



Defensible Space and Home Hardening

Lessons from the Past

Major factors of home loss are:

- Lack of defensible space.
- Combustible materials near homes.
- Dry decks.
- Fire vulnerable construction materials.

Photo: Just outside of Paradise, the charred remains of the Camp Fire stops just short of a home that survived the blaze.



Home Ignition Zones

Zone 0

Ember Resistant

Immediate: 0-5 feet

Zone 1

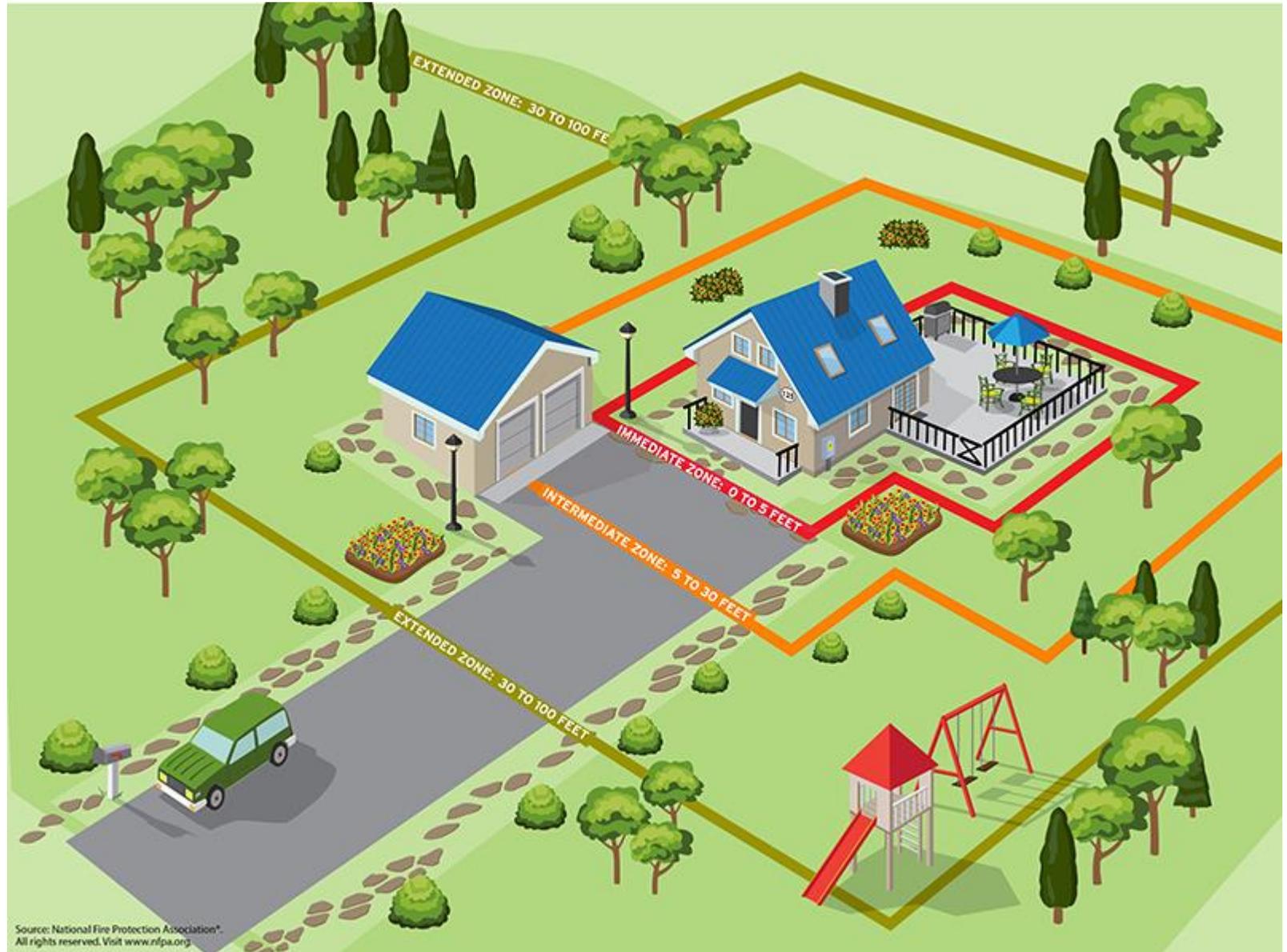
Lean, Clean and Green

Intermediate: 5-30 feet

Zone 2

Reduced Fuel Zone

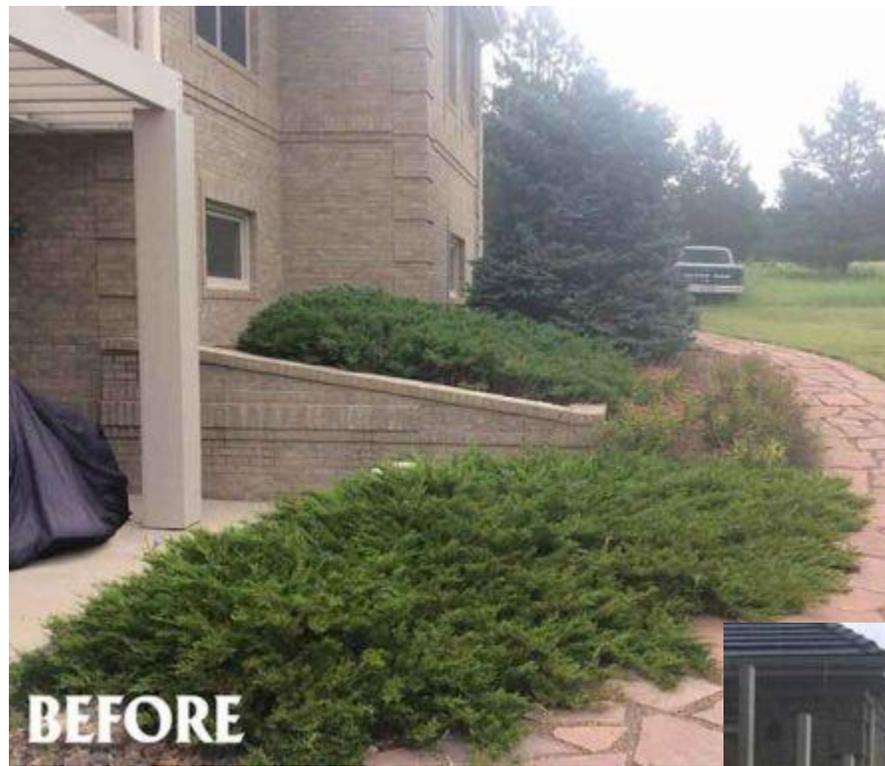
Extended: 30-100 feet



Zone 0 Ember Resistant

Science has proven this is the most important of all defensible space zones.

- Within 5 feet from the home.
- Prevent embers from igniting and allows firefighters to access the space around your home.
- There is no such thing as a “fire-proof” plant.
- Use irrigated, low growing plants, rock, stone, or other inorganic mulches.
- Remove anything combustible such as firewood or containers on or beneath decks, porches or overhangs.



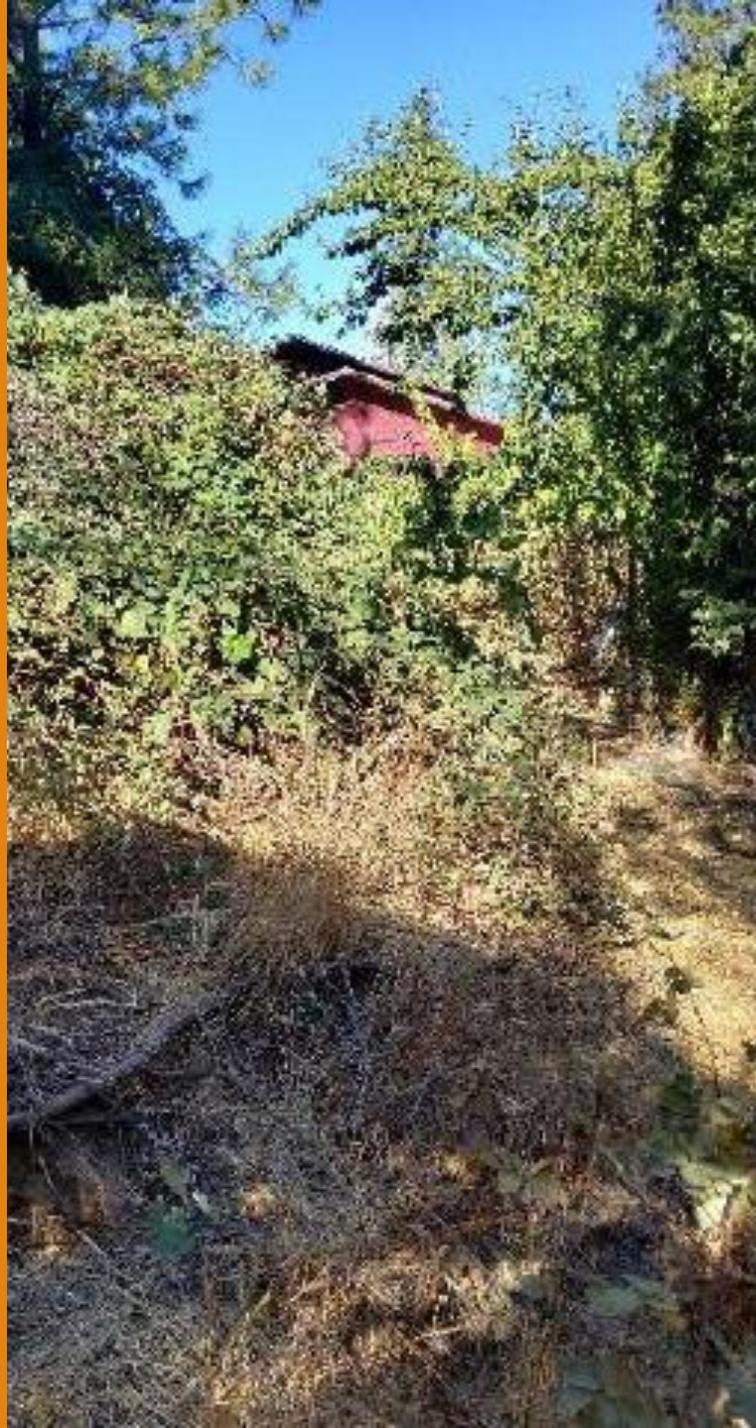
BEFORE: Junipers of all types are highly flammable. Continuous Juniper shrubbery grown in close proximity of your home is not recommended.

AFTER: Planting beds near the house have been cleared for the installation of a ‘Fire Resistant’ landscape.



Zone 2 Lean, Clean and Green

- Extends 30 feet from buildings, structures, decks, etc. or to the property line.
- Remove branches that overhang or touch your roof.
- Trim trees regularly to keep branches a minimum of 10 feet from other trees.
- Remove or prune flammable plants and shrubs near windows.
- Create a separation between trees, shrubs and items that could catch fire, such as patio furniture, wood piles, etc.



Zone 3 Reduced Fuel

- Extends 30 feet to 100 feet from buildings, structures, decks, etc.
- Typically includes naturally-occurring plants.
- Area may be out of your direct control.

- **Real Life Example:**
- Less than 30 feet from home to home.
- Removed junipers, replaced with pavers.



- It is not the intent for defensible space to be void of vegetation, the vegetation needs to be thinned and maintained.
- The spacing between grass, shrubs, and trees is crucial to reduce the spread of wildfires. The spacing required is determined by the type and size of brush and trees, as well as the slope of the land. For example, a property on a steep slope with larger vegetation requires greater spacing between trees and shrubs than a level property that has small, sparse vegetation.
- At least 10 feet between tree canopies.
- No ladder fuels – vegetation that can carry a fire from low growing plants to taller plants are called ladder fuels.
 - Lower tree branches should be removed to a height of 10 feet.
 - If the tree is shorter, don't remove $>1/4$ of the tree's height.
 - Ex: Tree height is 8 feet the maximum it should be "limbed up" is 2 feet.



Home Hardening: Modifying vulnerable building materials on your home to reduce the wildfire threat.

- Rain gutters – Non-combustible material. Vinyl or plastic materials are highly combustible. Remove debris from the gutters.
- Vents – Add 1/8-inch noncombustible corrosion-resistant metal mesh screening. Inspect your vent screens annually to ensure they are in good shape. Don't plant shrubs next to, or under vents.
- Eaves – Open-eaves vs. Eaves protected by soffit.
- Decks – Keep clear on and under.
- Roof – Class A roof. Includes roofs with brick, masonry or exposed concrete roof deck, copper shingles or sheets, metal sheets and shingles, clay or concrete roof tiles.
- Detached structures.



Open Eaves



Eaves Protected by Soffit