

# Landscape Fences and Walls



FEMA

## Purpose

To provide guidance about landscape fencing and walls that are attached to or near buildings in wildfire zones to reduce the potential for damage to the buildings from a wildfire.

## Key Issues

- Landscape fences and walls function as physical or visual barriers or architectural statements. Property owners do not always consider the potential that landscape fences and walls can have in contributing to the spread of a wildfire.
- The common wooden post-and-board fence can become fuel for a wildfire, especially when the fence is old and weather-beaten. This type of fence can also collect embers and firebrands in a wildfire and act as a horizontal ladder fuel by allowing the fire to travel along the fence toward the main building (see Figure 1).
- Once ignited, a fence or wall constructed of combustible materials that is attached to or near a building can ignite the building through radiant or convective heat or by direct flame contact.



**Figure 1.** The gate that was attached to the garage at the corner ignited and led the fire to the home, causing the damage seen here ([firecenter.berkeley.edu](http://firecenter.berkeley.edu)).

## Guidance

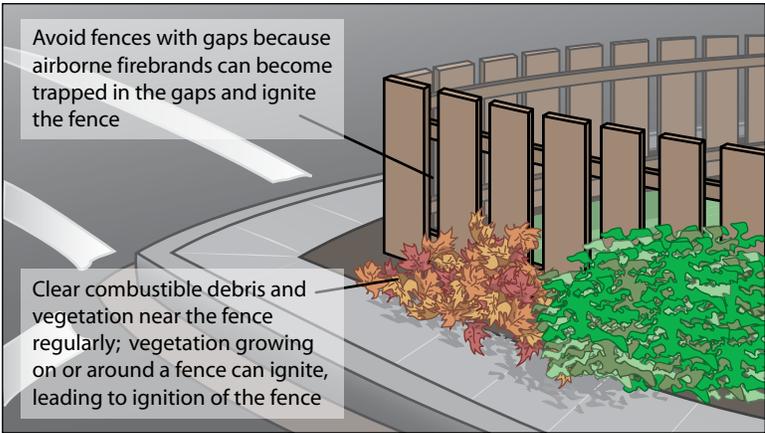
- Use noncombustible materials for fences and walls. Fences and walls vary in shape, size, and construction materials, all of which provide varying degrees of protection or risk in a wildfire. Typical materials used in fences and walls are wood, plastic, composite, metal, wire, concrete, stone, and masonry. Of these materials, wood is the most combustible, while concrete, stone, and masonry are noncombustible.
  - **Wood.** Fences that are constructed of wood or have wooden components are combustible and therefore provide no fire resistance. Combustible materials such as soft woods and pine treated with preservatives should be avoided if the fence is attached to the building. Dense hardwoods such as red oak, white oak, hickory/pecan, and walnut are more fire-resistant than pines and other softwoods.

- **Plastic.** Plastic fences are more fire-resistant, more durable, and often stronger than wooden fences, but plastic fences can melt in a wildfire from temperatures that are below the maximum a wildfire can generate (see Figure 2).
- **Metal.** Metal fences are more fire-resistant than plastic fences. Wire fences such as barbed wire, hog wire, and chain link have little or no effect on fire passage. However, if combustible materials have accumulated in or around the fence or the fence contains combustible materials such as wooden posts, the fence can act as a horizontal ladder fuel by allowing the fire to travel along the fence toward the main building
- **Concrete, stone, or masonry.** Concrete, stone, and masonry fences and walls are noncombustible and can act as a barrier to a wildfire by deflecting flames away from a building, but the passage of airborne embers and firebrands will not be significantly altered. These materials are the most effective at minimizing the potential for damage to a building from a wildfire.



**Figure 2.** Plastic fences can melt even under moderate wildfire temperatures (FEMA field team).

- Avoid attaching fences and walls constructed of combustible materials to a building.
- For fences and walls that are attached to a building, ensure that all combustible components are at least 10 feet from the building to prevent heat and flames from igniting the building.
- Avoid fences that have gaps, such as wooden slat fences, because airborne firebrands can become trapped in the gaps and ignite the fence (see Figure 3).



**Figure 3.** Key guidance for fences.

## Considerations

- The physical condition of the fence or wall should be maintained.
- Combustible debris near the fence or wall should be cleared regularly (see Fact Sheet #4, Defensible Space).
- The type of landscape vegetation that is planted next to a fence or wall should be considered, and the vegetation should be maintained regularly. Unmanaged landscape vegetation can increase the probability that the fence will ignite, especially a fence that is constructed of combustible materials (see Figure 3). For more information on defensible space, see Fact Sheet #4, Defensible Space.

## Effectiveness

Masonry, concrete, stone, metal, and hardwood landscape fences and walls are effective in all Fire Severity Zones.

## Resources

American Hardwood Information Center. [http://www.hardwoodinfo.com/species\\_guide/brochure\\_44-45.pdf](http://www.hardwoodinfo.com/species_guide/brochure_44-45.pdf)

Center for Fire Research and Outreach. University of California, Berkeley: College of Natural Resources. <http://firecenter.berkeley.edu/default.htm>.

Firesafe Council. <http://www.firesafecouncil.org/>.

Firewise Communities Program. <http://www.firewise.org/>.

