

# CFS FACT SHEET

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## HOUSE SITING AND DESIGN

### House Siting

When buying land or property in rural or urban fringe areas it is important to consider the level of fire hazard in the district. When deciding on a site on which to build in such areas, take care to choose a position that is relatively safe.

The important points to consider when selecting a house site are:

#### Aspect

Northerly to Westerly facing slopes are more frequently subject to bushfire than Easterly or Southerly slopes. The greatest danger occurs when a bushfire is driven by hot dry winds from the North or North West just before a South Westerly change.

#### Slope

Ridgetops are more dangerous than gullies and steep slopes are more dangerous than gentle slopes.

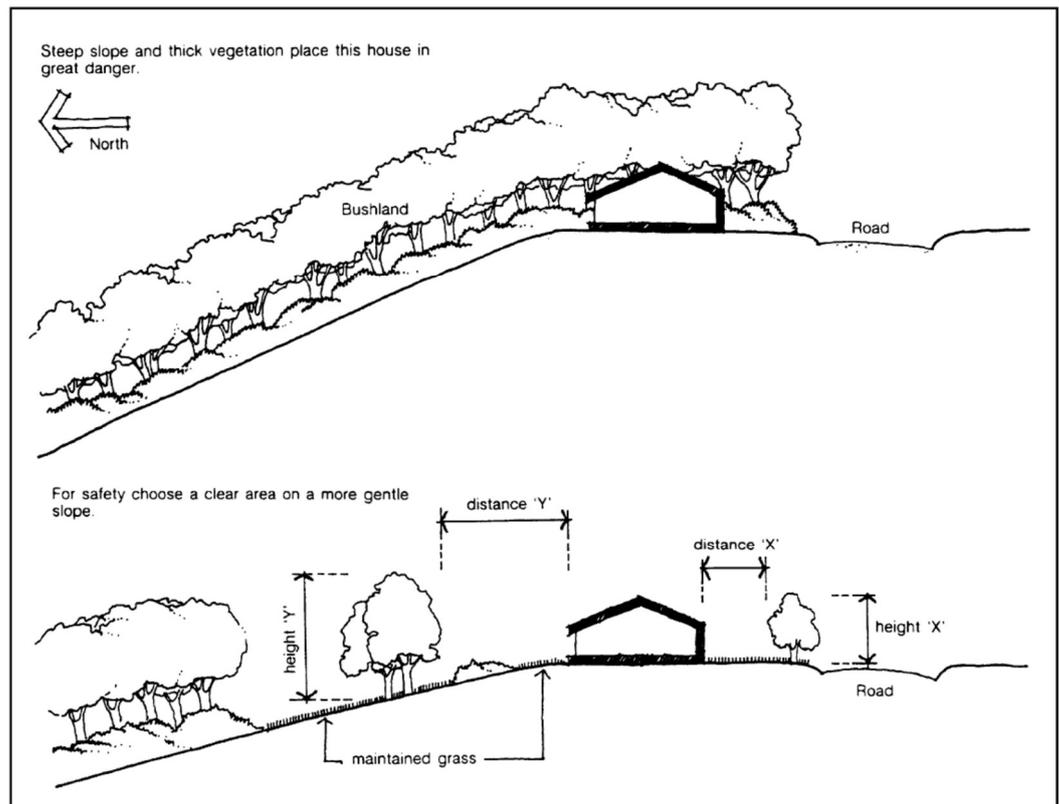
Why?

A fire must preheat

fuel before it will burn and heat transferred by radiation and convection is accelerated when fires are burning uphill and retarded when fires are burning downhill. The steeper the slope, the more this characteristic of fire is accentuated.

#### Vegetation

Building in a district with large areas of native vegetation, particularly thick scrub is more dangerous than areas where undergrowth has been cleared. Land to the South and East of large parks or forests may be especially dangerous. In these areas a 20m fuel reduced zone around dwellings is recommended which may be increased to 30 - 40m on steep slopes (provided native vegetation clearance approval has been granted).



**For more information about selecting, locating and managing vegetation for fire protection** refer to the DEWNR booklet "Reducing fire risk in gardens" downloadable [here](http://www.cfs.sa.gov.au) from the CFS website ([www.cfs.sa.gov.au](http://www.cfs.sa.gov.au))

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## Access

- Clear access and egress should allow for the safe movement of firefighting vehicles.
- Gateways should be at least 4m wide and roadways should have a well-compacted surface with slopes no greater than 1 in 3 and solid crossings over permanent waterways.
- Turn around areas should be wide enough for large vehicles to easily manoeuvre.
- Allow for a minimum turning circle of 25m in diameter.

## Water Supply

Make sure there is sufficient water available for firefighting.

- At least 5000 L should be connected to a 5hp pump with hoses to reach right round the house.
- Where a sprinkler system is used the reserve will need to be 22 000 L.

## House Design

Most houses burn down in bushfires because flying embers have caught in nooks and crannies – under loose roofing perhaps; or under verandahs, on windowsills, in sheltered recesses and doorways. A spark starts a little fire, which if left unnoticed may spread, and your home burns down from the inside-out. Therefore, when planning your new house, consider the following basic safety features:

## House Shape

The safest homes have a smooth outside shape with no nooks or crannies and a low-pitched roof with no level changes. Single storey houses are generally safer than split storey.

## Building Materials

Non-flammable wall materials, such as brick, mud brick, fibre cement sheeting and weatherboards are all acceptable. Be aware that rough timber and some other claddings could warp or catch fire

## Roofing Materials

There is no concrete research to fully substantiate the argument that tiled roofs are less safe than metal roofs, however timber shakes and timber shingles, and plywood/bituminous felt of thermoplastic are precluded in fire-prone areas. If you use tiles, they need to be well fitted with fire retardant sarking beneath them. A low-profile roof reduces wind turbulence and minimises level changes and valleys where leaves and debris can gather. High winds occur in fires so make sure your roof can withstand them.

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## Under Floor Spaces

Houses on poles or stumps or with exposed decking or stairs can be firetraps. Air turbulence and any flammable material under the house make it easier for fire to become established in the flooring. The safest option is to construct the house on a concrete slab. If poles or stumps are a necessary part of your house design, keep the floor as close to the ground as possible. Enclose the underfloor space and ensure no flammable materials build up.

## Skylights & Air Conditioners

Plastic skylights may melt and glass skylights may break, letting in the fire. If you must have a skylight install wire meshed glass or a thermoplastic cover. Turn off evaporative air conditioners when a bushfire approaches and cover to prevent entry of sparks.

## Timber

If possible, steer clear of elevated timber decking, stairs or raised timber verandahs. If you do use them, avoid rough sawn timber catches dust, which is more easily ignited. Timber can be safe if you use dense hardwood timber like jarrah. For exposed rafters and external timber work, give it a smooth or painted finish and don't use flammable coatings like tar or resinous compounds, which may catch fire easily.

## Building Code of Australia

Be aware that house construction is controlled under the Building Code of Australia and is monitored by your local council.

### **For more information about being Bushfire Ready:**

Contact the Bushfire Information Hotline

on **1300 362 361 (TTY 133 677)**

or visit [www.cfs.sa.gov.au](http://www.cfs.sa.gov.au)