



NORTH DAKOTA FOREST SERVICE

FIREWISE PRACTICES STANDARD



IGNITION ZONE:

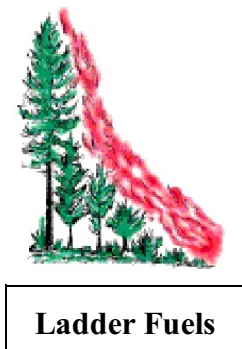
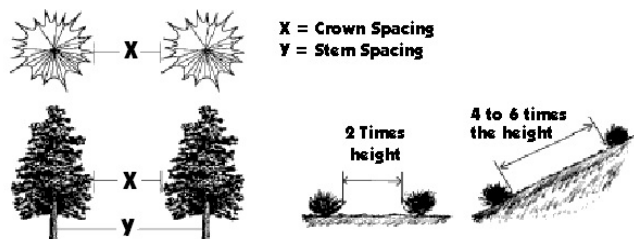
Fire is unpredictable. It can find the weak link in your home’s fire protection scheme and gain the upper hand because of a small, overlooked or seemingly inconsequential factor. Many homes destroyed by wildfire do not ignite by being overrun by huge walls of flames. More typically, fire burns along ground fuels—grass, leaves, debris—to ignite homes with combustible construction, such as wooden siding.

ZONE 1: WITHIN 10 FEET FROM THE HOUSE

This area is the most critical for fire protection. Have nothing flammable next to the house, including tall grass, evergreen trees and volatile shrubs, trees overhanging the house or deck, leaves, brush, a firewood pile, bark, mulch and other flammables. Also, clean gutters, roof and deck of any debris that could catch fire. This zone does not have to be barren. Maintain a cut and green lawn, or use crushed brick or river stone gravel instead of mulch. Use raised beds, large decorative rocks, stone walkways, patios, or other features to create visual interest while maintaining a fuel break for forest fire safety.

ZONE 2: 10-30 FEET FROM THE HOUSE

Maintain a cut and green lawn and avoid evergreens and shrubs that catch fire easily and burn quickly. Occasional trees and shrubs should be at least 10 feet from the house. Space trees with 10-15 feet between tree crowns and prune trees 6-10 feet up from the ground. Avoid creating ladder fuels, vegetation that serves as a link between grass and tree tops.



Ladder Fuels

DEFENSIBLE SPACE:

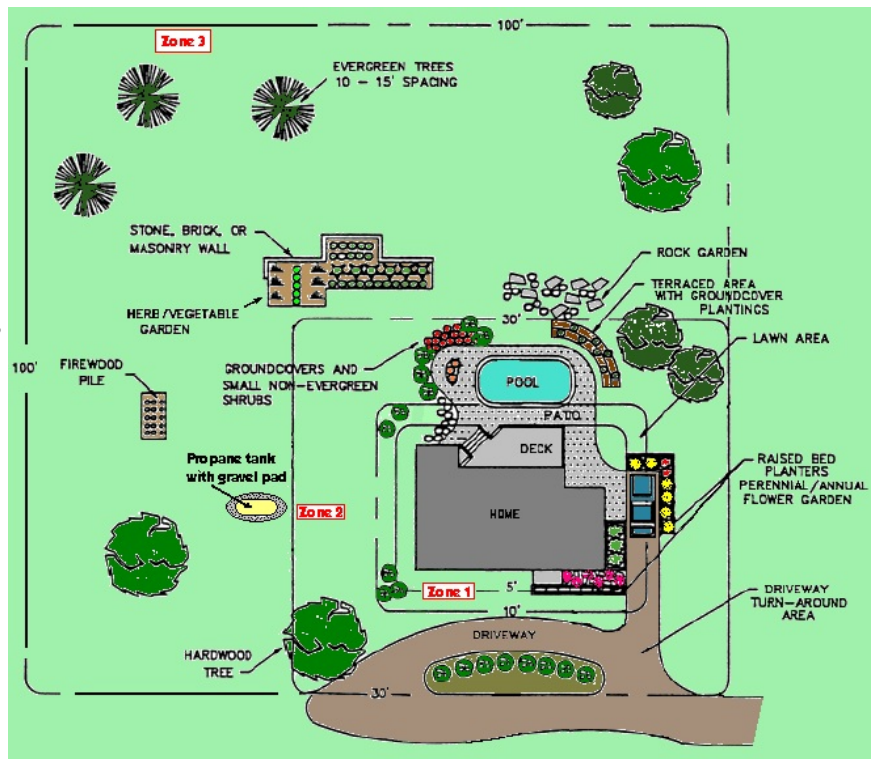
Defensible space is an area around a structure where fuels and vegetation are treated, cleared or reduced to slow the spread of wildfire towards the structure. It also reduces the chance of a structure fire moving from the building to the surrounding forest. Defensible space provides room for firefighters to do their jobs. Your house is more likely to withstand a wildfire if grasses, brush, trees and other common forest fuels are managed to reduce a fire’s intensity.

ZONE 3: 30-100 FEET FROM THE HOUSE

Rake or use a leaf blower to remove leaves and twigs within this zone. Firewood and other combustibles should be stored at least 30 feet from the house. Prune and thin trees so that there are no dense stands or tree tops touching. Shrubs should be well maintained, kept free of dead material and kept small. Control brush and weeds annually. Steep areas can be terraced to slow down wildfires. A stone wall can also act as a fire barrier on very steep slopes.

Grasses

During much of the year, grasses ignite easily and burn rapidly. Tall grass will quickly carry to your house. Mow grasses low in the inner zones of the defensible space. Keep them short closest to the house and gradually increase height outward from the house, to a maximum of 8 inches. This is particularly important during fall, winter and before green-up in early spring, when grasses are dry, dormant and in a “cured” fuel condition. Given North Dakota’s extremely variable weather, wildfires can occur any time of the year. Maintenance of the grassy areas around your home is critical. Mow grasses low around the garage, outbuildings, decks, firewood piles, propane tanks, shrubs, and specimen trees with low-growing branches.



Ground Cover Plants

Replace bare, weedy or unsightly patches near your home with ground covers, rock gardens, vegetable gardens and mulches. Ground cover plants are a good alternative to grass for parts of your defensible space. They break up the monotony of grass and enhance the beauty of your landscape. They provide a variety of textures and color and help reduce soil erosion. Consider ground cover plants for areas where access for mowing or other maintenance is difficult, on steep slopes and on hot, dry exposures.

Ground cover plants are usually low growing. They are succulent or have other FireWise characteristics that make them useful, functional and attractive. When planted in beds surrounded by walkways and paths, in raised beds or as part of a rock garden, they become an effective barrier to fire spread. The ideal groundcover plant is one which will spread, forming a dense mat of roots and foliage that reduces soil erosion and excludes weeds.

Mulch helps control erosion, conserve moisture and reduce weed growth. It can be organic (compost, leaf mold, bark chips, shredded leaves) or it can be inorganic (gravel, rock, decomposing granite).

When using organic mulches, use just enough to reduce weed and grass growth. Avoid thick layers. When exposed to fire, they tend to smolder and are difficult to extinguish. Likewise, while your property might yield an abundance of needles from your native pines or other conifers, don't use them as mulch because they can readily catch and spread wildfire. Rake, gather and dispose of them often within your defensible space.

Wildflowers

Wildflowers bring variety to a landscape and provide color from May until frost. Wildflower beds give a softer, more natural appearance to the otherwise manicured look often resulting from defensible space development. A concern with wildflowers is the tall, dense areas of available fuel they can form, especially in dormancy. To reduce fire hazard, plant wildflowers in widely separated beds within the defensible space. Do not plant them next to structures unless the beds are frequently watered and weeded and vegetation is promptly removed after the first hard frost. Use gravel walkways, rock retaining walls or irrigated grass areas mowed to a low height to isolate wildflower beds from each other and from other fuels.

Shrubs

Shrubs lend color and variety to the landscape and provide cover and food for wildlife. However, shrubs concern fire professionals because, as the next level in the “fuel continuum,” they can add significantly to total fuel loading. Because of the woody material in their stems and branches, they are a potential source of fire brands. When carried in the smoke column ahead of the main fire, fire brands can rapidly spread the fire in a phenomenon known as “spotting.”

But the primary concern with shrubs is that they are a “ladder fuel” – they can carry a relatively easy-to-control surface grass fire into tree crowns. Crown fires are difficult, sometimes impossible, to control.



To reduce the fire-spreading potential of shrubs, plant only widely separated, low-growing, nonresinous varieties close to structures. Do not plant them directly beneath windows or vents or where they might spread under wooden decks. Do not plant shrubs under tree crowns or use them to screen propane tanks, rewood piles or other flammable materials. Plant shrubs individually, as specimens, or in small clumps apart from each other and away from any trees within the defensible space.

Mow grasses low around shrubs. Prune dead stems from shrubs annually. Remove the lower branches and suckers from species such as Gambel oak to raise the canopy away from possible surface fires.

Trees

Due to North Dakota’s harsh climate and temperature extremes tree selection is limited. The best species to plant generally are those already growing on or near the site. Others may be planted with careful selection and common sense. If your site receives enough moisture to grow them, plant deciduous trees such as aspen or cottonwood. These species, even when planted in dense clumps, generally do not burn well, if at all. The greatest problem with these trees is the accumulation of dead leaves in the fall. Remove accumulations close to structures as soon as possible after leaf drop.

Trees provide a large amount of available fuel for a fire and can be a significant source of firebrands if they do burn. Radiant heat from burning trees can ignite nearby shrubs, trees and structures. With this in mind, we suggest the following practices.

When planting evergreens, carefully plan their placement. Do not plant trees near structures. Leave plenty of room between trees to allow for their growth. Spacing within the defensible space should be at least 10 feet between the edges of tree crowns. On steep ground, allow even more space between crowns. Plant smaller trees initially on a 20- to 25-foot spacing to allow for tree growth. At some point, you will have to thin your trees to retain proper spacing.

As the trees grow, prune branches to a height of 10 feet above the ground. Do not over prune the crowns. A good rule of thumb is to remove no more than one-third of the live crown of the tree when pruning. Prune existing trees as well as ones you planted.

Some trees tend to keep a full crown, such as Colorado blue spruce. Other trees grown in the open may also exhibit a full growth habit. Limit the number of trees of this type within the defensible space. Prune others as described above and mow grasses around such specimen trees.

Maintenance

A landscape is a dynamic system that constantly grows and changes. Plants considered fire resistant and that have low fuel volumes can lose these characteristics over time. Your landscape, and the plants in it, must be maintained to retain their FireWise properties.

- Always keep a watchful eye towards reducing the dead material (dry grass, leaves and sticks) that is fuel for a wildfire. Be aware of the growth habits of the plants within your landscape and of the changes that occur throughout the seasons.
- Remove annuals and perennials after they have gone to seed or when the stems become overly dry.
- Rake up leaves and other litter as it builds up through the season.
- Mow or trim grasses to a low height within your defensible space. This is particularly important as grasses cure.
- Remove plant parts damaged by snow, wind, frost or other agents.
- Timely pruning is critical. Pruning not only reduces fuel volumes but also maintains healthier plants by producing more vigorous, succulent growth.
- Landscape maintenance is a critical part of your home's defense system. Even the best defensible space can be compromised through lack of maintenance.

FIREWISE PRACTICES

Many of the following practices may already be implemented by a landowner. Furthermore, they may be a reiteration of practices listed above. We list them here to offer a quick reference. The Firewise Assessment performed by a professional resource manager will determine which practices need immediate attention.

No Cost, Just A Little Time.

- Move your firewood pile out of your home's defensible space.
- Perform a *FIREWISE* assessment of your home.
- Clean your roof and gutters of leaves and pine needles (best done in October).
- Clear the view of your house number so it can be easily seen from the street.
- Put a hose (at least 100' long) on a rack and attach it to an outside faucet.
- Trim all tree branches if they overhang your house.
- Trim all tree branches from within 20' of all chimneys.
- Remove trees along the driveway to make it 12' wide.
- Prune branches overhanging the driveway to have 14' overhead clearance.
- Maintain a green lawn for 30' around your home.
- If new homes are still being built in your area, talk to the developer and local zoning officials about building standards.
- Plan and discuss an escape plan with your family.
- Have a practice drill. Include your pets.
- Get involved with your community's disaster mitigation plans.
- Check your fire extinguishers. Are they still charged?
- Are they easy to get to in an emergency? Does everyone in the family know where they are and how to use them?
- Review your homeowner's insurance policy for adequate coverage. Consult your insurance agent about costs of rebuilding and repairs in your area.
- Talk to your children about not starting fires or playing with matches.
- If you have a burn barrel that you use for burning trash, *STOP !*
- Compost leaves in the fall, don't burn them.
- If you burn your brush piles or grass in the spring, get a burning permit.
- Always have a shovel on hand and hook up the garden hose *BEFORE* you start the fire.
- Never burn if the smoke and flames are blowing towards your home (or your neighbor's home).

- Clear deadwood and dense flammable vegetation from your home's defensible space.
- Remove conifer shrubs from your home's defensible space especially if your home is in a high-risk area.

Be A FIREWISE Advocate

- Talk to your neighbors about wildfire safety.
- Discuss how your neighborhood can work together to prevent a wildfire disaster.

Minimal Cost Actions (*\$10 – \$25 and a little time*)

- Install highly visible house numbers (at least 4" tall) on your home.
- Install big, highly visible house numbers (at least 4" tall) at the entrance of the driveway onto the street. Use non-flammable materials and posts.
- Install metal screens on all attic, foundation, other openings on your home to prevent accumulation of leaves and needles.
- Hold a neighborhood or Township meeting to talk about fire safety.
- Invite your local fire chief. Have coffee and donuts for neighbors.
- Install a fire extinguisher in the kitchen *AND* the garage.
- Install a metal shield between your home and an attached wood fence.
- Replace conifer and evergreen shrubs with low-flammable plants in your home's defensible space.
- Thin and prune conifer trees that are 30' to 100' around your home.
- Purchase and use a *NOAA* weather alert radio. Many types of emergencies are announced through this service.
- Replace vinyl gutters and downspouts with non-flammable, metal gutters and downspouts.
- Install a spark arrester or heavy wire screen with opening less than 1/2" on wood burning fireplaces and chimneys.

Moderate Cost Actions (*\$50 - \$250 and a little more work*)

- Build a gravel turn around area near your house big enough to allow a fire truck to turn around.
- Join your neighbors in having an additional access road into your neighborhood. Share the costs.
- Treat flammable materials like wood roofs, decks, and siding with fire retardant chemicals
- Modify driveway gates to accommodate fire trucks. They should be at least 10' wide and set back at least 30' from the road. If locked, use a key box approved by your local fire department or use or a chain loop with the lock that can be cut in an emergency.
- Enclose decks to prevent accumulation of leaves, needles, and debris. Include a metal screen with a 1/8" mesh opening to prevent sparks from getting under the deck.

High Cost Actions (*more than \$500*)

- Replace your roof with fire-resistant materials such as Class A shingles.
- Install a roof irrigation system to protect your home's roof.
- Install an independent water supply for a sprinkler system with a non-electric (eg. propane) powered pump capable of running unattended for 24 hours.
- Replace wood or vinyl siding with non-flammable material.
- Replace single-pane glass windows and plastic skylights with tempered, double-pane glass.
- Box in eaves, fascias, and soffits with aluminum or steel materials with metal screens to prevent entry of sparks.
- Improve driveway culverts and bridges to accommodate the weight of a fire truck.
- Relocate propane tanks inside the defensible space but at least 30' from the house. Have non-flammable ground cover such as gravel around them for 10'.
- Have electric service lines to your house placed underground.
- Improve your driveway by straightening sharp curves and filling in sharp dips that would hinder a fire truck.