Defensible Space
The Importance of Defensible Space

The Redwood City and San Carlos hillsides, while beautiful, are an ideal environment for a devastating wildland fire. With the onset of summer months comes the drying and curing of our lands. As temperatures peak, humidity drops and the summer winds blow, the potential for wildland fires increase. Despite the efforts of the fire services, many homes are lost each year due to wildland and wildland urban interface fires. It is imperative that you prepare now to protect your home from such occurrences.

Defensible space is essential to improve your home’s chance of surviving a wildfire. It’s the buffer you create between a building on your property and the grass, trees, shrubs, or any wildland area that surround it. This space is needed to slow or stop the spread of wildfire and it protects your home from catching fire either from direct flame contact or radiant heat. Defensible space is also important for the protection of the firefighters defending your home.

Your home may be the most valuable investment you ever make!

Many homes are saved as a result of the owner’s careful pruning and landscaping techniques that minimize ignition of vegetation and spread of fire to their homes.

The 2017 Sonoma County Fires involved over 170 fires, burned over 245,000 acres in Northern California and destroyed approximately 2,075 structures.

From January 1 to August 2, 2018, there have been approximately 38,079 wildfires, about 4.9 million acres burned.

The Carr Fire, which broke out on July 23, 2018 in Northern California has burned over 131,000 acres and destroyed approximately 1,567 structures.
Defensible Space Zones

California Government Code 51182, and Public Resources Code Sections 4290 and 4291, require that any person who owns, leases, controls, operates or maintains a building or structure in, upon, or adjoining any land covered with flammable vegetation shall at all times maintain 100 feet of defensible space.

Two zones make up the required 100 feet of defensible space. The two zones are: the home defense zone; and the reduced fuel zone (see “Defensible Space Zones, below). The home defense zone is within 30 feet of the house. The reduced fuel zone lies beyond the home defense zone and extends out at least 100 feet from the house or to your property line. Greater defense zone widths are necessary when your home is on a steep slope or in a windswept exposure. Specific recommendations for each zone are described below and pertain to the (LRA) Local Responsibility Areas that are protected by city or county fire departments.
Zone 1 (0 - 30 feet)

Zone 1 extends 30 feet out from buildings, structures, decks, etc.
- Remove all dead plants, grass and weeds (vegetation).
- Remove dead or dry leaves and pine needles from your yard, roof and rain gutters.
- Trim trees regularly to keep branches a minimum of 10 feet from other trees.
- Remove branches that hang over your roof and keep dead branches 10 feet away from your chimney.
- Relocate wood piles into Zone 2.
- Remove or prune flammable plants and shrubs near windows.
- Remove vegetation and items that could catch fire from around and under decks.
- Create a separation between trees, shrubs and items that could catch fire, such as patio furniture, wood piles, swing sets, etc.

Zone 2 (30 – 100 feet)

- Cut or mow annual grass down to a maximum height of 4 inches.
- Create horizontal spacing between shrubs and trees. (See diagram)
- Create vertical spacing between grass, shrubs and trees. (See diagram)
- Remove fallen leaves, needles, twigs, bark, cones, and small branches. However, they may be permitted to a depth of 3 inches if erosion control is an issue.

THE THREE R’s OF DEFENSIBLE SPACE

<table>
<thead>
<tr>
<th><strong>Removal</strong></th>
<th>This technique involves the elimination of entire plants, particularly trees and shrubs, from the site. Examples of removal would be the cutting down of a dead tree or the cutting out of a flammable shrub.</th>
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<tr>
<td><strong>Reduction</strong></td>
<td>The removal of plant parts, such as branches or leaves, constitute reduction. Examples of reduction are pruning dead wood from a shrub, removing low tree branches, and mowing dried grass.</td>
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<td><strong>Replacement</strong></td>
<td>Replacement is the substitution of less flammable plants for more hazardous vegetation. For example, removal of a dense stand of flammable shrubs and planting an irrigated, well maintained flower bed would be a type of replacement.</td>
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### Spacing between Trees and Shrubs

Choosing the right plans and spacing them properly can slow the spread of fire, reduce flame intensity, catch embers, and improve chances that your home will survive. Adding space between plants and shrubs reduces the likelihood that fire will spread. Space shrubs at least 2X the height of the mature plant.

As slope increases, spacing should be increased accordingly. Certain fire prone shrubs and trees, like juniper and cypress, are so flammable that they should be replaced with fire-resistant plants.

![Image of shrubs and spacing](image)

### Limb and Maintain Trees

Remove lower limbs of conifers (pine, fir, cedar, etc.) so that no leaves or needles or within 10 feet of the ground, or 1/3 the height of the tree if it’s less than 30 feet tall. Space trees so that the canopies do not touch, with added space between fire prone species like conifers. Remove limbs within 10 feet of structures.

Trees like oaks, bay, and ornamentals with broad leaves should be limed so that no branches are within six feet of the ground, or 1/3 height of the tree if it’s less than 18 feet tall. A licensed arborist can help select a safe species and maintain your trees in good health for optimum fire resistance.

![Image of trees and liming](image)
Fire Safe Landscaping

Defensible Space requires the installation and maintenance Fire Safe Landscaping. It is important to remember that a fire safe landscape isn’t necessarily the same thing as a well-maintained yard. A fire safe landscape uses fire resistant plants that are strategically planted to resist the spread of fire to your home.

The good news is, you don’t need a lot of money to make your landscape fire safe. And you will find that a fire safe landscape can increase your property value and conserve water while beautifying your home.

Select from this list of fire-resistant plants, or consult a professional for additional species. Plants on this list can be found at most commercial nurseries specializing in native plants. Some plants will do well along the coast, others in warmer inland areas. A native plants nursery will recommend plants suited to your specific habitat conditions. Remember: Even fire-resistant plants can be hazardous when not maintained.
Hardening Structures Against Wildfire

During a wildfire, tiny burning embers can fly far ahead of the fire, sometimes igniting homes a mile or more away from the fire itself. A wildfire-safe home must be resistant to ignition from these flying embers, so that even if the flames do not reach your home, it will be able to withstand exposure to embers that may have been blown a mile or more in front of a wildfire. To provide maximum wildfire protection for your home, a combination of near-home vegetation management, appropriate building materials, and related design features must be used.

There is a direct link between home survival, the vegetation management required in developing adequate defensible space around the home, and the building materials and design used to construct the home. The area where your vegetation should be managed (i.e., your defensible space) will depend on the particular topography and siting of the home on the property. The information provided is intended to help you make “fire wise” decisions regarding material choices and design decisions, whether you are building a new home or retrofitting your existing house.

Building Greater Home Protection...
Building Greater Home Protection...

Attic and Crawl Space Vents - Cover vent openings with corrosion resistant metal screens with 1/8-inch mesh screening.

Windows – Install double paned windows and utilize tempered glass on exterior panes.

Roofing Materials – Consider replacing wood shake or shingle roof with Class-A fire resistant type (composition, metal or tile).

Walls and Siding – Stucco, brick, cement board and steel are better non-combustible siding choices.

Balconies and Decks – Keep decking material in good condition and free and clear of debris such as pine needles, twigs and leaves. Be sure to clean between the deck boards where debris can fall and accumulate.

Chimneys – Install a spark arrestor of non-combustible metal mesh screen no smaller than 3/8-inch.

Rain Gutters – Keep free and clear of leaves, needles, and other debris. Check and clean your gutters several times a year.

Ready, Set, Go

Ready – Be read. Take personal responsibility and prepare long before the threat of a wildland fire so your home is ready in case of a fire. Create defensible space by clearing brush away from your home. Use fire-resistant landscaping and harden your home with fire-safe construction measures. Assemble emergency supplies and belongings in a safe place. Plan escape routes and make sure all those residing within the home know the plan of action.

Set – Situational awareness. Pack your emergency items. Stay aware of the latest news and information on the fire from local media, your local fire department and public safety.

Go – Act early! Follow your personal wildland fire action plan. Doing so will not only support your safety, but will allow firefighters to best maneuver resources to combat the fire.

Learn more about Ready, Set, Go! www.wildlandfirersg.org
The Importance of Roadway Clearance

We operate specialized fire apparatus that helps us navigate the narrow streets and hills of our community. Even with our state-of-the-art fire engines, we depend on roadways clear of obstructions and overgrown vegetation to access your neighborhood safely and quickly during emergencies. Cooperation and involvement from homeowners in each hillside neighborhood is critical to prevent obstructions, like illegally parked cars and overgrown vegetation that impede our access and your safe escape in the event of a wildfire. Your survival during a fast spreading wildfire may depend on vegetation clearance work finished months earlier.

**CLEAR THE WAY...**

Keep driveways in good shape so help can get to you when you need it most

Minimum horizontal clearance is 12 feet

Minimum overhead clearance is 13.6 feet

Keep bridges, culverts and road surfaces in good repair

Make sure the fire department can get through your gate

Clear fallen branches and debris as soon as possible

**WE HATE BEING LATE...**

Minimum clear opening is 14 feet (or 2 feet wider than roadway, whichever is greater)

Minimum setback from main road is 30 feet

Gate should be hinged to open away from the main road

Make sure fire crews have a means to open your lock

Keep gate clear of obstructions and in good repair

**Will your gate make us late?**

Don't leave fire crews stuck at the end of your driveway. We hate being late for anything.
Firewise Community Recognition

Scientific research has shown the effectiveness and benefits of implementing wildfire mitigation concepts across individual property boundaries and throughout communities.

The Firewise Communities/USAR recognition Program is a process that empowers neighbors to work together in reducing their wildfire risk. Join the growing network of more than 1,500 recognized Firewise communities taking action and ownership in preparing and protecting their homes against the threat of wildfire.

Using a five-step process, communities develop an action plan that guides their residential risk reduction activities, while engaging and encouraging their neighbors to become active participants in building a safer place to live. Neighborhoods throughout the United States are embracing the benefits of becoming a recognized Firewise Community – and you can too!

To learn more about the firewise community recognition program, visit www.nfpa.org
Protecting a building from wildfire takes a two-pronged approach...

1. Remove flammable materials from around the building
2. Construct the building of fire resistant material

The law requires that homeowners do fuel modification to 100 feet (or the property line) around their buildings to create a defensible space for firefighters and to protect their homes from wildfires. New building codes will protect buildings from being ignited by flying embers which can travel as much as a mile away from the wildfire.

For additional wildfire codes and standards, visit www.nfpa.org
Building Materials Listings for Wildland Urban Interface

The Office of the State Fire Marshal’s (SFM) Building Materials Listing Program (BML) was originally created to mandate that all fire alarm systems and fire alarm devices be approved and listed by the State Fire Marshal prior to sale or marketing within the state. The program later was expanded to include many other materials such as: roof coverings, fire resistive wall and ceiling-floor assemblies, wall finish materials, fire and non-fire related hardware, insulating products, fire doors, fire dampers, electrical appliances and devices. Each product approval and listing is based upon an evaluation of test results that include an analysis of required product performance and reliability features. All manufacturers that want to list products in California must have those products tested and labeled by a SFM accredited laboratory. If a product does not qualify for listing but meets the standard of the “Materials and Construction Methods for Exterior Wildfire Exposure,” Chapter 7A of the California Building Code will be listed in the WUI Product Handbook.

WUI Building Materials Testing Standards

Testing Standards CA SFM 12.7A-1, Exterior Wall Siding and Sheathing
Testing Standards CA SFM 12.7A-2, Exterior Windows
Testing Standards CA SFM 12.7A-3, Under Eaves
Testing Standards CA SFM 12.7A-4, Decking

The new building standard for the Fire Hazard Severity Zones will be enforced by the Building Official as projects go through the plan checking process. To best assist them in determining if a product meets the code requirements, the State Fire Marshal’s BML Program is accepting applications for materials that meet the new code. These materials will be listed on the SFM BML website and the Wildland Urban Interface Building Codes page of the Wildland Hazards and Building Codes website section. The SFM listing service provides building authorities, architectural and engineering communities, contractors, and the fire service with a reliable and readily available source of information.

Since the materials under Wildland Urban Interface Building Codes (except wood shakes and shingles) are not required by law to be listed by the SFM, the listing for these products are strictly voluntary. Materials not listed by the SFM may still qualify for use provided they met all the requirements under Chapter 7A. If not listed on the SFM site, all documentation and testing certificates showing compliance must be submitted to the building official having jurisdiction for final approval.

For additional building materials listing program, visit www.osfm.fire.ca.gov

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EMERGENCY ALERT SYSTEM
Visit www.smcalert.info register to receive email or SMS text alerts for emergencies and road closures in specific San Mateo County cities and neighborhoods, including Redwood City and San Carlos Fire Departments