

WILDFIRE & YOUR HOME



**A Guide To Fire Safety
in the “Urban Interface”**

**Prepared by
The Black Mountain Fire Department
Fire Prevention and Inspections**





Wildfire and Your Home

Each year we see it more, a house or development built on the remote high ridges and deep in the woodlands around Black Mountain. More and more people are moving to this area in order to live in a natural environment protected from the urban problems they leave behind.

Many of the residents who build these homes are from other states and locations where the dangers surrounding their new homes may not be present. However the greatest threat to these dwellings and inhabitants is an ever present danger called **Wildfire**.

The lack of forethought and adequate planning in these development areas represent grave concern to the fire department and it's personnel. In the past, wildfire occurred in uninhabited areas where fire rakes and bulldozers could handle almost any fire. However, now when a wildfire occurs, it is almost certain to threaten a dwelling, and most often, a very expensive

dwelling. Now what is required to avoid disaster is the mobilization of many agencies including the Black Mountain Fire Department, NC. Forest Service, US. Forest Service, and other Fire Departments in Buncombe County. Although each of these agencies work together in this type of emergency, our combined resources may not be enough to save these homes, because the home itself is not defensible against wildfire. The power of wildfire can be unbelievable, as we have seen in the recent California fires. Should your home be in it's path it may be destroyed along with all other structures and vegetation. Here is how you can help...

Before you build a home or development, study the recommendations made nationwide to protect structures from wildfires. Some of these recommendations may cost more "up front", but imagine the savings should a wildfire happen. They could save your home, your investment, or your *life!*

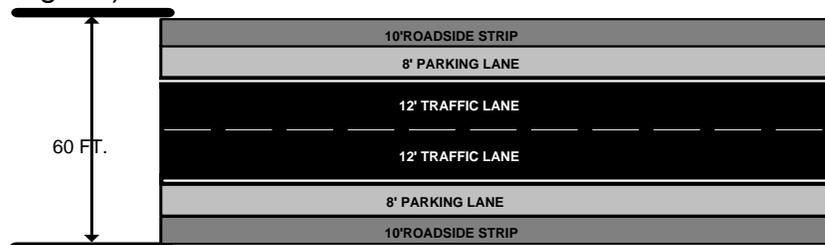


Before You Build

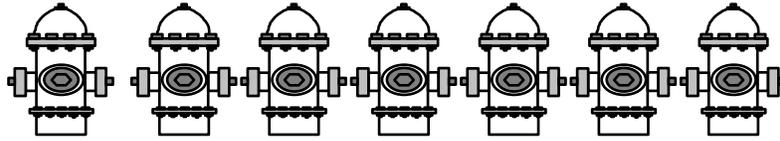
Roadway Access

Insure that the development or area where you intend to build has adequate roadways. These should be wide enough for fire equipment to travel and contain turn around areas used to position vehicles. Dead end roads are often avoided by fire fighters as they may trap a vehicle , crew or residents. Use these tips as guidelines:

1. Each street needs two exits.
2. See that all residents on a street know the plan for escape.
3. Roads should contain a 60 ft. right of way including, two 12' lanes, 8' parking lanes, and two strips cleared of combustibles. (see diagram)



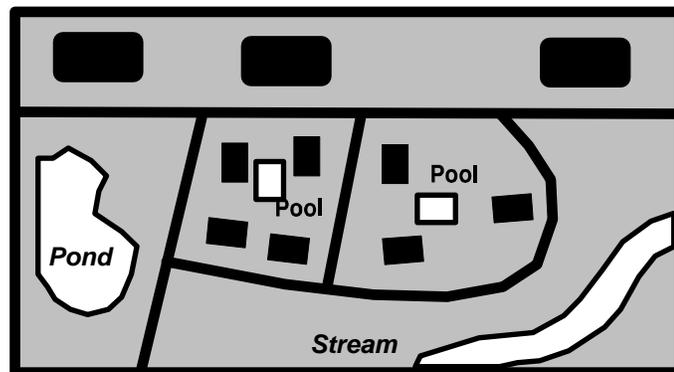
4. Grass on roadside strip should be cut short and maintained.
5. Dead end streets or cul-de-sacs should be 500 feet or less and should provide adequate turning areas for fire apparatus.
6. Grades should be 12 percent or less except where terrain prohibits this, and then only for short distances.
7. Grade changes need to be 10 percent or less over 35 feet of horizontal distance.
8. Centerline radius curvature should be no less than 50 feet. A distance of 100 feet should separate reverse curves on roadways.
9. Roads should intersect at 90 degrees
10. Intersections should have sight lines of 75 feet or greater.
11. All roads should be named and marked with highly visible signs. All buildings should be numbered with visible signs.
12. Bridges should be able to support 26,000 lb.



Water Supply

Fire Departments cannot fight fire without adequate water supplies. Consider these guides for a water distribution system or other water points.

1. Water mains should be a minimum of six inches, inside diameter. For optimum water pressure the mains should form a loop, or complete circuit, with no dead end lines over 300 feet.
2. Hydrant spacing for developments with two or less houses per acre should be 1000 feet, and provide a fire flow of 500 gallons per minute. In developments with greater than two houses per acre hydrants should be spaced no less than each 500 feet, and provide a minimum fire flow of 750 gallons per minute. Hydrants should be approved by the fire department and comply with all county and state regulations.
3. Larger developments with apartment buildings and/or condominiums require a water supply capable of supplying two hours of fire flow based on the size of the buildings. This should be water available beyond the daily requirement for consumer usage.
4. Development plans should provide access to stored and natural water sources for fire department apparatus. The equipment should be able to locate within 20 feet of each stored or natural water supply, such as ponds or swimming pools.
5. A guide to providing adequate fire flow for a structures volume is found by using this formula: $\text{Length} \times \text{Height} \times \text{Width} \div 100 = \text{Gallons per Minute required}$. Each story of a structure should equal 10 feet.



Maps should show location of usable water sources.

For Your Home...

Water Supply

- A. Water supply lines for single family dwellings should be a minimum of one inch and have a minimum of 50 PSI.
- B. Install freeze proof garden hose faucets on the exterior of home.
- C. Water sources may be constructed as tanks or cisterns with 2500 gallon capacity and enough elevation pressure to supply water points. suction may also be used if placed in a proper location as specified by the Fire Department. Dry hydrants should be installed at ponds and other water points along streams and at pools and ponds.

Your Building

Although building codes are required to be met in Black Mountain and Buncombe County, there are additional fire safety measures you should consider when constructing a house. Your architect and builder should consult the Fire Department about recommendations that will make your home architecturally pleasing as well as fire safe.

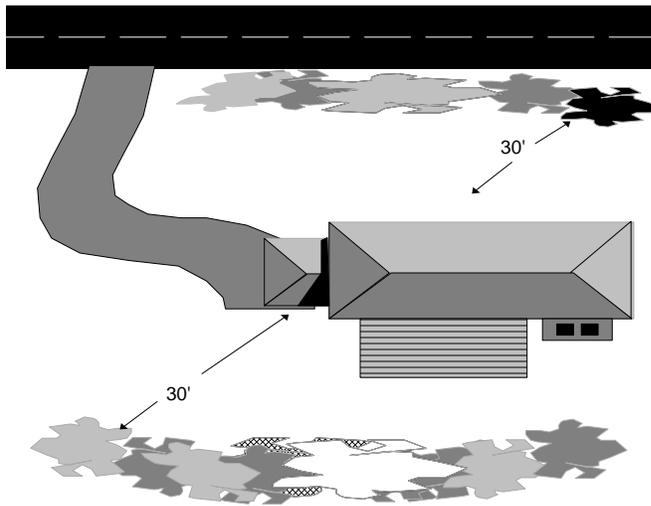
1. Use non combustible roofing materials, tile, slate, fiberglass shingles, sheet iron or aluminum. Avoid wood shingles.
2. Construct all building projections, balconies and decks, from non combustible materials.
3. Use underground power supplies whenever possible.
4. Protect large glass areas from exposure hazards, such as heavy vegetation, with protective shutters or drapes that

reflect heat away from the structure, keeping it from spreading into the interior of the building.

5. Clean or cover places that could trap glowing embers.
 - a. Gutters cleaned of debris.
 - b. Screen vents and attic openings.
 - c. Screen chimney and stovepipe openings.
 - d. Close in overhangs or eaves.
 - e. Close in areas under foundations, decks, and crawl spaces.

6. Do not use automatic foundation vents unless a clear space is maintained around structure.

Protecting Your Home From Spreading Fire



Exposure to fuels found in wooded areas creates the link for fire to spread to your home. These fuels, under the proper weather conditions, can burn with intense heat, spreading fire rapidly.

Keeping the areas around your home cleared of these fuels will greatly reduce the risk of your

structure becoming destroyed by a wildland fire.

1. Maintain a fire break of at least 30 feet around all buildings, allowing wider breaks where slopes are greater than 30%. A fire break may contain plants for ornamentation, however should not allow the spread of fire between them. Some locations will require greater distances based on vegetation and topography. Locations of buildings on lots should be planned to allow adequate fire breaks.
2. Developments need a fuel break around the entire perimeter of the property. These should be a minimum of 100 feet wide, and approved by the Fire Department.
3. Vegetation near any structure should be maintained clear of dying wood and moss.
4. Stove pipes and chimney flues should be at least 15 feet away from combustibles.

Outdoor Fireplaces

1. Screen outlets on built in grills and outdoor fireplaces to reduce ember travel.

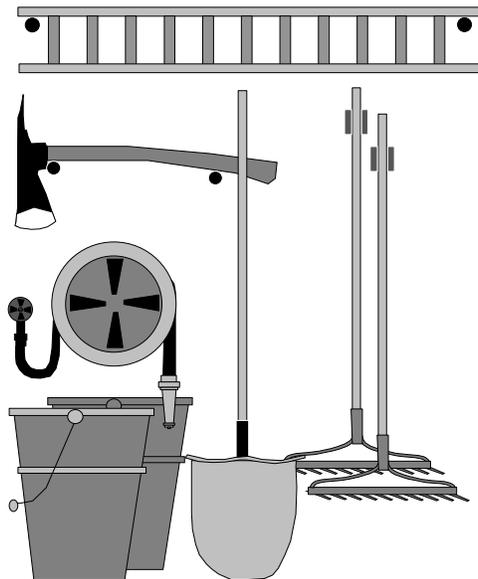
2. Clear flammable debris to 5 feet from any fireplace.
3. Never use gasoline, kerosene, or diesel fuel to "speed up" to kindling or burning of a fire.
4. Dispose of ashes in proper containers and assure that all fire is out cold before leaving the area.

Fireplace Ashes

Buckets of ashes from wood stoves and fireplaces can hold embers for days, even a week. Use these procedures: Dispose of ashes in a metal container. Never use a paper or plastic bag, paper boxes, or a plastic bucket. If you use the ashes on your garden, dig the material into mineral soil. Never leave ashes on top of the ground exposed to wind. Never store ash containers in garages, crawl spaces or on decks. Never leave ashes near a wooded area.

Firefighting Equipment for Your Home

1. Hoses. Keep a minimum of 100 feet of garden hose on hand. Use an adjustable nozzle. Store near a faucet or preconnected to one.
2. Ladder. This should be able to access the highest point of your roof.
3. Hand Tools. Have axes, shovels, and rakes, available and in good condition at all times.
4. Buckets. Have two five gallon buckets filled and ready to use at all times.
5. Have prefitted panels to cover large window areas and direct openings in the roof or foundation.



The Area Approach

1. **CLEAN AREA** (0-3 feet from building). In this area, remove all combustible vegetation, including bark mulch and bushes. Place firewood away from buildings on up slope side. Never keep firewood next to buildings.
2. **LOW SURFACE FUEL AREA** (3-30 feet from building). Mow grass and trim vegetation to 3 inches or less. Some isolated trees are safe if kept away from roof exposures.
3. **HIGH SURFACE FUEL AREA** (30-100 feet from building). Undergrowth and grass may be up to 18 inches in this area. Avoid large areas of connected fuels.
4. **TREE AREA** (100 feet radius of building). Trees and undergrowth should have 10 feet of clear space between the tops of each plant. Remove all dead vegetation and all branches within 10 feet of the ground.

◆ See chart below.

TREE AREA DISTANCES

for thinning and clearing.

(Distance must increase for slope of terrain)

Degree of Slope	Downhill	Uphill	Between Crowns
10	100 Feet	100 Feet	10 Feet
20	200 Feet	150 Feet	20 Feet
30	400 Feet	200 Feet	30 Feet

Note: A four degree slope is equal to a seven percent slope. It is a gentle slope; the maximum highway grade. A 25 degree slope is equal to a 47 percent slope-very difficult walking.

Use this checklist to rate your house for risk from wildfire.

MY LAND IS

	Choose one	Record Points
Flat	1 Point	
Gentle Slope	3 Points	
Steep Slope	5 Points	

VEGETATION WITHIN 30 FEET OF MY HOUSE

	Choose one	Record Points
Grass/Open Area	1 Point	
Mature Oak/Pine	2 Points	
Medium Undergrowth	3 Points	
Heavy Undergrowth	5 Points	

ROOFING MATERIAL

	Choose one	Record Points
Fiberglass, tile, metal, etc.	1 Point	
Composition	3 Points	
Wood	5 Points	
SUBTOTAL		

ADD 1 POINT EACH FOR THE FOLLOWING:

	Choose one	Record Points
Open Deck or Wood Porch	1 Point	
House on stilts	1 Point	
Natural Wood Siding	1 Point	
Combustibles next to house	1 Point	
TOTAL		

If you totaled:

3 Points	Low Risk
4-6 Points	Medium Risk
7-10 Points	High Risk
11+ Points	Extreme Risk

If your home is at risk you need to take action now! Waiting until there is a wildfire is waiting for disaster.

**Nothing in this document is a guarantee
of complete safety from wildfire !**

For information or to schedule an inspection
for your home or development contact:



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Black Mountain NC 28711
828-419-9320

www.bmfire.org
fire@townofblackmountain.org

In case of an EMERGENCY contact 828-669-9117 or 911