooling system and shall be installed outside of the direct airflow from those registers.~~*
  4. *~~Smoke alarms and smoke detectors shall not be installed within a 36 in. (910 mm) horizontal path from the tip of the blade of a ceiling-suspended (paddle) fan.~~*
  5. *~~Where stairs lead to other occupied levels, a smoke alarm or smoke detector shall be located so that smoke rising in the stairway cannot be prevented from reaching the smoke alarm or smoke detector by an intervening door or obstruction.~~*
  6. *~~For stairways leading up from a basement, smoke alarms or smoke detectors shall be located on the basement ceiling near the entry to the stairs.~~*
  7. *~~For tray-shaped ceilings (coffered ceilings), smoke alarms and smoke detectors shall be installed on the highest portion of the ceiling or on the sloped portion of the ceiling within 12 in. (300 mm) vertically down from the highest point.~~*
  8. *~~Smoke alarms and detectors installed in rooms with joists or beams shall comply with the requirements of 17.7.3.2.4 of NFPA 72.~~*
  9. *~~Heat alarms and detectors installed in rooms with joists or beams shall comply with the requirements of 17.6.3 of NFPA 72.~~*

# Item 44-8 Chapter 44, Referenced Standards, UL 9540 Standard for Energy Storage Systems and Equipment

9540 *Edition 2*—~~2016~~ *2020*

Standard for Energy Storage Systems and Equipment

R328.2, R328.6

# Item 44-9 Chapter 44, Referenced Standards, UL 9540A Standard for Safety Test Method for Evaluating Thermal Runaway Fire Propagation in Battery Energy Storage Systems

*9540A ~~17~~ Edition 4 2019*

*Standard for Safety Test Method for Evaluating Thermal Runaway Fire Propagation in Battery Energy Storage Systems*

**Notation:**

Authority: Health and Safety Code Sections 13108, 13108.5, 13113, 13113.5, 13114, 13132, 13132.7, 13133, 13135, 13143, 13143.1, 13143.2, 13143.6, 13143.9, 13145, 13146, 13210, 13211, 16022.5, 17921, 18897.3, 18928, 18949.2, 25500 through 25545, Government Code Section 51189, Public Education Code 17074.50.

Reference(s): Health and Safety Code Sections 13108, 13143, 13145, 13146, 13211, 16022.5, 17921, 18949.2, Government Code Sections 51176, 51177, 51178 and 51179, Public Resources Code Sections 4201 through 4204.

**APPENDICES**

# Item A-1 Appendices, Appendix AA-AE, Reserved

[Not printed in the California Residential Code.]

# Item A-2 Appendices, Appendix AF, Radon Control Methods

[SFM proposed to **not** adopt Appendix AF.]

# Item A-3 Appendices, Appendix AG, Reserved

[Not printed in the California Residential Code.]

# Item A-4 Appendices, Appendix AH, Patio Covers

[SFM proposed to **not** adopt Appendix AH.]

# Item A-5 Appendices, Appendix AJ, Existing Buildings and Structures

[SFM proposed to **not** adopt Appendix AJ.]

# Item A-6 Appendices, Appendix AK, Sound Transmission

[SFM proposed to **not** adopt Appendix AK.]

# Item A-7 Appendices, Appendix AL, Permit Fees

[SFM proposed to **not** adopt Appendix AL.]

# Item A-8 Appendices, Appendix AM-AN, Reserved

[Not printed in the California Residential Code.]

# Item A-9 Appendices, Appendix AO, Automatic Vehicular Gates

[SFM proposed to **not** adopt Appendix AO.]

# Item A-10 Appendices, Appendix AP, Reserved

[Not printed in the California Residential Code.]

# Item A-11 Appendices, Appendix AQ, Tiny Houses

[SFM proposed to **not** adopt Appendix AQ.]

# Item A-11.1 Appendices, Appendix AR, Light Straw-Clay Construction

[SFM proposed to **not** adopt Appendix AR.]

# Item A-12 Appendices, Appendix AT, Solar Ready Provisions-Detached one- and Two-Family Dwellings and Townhouses

[SFM proposed to **not** adopt Appendix AT.]

# Item A-13 Appendices, Appendix AU, Reserved

[Not printed in the California Residential Code.]

# Item A-14 Appendices, Appendix AV, Board of Appeals

[SFM proposed to **not** adopt Appendix AV.]

# Item A-14.1 Appendices, Appendix AW, 3-D -PRINTED Building Construction

[SFM proposed to **not** adopt Appendix AW.]

# Item A-15 Appendices, Appendix AX, Swimming Pool Safety Act

[SFM proposed to **not** adopt Appendix AX.]

***APPENDIX ~~V~~ AX***

***SWIMMING POOL SAFETY ACT***

# Item A-16 Appendices, Appendix AY, Areas Protected by The Facilities of the Central Valley Flood Protection Plan

[SFM proposed to **not** adopt Appendix AY.]

***APPENDIX ~~W~~ AY***

***AREAS PROTECTED BY THE FACILITIES OF THE***

***CENTRAL VALLEY FLOOD PROTECTION PLAN***

# Item A-17 Appendices, Appendix AZ, Emergency Housing

[SFM proposed to **not** adopt Appendix AZ.]

***APPENDIX ~~X~~ AZ***

***EMERGENCY HOUSING***

**Notation:**

Authority: Health and Safety Code Sections 13108, 13108.5, 13113, 13113.5, 13114, 13132, 13132.7, 13133, 13135, 13143, 13143.1, 13143.2, 13143.6, 13143.9, 13145, 13146, 13210, 13211, 16022.5, 17921, 18897.3, 18928, 18949.2, 25500 through 25545, Government Code Section 51189, Public Education Code 17074.50.

Reference(s): Health and Safety Code Sections 13108, 13143, 13145, 13146, 13211, 16022.5, 17921, 18949.2, Government Code Sections 51176, 51177, 51178 and 51179, Public Resources Code Sections 4201 through 4204.