



# Building for Fire Safety

Each year hundreds of people build their dream homes away from the city. These homes are tucked in the woods or abut picturesque wild land.

Unfortunately, in all their serene beauty, these homes may be vulnerable to wildfire. Fire is not just a threat to homes in western states. In 2000, nine homes were lost to wildfire in Minnesota. Following are some things to look for to identify property that is prone to loss from wildfire, and some of the things you can do to reduce your risk.



## Assessment

To determine if your home is fireprone, you need to look at surrounding vegetation, landscaping and building construction. In brief, if you have a thick stand of trees, especially evergreens, within 30 feet of your home, you may be at risk. The key is to keep plants no closer to buildings than twice their height except for single or small clusters of trees at least one tree height from the surrounding forest. Other risk factors include tall grass near buildings, flammable materials like firewood piled within 30 feet of your home, and roof valleys and gutters filled with leaves or needles. Buildings themselves can contribute to fire risk. Flammable roof materials like cedar shingles, open soffits and low, unenclosed decks all increase fire risk. These can all provide areas for firebrands from a wildfire to ignite the building.

More information: [www.dnr.state.mn.us/forestry](http://www.dnr.state.mn.us/forestry)  
8 2000 State of Minnesota, Department of Natural Resources

## Factors That Make A Home Fireprone:

### SUBDIVISION DESIGN

1. **ACCESS** - only 1 access road in and out
2. **PRIMARY ROAD WIDTH** - Less than 20 feet
3. **SECONDARY ROAD**
  - cul-de-sac diameter < 100 feet
  - Dead end road >200 ft long
4. **STREET SIGNS** - Missing, <4" or non reflectorized

### SITE HAZARDS (Within 30 feet of structures)

1. **DRIVEWAY LENGTH** - > 150 Feet with small or no turn around
2. **DRIVEWAY WIDTH** - <12 feet with overhanging branches
3. **DRIVEWAY** - Steep (over 10%)
4. **GATED / LOCKED ROAD**
5. **ADDRESS NOT VISIBLE FROM ROAD**
6. **SURROUNDING TREES**
  - \* **HARDWOODS (LEAFED TREES)**  
20+ Trees within 30 feet of structure – moderate hazard
  - \* **CONIFERS (NEEDED)**  
20+ Trees within 30 feet – extreme hazard
  - \* **MIXEDWOOD**  
20+ Trees within 30 feet – high hazard
7. **LADDER FUELS** - Underbrush and Low Branches Present
8. **TYPE OF GROUND COVER**
  - Grasses greater than 12 inches tall
  - Shrubs with needles
9. **WATER SOURCE** - No hydrant or draft source within 1000 feet

### STRUCTURAL HAZARDS

1. **ROOFING MATERIALS**
  - \* Class C Asphalt shingles/ rolled roofing
  - \* Wood (Cedar shingles)
2. **UNSCREENED SOFFITS or OPEN ATTIC VENTS**
3. **WINDOWS**
  - \* Large, without closing shutters
4. **FOUNDATION** – Open or Enclosed with wood sheeting
5. **EXTERIOR WALL MATERIALS of wood or vinyl**
6. **DECKS AND OVERHANGS**
  - \* Combustible fence attached to structure
  - \* Deck or overhang unenclosed, within 3 feet of ground



Fire hazards of this home include tall grass

**and evergreens within 30 feet of the home.**

# How Builders & Developers can reduce the fire risk of the homes they build

## Developers

If you are developing a forested area, you can greatly reduce the fire hazard of your development by considering the following:

- Access
  - Make sure the development has at least two separate entrance roads so that emergency vehicles can enter the development while people are evacuating.
  - Make sure all roads within the development are at least 30 feet wide with no overhanging trees, no sharp curves and grades under 10 percent so emergency vehicles can easily get to homes.
  - Design all dead end roads with cul-de-sacs of at least a 50 foot radius
- The Trees
  - Work with the local forester (DNR or City) to have a logger remove the trees in the road right of ways & building pads. In conjunction with this tree removal, have the logger thin the remaining trees to improve the health of those trees & reduce the risk of a fire becoming so intense as to burning down homes in the development. A logging job on the land you are developing can actually save you money! A logger will PAY YOU to take the trees, which is much more economical than hiring a contractor to clear and dispose of trees.
  - Clear the building pads so that the tree line is at least 30 feet from the foundation.

## Builders

- Give a copy of this handout to the developer you are working with – spread the word!
- Avoid building homes and outbuildings within 30 feet of the surrounding tree line, especially if those trees are evergreens.
- Avoid building designs with overhangs and low, unenclosed decks where embers from a wildland fire can get under and start the house on fire. Enclose decks with solid, fire-resistant materials (avoid lattice-type skirting & enclosures)
- Enclose soffits and use soffit vents with fine-mesh screens to prevent flying embers from entering the eaves or attic.
- Use fire-resistant building materials – stucco, brick and steel siding are best. If vinyl or wood siding must be used, maximize the height of the block foundation (3 feet or more from the ground is desired). Use steel, tile or class A roofing materials.
- Use non-flammable landscaping materials such as stone retaining walls and succulent foundation plants. Avoid evergreens, especially junipers and arborvitaes, as foundation plants.
- Consider installing residential sprinkler systems in homes built in evergreens.



**This home survived a wildfire because the trees were pruned & thinned and underbrush cleared.**

