



Sonoma Valley Fire District

630 Second Street West, Sonoma CA 95476 - 707-996-2102

FIRE PREVENTION BUREAU STANDARD

FIRE PROTECTION PLAN REQUIREMENTS AND STANDARD

Revised 05/2022

Purpose

This standard is intended to provide detailed instruction for the requirements of a Fire Protection Plan as required by the adopted and amended codes as adopted by the Sonoma Valley Fire District.

This standard outlines the general requirements for the submission of a Fire Protection Plan. Information contained herein applies to typical instances and may not address all circumstances.

Code References

2022 California Fire Code as adopted and amended by the Sonoma Valley Fire District, The City of Sonoma, and Sonoma County.

Public Resources Code (PRC 4291) for defensible space.

California Code of Regulations, Title 14 Natural Resources Code, Division 1.5, Chapter 7, Subchapter 2, Article 1-5, SRA Fire Safe Regulations, 1276.01

General

A Fire Protection Plan shall be required for any new residential or commercial building within a state responsibility area (SRA) located in a high and very high severity zone. The plan shall be prepared by a qualified professional and shall be approved by the Sonoma Valley Fire District. The plan shall include, at a minimum, defensible space zones, identification of vegetation types, replacement of non-native flammable vegetation with approved fire resistive vegetation, and a maintenance program for all vegetation. When required by the code official, the property owner shall record a covenant, in a form satisfactory to county counsel, which ensures that the approved plan will be implemented and maintained.

The fire protection plan shall be based upon a site-specific wildfire risk assessment that includes considerations of location, topography, aspect, flammable vegetation, climatic conditions and fire history. The plan shall address water supply, access, building ignition and fire-resistance factors, fire protection systems and equipment, defensible space and vegetation management.

The cost of fire protection plan preparation and review shall be the responsibility of the applicant. All existing buildings shall meet the requirements of Public Resources Code (PRC 4291) for defensible space.

A copy of the fire protection plan shall be retained by the property owner.



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PLAN SUBMITTAL REQUIREMENTS

SITE PLAN

The site plan shall include the following:

1. Site plans shall be drawn to a conventional scale.
2. The name, address, and phone number of the plan preparer shall be included on the plans.
3. A vicinity map shall be shown on the site plan that clearly shows the subject property and surrounding roads.
4. The site plan must show all existing and proposed lot lines, labeled with their metes and bounds, open space, and the boundaries of existing and proposed easements and rights of way.
5. The footprints of all existing and proposed structures and buildings on the subject property must be indicated and drawn to scale.
6. Their use, location, and setbacks to all property lines must be indicated.
7. The minimum setbacks from the exterior walls of the buildings to each defensible space zones must be dimensioned on the plans.
8. The footprint of existing structures on adjacent properties that fall within 100 feet of any structure on the parcel.
9. Existing water sources on the property (fire hydrants, pools, water tanks and any method for the fire department to access these systems).
10. All access roads to scale with a description of road base. (gravel, asphalt, concrete, dirt.. etc)

NARRATIVE

"Narrative" shall describe:

1. The existing property conditions include existing plants/shrubs/trees and hardscape.
2. The proposed scope of the work.
3. A disclaimer for future plantings.



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4. The description and requirements for each defensible space zone.
5. A description of long term maintenance and safety practices.

GRAPHIC PLAN

The plan sets shall be required to include the following graphic detail:

1. All building(s), structure(s), property lines, and access/egress roads or driveways.
2. The plan shall graphically indicate the extents of each defensible space zone (Zones 1,2 & 3). Fig1
3. The location and configuration of existing plants/shrubs/trees.
4. The location of the existing plants/shrubs/trees planned to be removed and/or modified.
5. The location and configuration of plants/shrubs/trees to be planted.
6. The location and type and thickness of mulch and ground cover material (organic and inorganic).

What Plants are safe?

Plant placement is more important than plant type. All plants can burn regardless of how they are marketed. Select low growing, open structured, less resinous, and higher moisture plants.

Primary Standards and Resources

- NFPA 1141 – Standard for Fire Protection Infrastructure for Land Development
- NFPA 1143 – Standard for Wildland Fire Management
- NFPA 1144 – Standard for Reducing Structure Ignition Hazards from Wildland Fires
- NFPA/Firewise Communities/USA information on Reducing Wildfire Risks in the Home Ignition Zone
- NFPA/Firewise Communities/USA: Safer from the Start – A Guide to Firewise-Friendly Developments
- Community Guide to Preparing and Implementing a Community Wildfire Protection Plan (CWPP), August 2008, with links to the Federal Healthy Forest Restoration Act: Public Law 108-148 (2003)
- NWCG: Establishing Fire Prevention Education Cooperative Programs and Partnerships, October 1999 (PMS 463, NFES 2597)
- NWCG: Fire Communication and Education, March 1999 (PMS 458, NFES 2602)
- CBC Chapter 7A
- CFC Chapter 49



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- Public Resources Code 4201-4204
- PRC 4290
- PRC 4291-4299
- Title 14 1270, 1276.01, 1299
- Title 19 3.07
- Government Code 51175-51189

<https://www.readyforwildfire.org/>

<https://www.firesafesonoma.org/>



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Requirements for Improved Parcels in the Local Responsibility Areas (LRAs)

For Improved Parcels (those with a dwelling, house, or building) in Local Responsibility Areas

Zone 1: From structures to 30 feet or the property line, whichever comes first.

- Remove all portions of trees within ten feet (10 feet) of chimney and/or stovepipe outlets. *SCC 13A-4(a)(4)**
- Maintain the roof and gutters of any structure free of leaves, needles, or other dead/dying wood. *SCC 13A-4(a)(6)**
- Maintain trees adjacent to or overhanging a structure free of dead/dying wood. *SCC 13A-4(a)(5)**
- Climbing vines must be maintained to be free of dead and dying materials or removed from trees and structures. *SCC 13A-4(a)(1)**
- Remove dead and dying vegetation from the property. *SCC 13A-4(a)(10)**
- Maintain shrubs to be free from dead and dying materials. *SCC 13A-4(a)(1)**
- Prune trees to 6 feet from the ground. (or 1/3 the height of the tree, recommended). *SCC 13A-4(a)(1)**
- Cut grasses to 6 inches or less. To prevent erosion, do not cut to bare mineral soil. *SCC 13A-4(a)(1)**

Zone 2: Additional defensible space outward to one hundred feet 100' (or to the property line) from all structures may be required depending on the property slope, fuel load, and/or fuel type.

- Prune trees to 6 feet from the ground. *SCC 13A-4(a)(9)**
- Remove dead and dying vegetation from the property. *SCC 13A-4(a)(10)**

Other Requirements

- **Within ten (10) feet of roadway frontage:** *SCC 13A-4(a)(3)**
 1. Remove dead and dying vegetation.
 2. Remove tree branches up to six feet (6') above the ground (Recommended: Prun 6 feet from ground OR 1/3 of tree height)
 3. Trim grasses to four inches (4") or less but not to the bare soil.
- **Install a spark arrester on chimney and/or stovepipe outlets.**
The spark arrester must be constructed of heavy wire mesh with openings not to exceed one-half inch (½"). *SCC 13A-4(a)(7)**
- **Provide street address numbers that are clearly visible from the roadside,** minimum height: Four inches (4"). *SCC 13A-4(a)(8)**
 1. The address numbers should be posted on the house.
 2. If the house sits back from the street, post the address at the beginning of the driveway and on the house.
 3. The address numbers should be reflective in a contrasting color for visibility pursuant to Sonoma County Code Chapter



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Requirements for Improved Parcels in State Responsibility Area (SRA)

Improved Parcels: Those with a dwelling, house, or building.

Zone 1: From Structures to 30 Feet or the Property Line

- Remove all branches within 10 feet of any chimney or stovepipe outlet, pursuant to *PRC § 4291(a)(4)* and *14 CCR § 1299.03(a)(2)*.
- Remove leaves, needles, or other vegetation on roofs, gutters, decks, porches, stairways, etc. pursuant to *PRC § 4291 (a)(6)* and *14 CCR § 1299.03(a)(1)*.
- Remove all dead and dying trees, branches and shrubs, or other plants adjacent to or overhanging buildings, pursuant to *PRC § 4291 (a)(5)* and *14 CCR § 1299.03(a)(2)*.
- Remove all dead and dying grass, plants, shrubs, trees, branches, leaves, weeds, and needles, pursuant to *14 CCR § 1299.03(a)(1)*.
- Remove or separate live flammable ground cover and shrubs, pursuant to *PRC § 4291(a)(1)* and Board of Forestry General Guidelines item 1.
- Remove flammable vegetation and items that could catch fire which are adjacent to, or below, combustible decks, balconies, and stairs, pursuant to *14 CCR § 1299.03(a)(4)*.
- Relocate exposed wood piles outside of Zone 1 unless completely covered in a fire-resistant material, pursuant to *14 CCR § 1299.03(a)(3)*.

Zone 2: 30 Feet from Structures to 100 Feet or the Property Line

- Cut annual grasses and forbs down to a maximum height of 4 inches, pursuant to *14 CCR § 1299.03(b)(2)(B)*.
- Remove fuels in accordance with the Fuel Separation or Continuous Tree Canopy guidelines (see back), pursuant to *Board of Forestry General Guidelines item 4*.
- All exposed woodpiles must have a minimum of 10 feet clearance, down to bare mineral soil, in all directions, pursuant to *14 CCR § 1299.03(b)(2)(C)*.
- Dead and dying woody surface fuels and aerial fuels shall be removed. Loose surface litter, normally consisting of fallen leaves or needles, twigs, bark, cones, and small branches, shall be permitted to a maximum depth of 3 inches, pursuant to *14 CCR § 1299.03(b)(2)(A)*.
- Logs or stumps embedded in the soil must be removed or isolated from other vegetation, pursuant to Board of Forestry General Guidelines item 3.

Other Requirements

- Outbuildings and Liquid Propane Gas (LPG) storage tanks shall have 10 feet of clearance to bare mineral soil and no flammable vegetation for an additional 10 feet around their exterior, pursuant to *14 CCR § 1299.03(c)(1)*.
- Address numbers shall be displayed in contrasting colors (4 inches minimum size) and readable from the street or access road, pursuant to *2016 CFC § 505.1*.
- Equip chimney or stovepipe openings with a metal screen having openings between 3/8 inch and 1/2 inch, pursuant to *2016 CBC § 2113.9.2*.



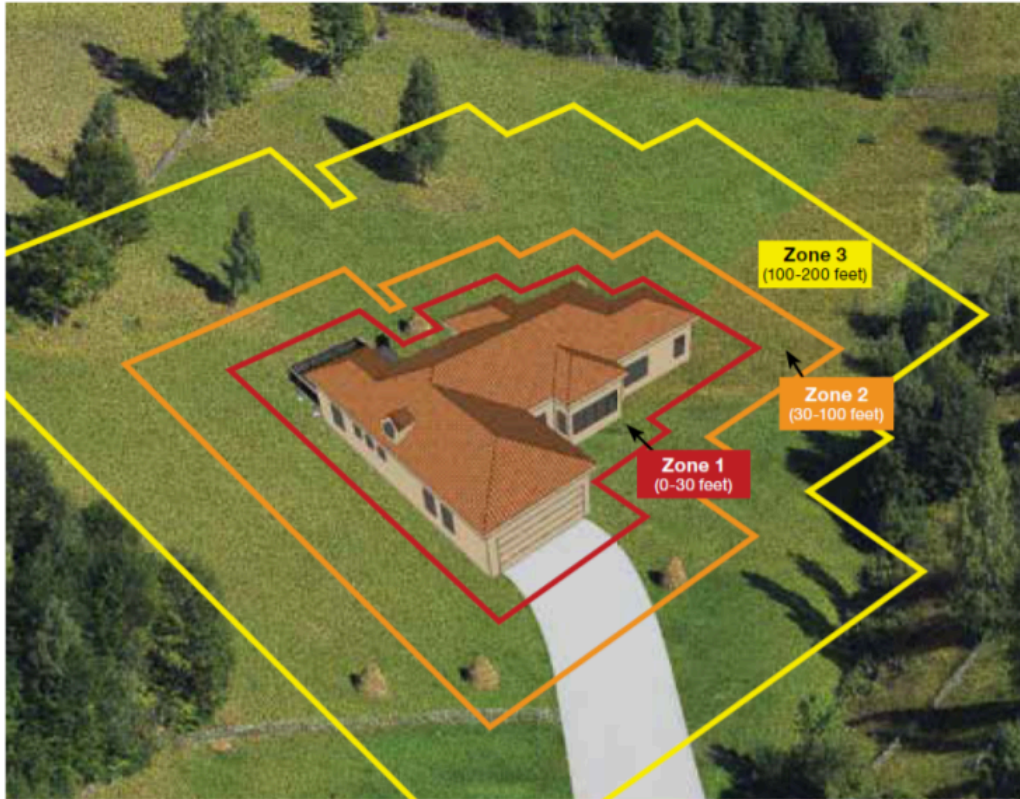
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Figure 1





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ZONE 1

0-30 feet around your home or to property line

- Use hard surfaces such as concrete or noncombustible rock mulch 0-5 feet around home.
- Use non-wood, low-growing herbaceous vegetation. Succulent plants and ground covers are good choices.
- Store firewood and other combustible materials at least 30 feet away from your home, garage, or attached deck.
- Trim back touching or overhanging branches from the roof to a distance of at least 10 feet.

ZONE 2

30-100 feet around your home or to property line

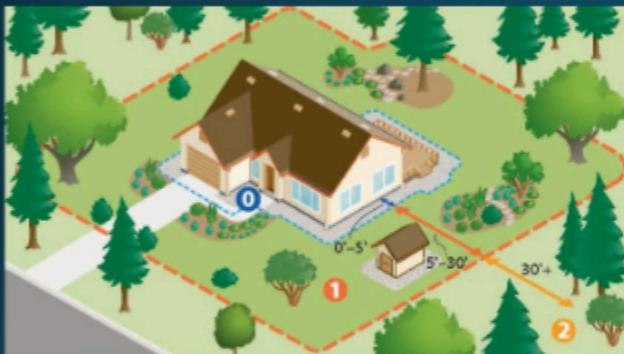
- Create vegetation groups, "islands," to break up continuous fuels around your home.
- Remove ladder fuels to create a separation between low-level vegetation and tree branches to keep fire from climbing trees.
- Remove leaf and needle debris from the yard.
- Keep grass and wildflowers under 8 inches in height.

ZONE 3

100-200 feet around your home or to property line

- Create and maintain a minimum of 10 feet between the tops of trees.
- Remove ladder fuels, creating a separation between low-level vegetation and tree branches to keep fire from climbing up trees.
- Remove dead trees and shrubs.

Purpose- Zone 0



Zone 0 is the 0-5' perimeter of the building and attached decks

Zone 0 reduces the likelihood of **structure ignition** by reducing the potential for **direct ignition of the structure from flame contact**, by **embers that accumulate at the base of a wall**, and/or indirect ignitions when **embers ignite vegetation, vegetative debris or other combustible materials located close to the structure** that result in either a **radiant heat and/or a direct flame contact exposure to the structure**.

Zone 0 is the **horizontal area within the first five feet around the structure and any outbuildings and attached decks, and stairs**. The zone also includes the **area under attached decks and stair landings**. To be most effective, the zone should incorporate a **6-inch vertical area** between the ground and the start of the building's exterior siding. (Note: the appropriate vertical height would be dependent on whether combustibles are retained in Zone 0 and coupled with Chapter 7A requirements. The Office of the State Fire Marshal is the regulatory authority for this vertical zone since this zone would be part of the built environment.)

Zone 0 is a critical component of structure defense and, when coupled with Zones 1 and Zone 2, is essential to defensible space.



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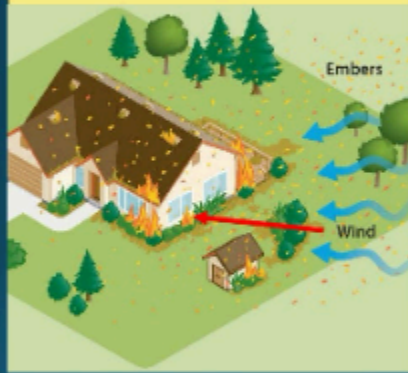
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Three types of fire exposures

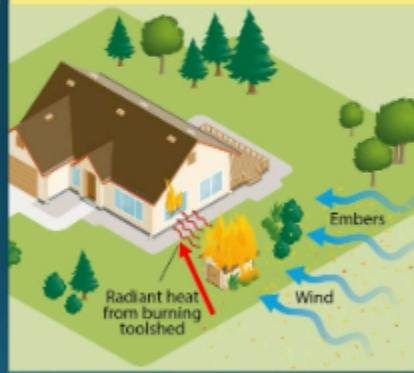
Direct flame contact



Embers



Radiant heat



- Defensible space strategies have focused on how to reduce direct flame contact.
- Preparing for embers and radiant heat exposures takes a different approach.

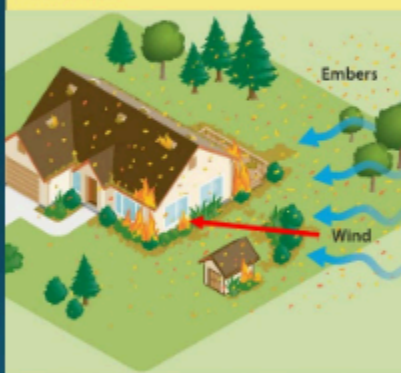
Techniques to reduce exposures

Direct flame contact



Defensible space implementation interrupts fire pathways and reduces the potential for direct flame contact

Embers



Home hardening with defensible space can help mitigate ember exposure

Radiant heat



Home hardening and fuel reduction can address potential radiant heat exposure



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BEFORE



AFTER

