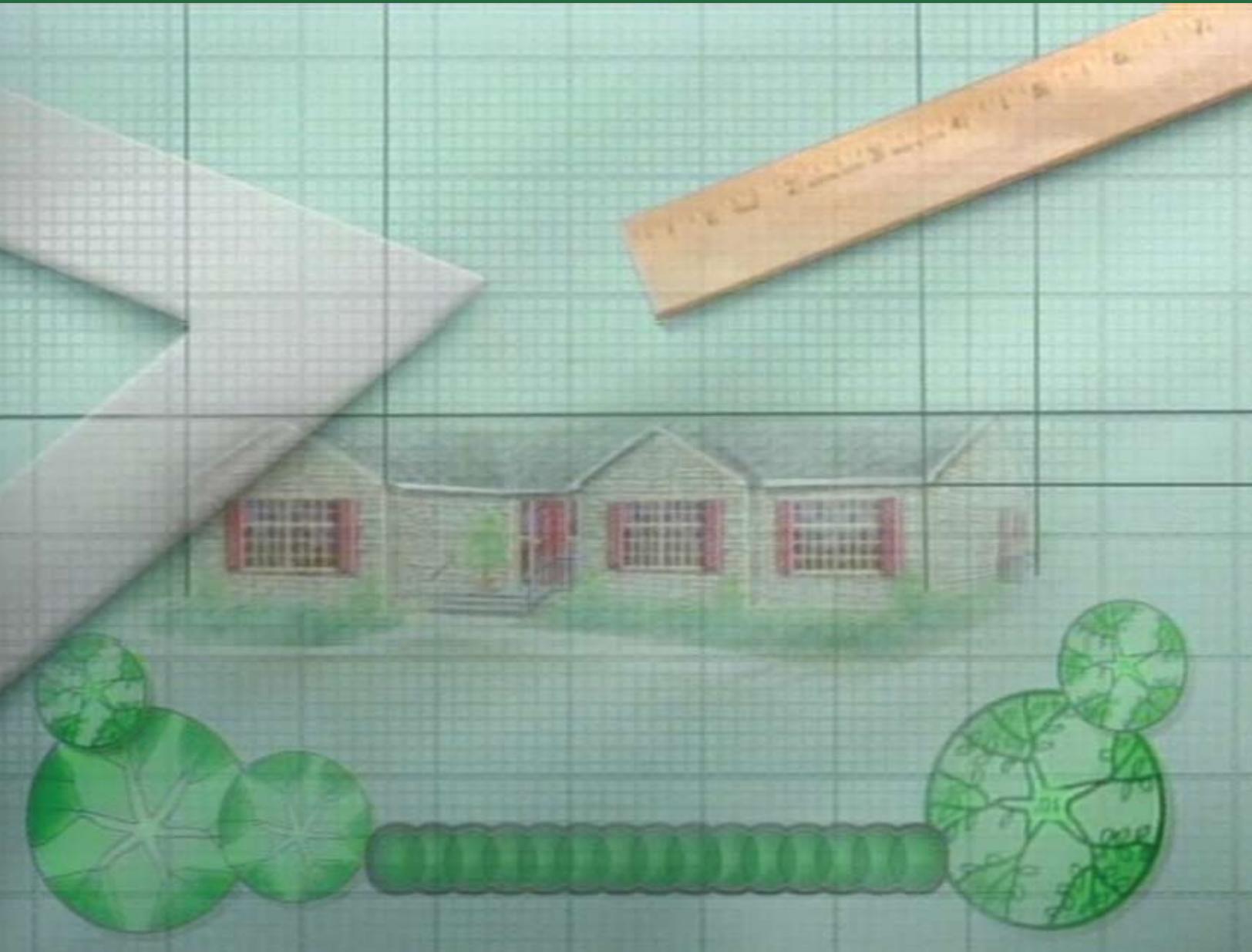


# Firewise Guide to Landscape and Construction



# Guide to Landscaping

The primary goal for Firewise landscaping is fuel reduction — limiting the level of flammable vegetation and materials surrounding the home and increasing the moisture content of remaining vegetation. This includes the entire 'home ignition zone' which extends up to 200 feet in high hazard areas.

## Use the Zone Concept

**Zone 1** is the 30 feet adjacent to the home and its attachments; **Zone 2** is 30 to 100 feet from the home; **Zone 3** is 100 to 200 feet from the home.

**Zone 1 (All Hazard Areas)** This well-irrigated area encircles the structure and all its attachments (wooden decks, fences, and boardwalks) for at least 30 feet on all sides.

- 1) Plants should be carefully spaced, low-growing and free of resins, oils and waxes that burn easily.
- 2) Mow the lawn regularly. Prune trees up six to ten feet from the ground.
- 3) Space conifer trees 30 feet between crowns. Trim back trees that overhang the house.
- 4) Create a 'fire-free' area within five feet of the home, using non-flammable landscaping materials and/or high-moisture-content annuals and perennials.
- 5) Remove dead vegetation from under deck and within 10 feet of house.
- 6) Consider fire-resistant material for patio furniture, swing sets, etc.
- 7) Firewood stacks and propane tanks should not be located in this zone.
- 8) Water plants, trees and mulch regularly.
- 9) Consider xeriscaping if you are affected by water-use restrictions.

**Zone 2 (Moderate and High Hazard Areas)** Plants in this zone should be low-growing, well-irrigated, and less flammable.

- 1) Leave 30 feet between clusters of two to three trees, or 20 feet between individual trees.
- 2) Encourage a mixture of deciduous and coniferous trees.
- 3) Create 'fuel breaks', like driveways, gravel walkways and lawns.
- 4) Prune trees up six to ten feet from the ground.

**Zone 3 (High Hazard Areas)** Thin this area, although less space is required than in Zone 2. Remove smaller conifers that are growing between taller trees. Remove heavy accumulation of woody debris. Reduce the density of tall trees so canopies are not touching.

## Maintaining the Firewise Landscape

- ✓ Keep trees and shrubs pruned six to ten feet from the ground.
- ✓ Remove leaf clutter and dead and overhanging branches.
- ✓ Mow the lawn regularly and dispose of cutting and debris promptly.
- ✓ Store firewood away from the house.
- ✓ Maintain the irrigation system regularly.
- ✓ Familiarize yourself with local regulations regarding vegetative clearance, debris disposal, and fire safety requirements for equipment.



Use grass and driveways as fuel breaks from the house.



Use faux brick and stone finishes and high-moisture-content annuals and perennials.



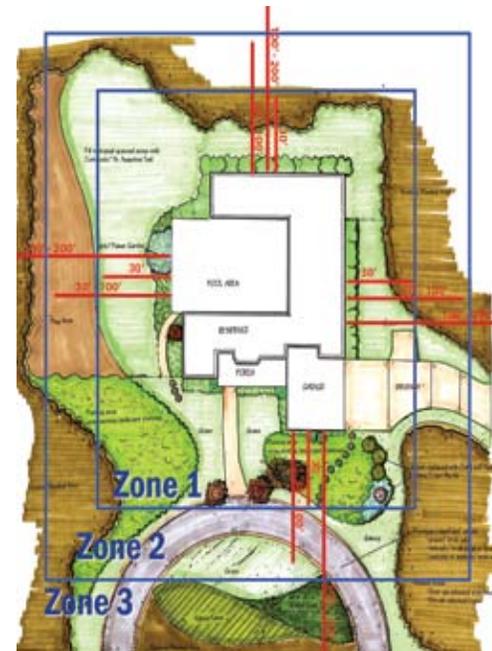
Use groupings of potted plants that include succulents and other drought resistant vegetation.



Create a cinder block wall around the perimeter of your yard and use grass and slate to break up the landscape.



The use of pavers and rock make for a pleasing effect and creates a fuel break.



*“When considering improvements to reduce wildfire vulnerability, the key is to consider the home in relation to its immediate surroundings. The home’s vulnerability is determined by the exposure of its external materials and design to flames and firebrands during extreme wildfires. The higher the fire intensities near the home, the greater the need for nonflammable construction materials and a resistant building design.” – Jack Cohen, USDA-Forest Service*



The roof is the most important element of the home. Use rated roofing material.

**Use Rated Roofing Material.** Roofing material with a Class A, B or C rating is fire resistant and will help keep the flame from spreading. Examples:

- ✓ Composition shingle
- ✓ Metal
- ✓ Clay
- ✓ Cement tile

**Use Fire-Resistant Building Materials on Exterior Walls.** Examples include:

- ✓ Cement
- ✓ Plaster
- ✓ Stucco
- ✓ Masonry (concrete, stone, brick or block)

While vinyl is difficult to ignite, it can fall away or melt when exposed to extreme heat.

**Use Double-Paned or Tempered Glass.** Double-pane glass can help reduce the risk of fracture or collapse during an extreme wildfire. Tempered glass is the most effective. For skylights, glass is a better choice than plastic or fiberglass.

**Enclose Eaves, Fascias, Soffits and Vents.** ‘Box’ eaves, fascias, soffits and vents, or enclose them with metal screens. Vent openings should be covered with 1/8” metal screen.

**Protect Overhangs and Other Attachments.** Remove all vegetation and other fuels from around overhangs and other attachments (room additions, bay windows, decks, porches, carports and fences). Box in the undersides of overhangs, decks and balconies with noncombustible or fire-resistant materials. Fences constructed of flammable materials like wood should not be attached directly to the house.

Anything attached to the house (decks, porches, fences and outbuildings) should be considered part of the house. These act as fuel bridges, particularly if constructed from flammable materials.

- 1) If a wood fence is attached to the house, separate the fence from the house with a masonry or metal barrier.
- 2) Decks and elevated porches should be kept free of combustible materials and debris.
- 3) Elevated wooden decks should not be located at the top of a hill. Consider a terrace.



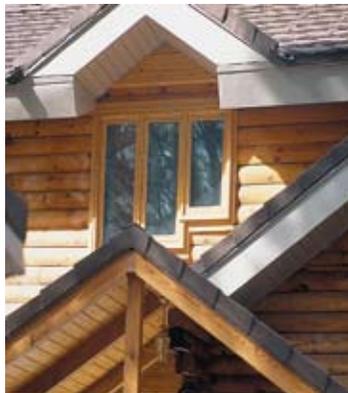
Cover openings with 1/8” metal screen to block fire brands and embers from collecting under the home or deck.



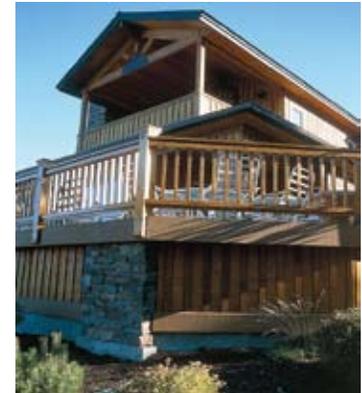
Use non-flammable fencing if attached to the house such as metal.



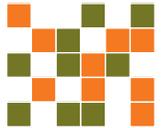
Use glass skylights; plastic will melt and allow embers into the home.



Enclose eaves and soffits.



Enclose under decks so firebrands do not fly under and collect.



## A guide to Firewise principles

THE FIREWISE COMMUNITIES PROGRAM provides homeowners with simple and easy steps to help reduce a home's wildfire risk by preparing ahead of a wildfire. These steps are rooted in principles based on solid fire science research into how homes ignite. The research comes from the world's leading fire experts whose experiments, models and data collection are based on some of the country's worst wildland fire disasters.

Below are Firewise principles and tips that serve as a guide for residents:

**When it comes to wildfire risk, it is not a geographical location, but a set of conditions that determine the home's ignition potential in any community.**

Wildfire behavior is influenced by three main factors: topography (lie of the land), weather (wind speed, relative humidity and ambient temperature) and fuel (vegetation and man-made structures). In the event of extreme wildfire behavior, extreme weather conditions are normally

present, like extended drought, high winds, low humidity and high temperatures, coupled with excess fuel build up including the accumulation of live and dead vegetation material. Additionally, the inherent lie of the land influences the intensity and spread a fire takes. Fires tend to move upslope, and the steeper the slope the faster it moves.

Of these three factors, **fuel** is the one we can influence.

Debris like dead leaves and pine needles left on decks, in gutters and strewn across lawns can ignite from flying embers. Fire moving along the ground's surface can "ladder" into shrubs and low hanging tree limbs to create longer flames and more heat. If your home has flammable features or vulnerable openings, it can also serve as fuel for the fire, and become part of a disastrous chain of ignitions to other surrounding homes and structures.

**A home's ignition risk is determined by its immediate surroundings or its "home ignition zone" and the home's construction materials.**

According to fire science research and case studies, it's not where a home is located that necessarily determines ignition risk, but the landscape around it, often referred to as the "home ignition zone." The home ignition zone is defined as the home and its immediate surroundings up to 200 feet (60 m).

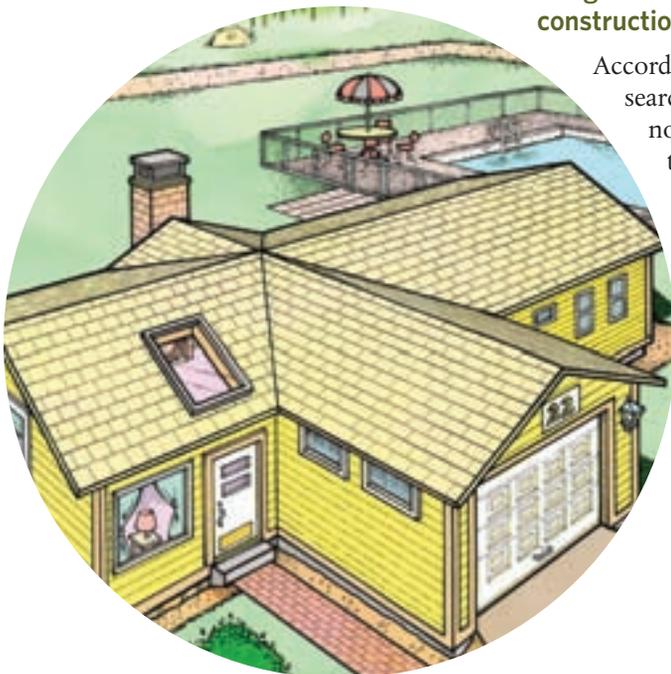
The Firewise Communities Program provides tips for reducing wildfire risk based on the home ignition zone concept:

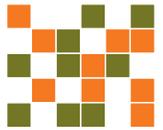
**Home Zone:** Harden your home against wildfire. This includes fences, decks, porches and other attachments. From the point of view of a fire, if it's attached to the house it is a part of the house. Non-flammable or low flammability construction materials—especially for roofs, siding and windows—are recommended for new homes or retrofits. Keep any flammables, including plantings and mulch out of the area within 5 feet of your home's perimeter.

**Zone 1:** This well-irrigated area encircles the structure for at least 30 feet on all sides including decks and fences, and provides space for fire suppression equipment in the event of an emergency. Lawns should be well maintained and mowed. Plantings should be limited to carefully-spaced low flammability species. In particularly fire prone areas, non-flammable mulch should be considered.

**Zone 2:** This area encircles 30 - 100 feet from the home. Low flammability plant materials should be used here. Plants should be low-growing and the irrigation system should extend into this section. Shrubs and trees should be limbed up and spaced to prevent crowns of trees from touching.

**Zone 3:** This area encompasses 100 - 200 feet from the home. Place low-growing plants and well-spaced trees in this area, remembering to keep the volume of vegetation (fuel) low.





**Zone 4:** This furthest zone from the structure is a natural area. Selectively prune and thin all plants and remove highly flammable vegetation.

### Homeowners can and must take primary responsibility for wildfire safety action around the home.

There are not enough fire fighting resources to protect every house during severe wildfires, and with shrinking budgets it means we need to do more with less. Fire fighters are trained to safely and efficiently suppress wildland fires, but their effectiveness is reduced when they must sweep decks, move wood piles and patio furniture while trying to fight a fire. According to fire science research, individual efforts do make a difference even in the face of a catastrophic wildfire.

The following steps are outlined by the Firewise program to reduce home ignition risk, based on this principle:

- Prune low hanging limbs to reduce ladder fuels
- Clean roofs and gutters of pine needles and dead leaves
- Keep flammable plants and mulches at least 5 feet away from your home's perimeter
- Use low-growing, well pruned and fire-resistant plants around home
- Screen or box-in areas below patios and decks with wire screening no larger than 1/8-inch mesh
- Sweep decks and porches clear of fallen leaves
- Move woodpiles away from the home during non-winter months
- Bring doormats and furniture cushions inside when an area is threatened by a wildfire

- Close garage doors when leaving your home in the event of an evacuation

### We all have a role to play in protecting ourselves and others.

Your home ignition zone extends up to 200 feet—and it's quite common to have neighbors whose home ignition zone overlaps yours. Buildings closer than 100 feet apart can ignite one another if they are in flames. In addition, many communities have commonly owned property, including natural or wooded areas that can pose fire risks to all. This means that to be most effective, neighbors need to work together and with their local fire service to achieve greater wildfire safety.

Together, community residents can work with agencies and elected officials to accomplish the following:

- Ensure that homes and neighborhoods have legible/clearly marked street names and numbers
- Create "two ways out" of the neighborhood for safe evacuation during a wildfire emergency
- Create phone trees to alert residents about an impending fire
- Review any existing community rules or regulations on vegetation management and construction materials to see if they are "Firewise-friendly"
- Use the "Ready, Set, Go!" program with the fire department to educate neighbors
- Use the Firewise Communities/USA® Recognition Program to create and implement an ongoing action plan that will also earn the neighborhood national recognition for their efforts

**LEARN MORE** about how to keep families safe and reduce homeowners' risk for wildfire damage at [www.firewise.org](http://www.firewise.org).

**ADDITIONALLY,** complimentary brochures, booklets, pamphlets, videos and much more can be found on the information and resources page of the website and ordered online through the Firewise catalog.



## Firewise tips checklist for homeowners

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WILDFIRE DOESN'T HAVE TO BURN everything in its path. In fact, cleaning your property of debris and maintaining your landscaping are important first steps to helping minimize damage and loss.

The work you do today can make a difference. Follow these simple action steps now and throughout the year to prepare and help reduce the risk of your home and property becoming fuel for a wildfire:

- Clear leaves and other debris from gutters, eaves, porches and decks. This prevents embers from igniting your home.
  - Remove dead vegetation from under your deck and within 10 feet of the house.
  - Remove anything stored underneath decks or porches.
  - Screen or box-in areas below patios and decks with wire mesh to prevent debris and combustible materials from accumulating.
  - Remove flammable materials (firewood stacks, propane tanks, dry vegetation) within 30 feet of your home's foundation and outbuildings, including garages and sheds. If it can catch fire, don't let it touch your house, deck or porch.
  - Wildfire can spread to tree tops. If you have trees on your property, prune so the lowest branches are 6 to 10 feet from the ground.
  - Keep your lawn hydrated and maintained. If it is brown, cut it down to reduce fire intensity. Dry grass and shrubs are fuel for wildfire.
  - Don't let debris and lawn cuttings linger. Dispose of these items quickly to reduce fuel for fire.
  - Inspect shingles or roof tiles. Replace or repair those that are loose or missing to prevent ember penetration.
  - Cover exterior attic vents with metal wire mesh no larger than 1/8 inch to prevent sparks from entering the home.
  - Enclose under-eave and soffit vents or screen with metal mesh to prevent ember entry.
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**Learn more** about how to keep your family safe and reduce your home's risk for wildfire damage at [www.firewise.org](http://www.firewise.org).