Firebreak Establishment - NRCS Practice Code 338/394 -

Refer to:
http://efotg.sc.egov.usda.gov/references/public/MO/PrescribedBurn_InfoSheet_4_08.pdf

IT IS THE LANDOWNERS RESPONSIBILITY TO GET PREPARED AND CONDUCT A PRESCRIBED BURN!!! When conducting a controlled burn take all the necessary precautions, retain the necessary permits, and inform the necessary agencies including your local fire department. Pay careful attention to wind direction and speed, humidity, firebreaks, and the surrounding landscape. The landowner is responsible for all aspects of a prescribed burn.

Established firebreaks aid in the process of prescribed burning. These areas are maintained to give control of varied units on the property in order to safely conduct a prescribed burn. A good rule of thumb is that your firebreak should be 3X as wide as expected flame height. There are several methods in which firebreaks can be established. These are:

1. Green Firebreak
2. Disked Firebreak
3. Rake/Leaf blower firebreak
4. Wet line firebreak
5. Natural/Man-made Firebreaks (creeks, ponds, roads, ATV trails)

When preparing your property for a prescribed burn, one, two, or a combination of all should be used to ensure a safe and successful prescribed fire. Also take your time when starting a prescribed fire and ensure that your fire lines are holding and a black line is extending into your burn unit before moving to far along. Be considerate of where the smoke will be travelling. You could smoke out a major intersection or habitations if smoke management is not taken into account. Wind can also carry embers across the best fire lines. Be diligent about checking for spot fires outside of the fire lines.

Green firebreak - Green Firebreaks can be established by planting species that green up early in the year. Firebreaks should be at least 30 feet wide consisting of cool season legumes (e.g. clover and/or alfalfa). Firebreak mowing should be done to maintain the firebreaks. DO NOT bail the area (Program Reg.). Mowing Firebreaks can control woody growth, stimulate legume growth, and prevent weed invasions. ***Mow firebreaks in the late Fall before a burn.***

Disked Firebreak – Firebreaks can also be established by disking a 30 foot wide strip around the area to be burned. The bare soil will help mitigate the chance of a fire escaping to an area that is not intended to be burned. Areas with thick vegetative cover may need to be disked several times to get bare soil showing. If a large amount of thatch is still present that could burn across the break, disk the area again. Make sure there are no fuel connections across the firebreak.

Rake/Leaf Blower Firebreak – Fire lines can also be established by removing all thatch, leaves, vegetation, and all branches on top of the ground to expose bare soil. This can be done in areas where the ground cover is sparse or easy to remove (i.e. leaf litter, ag residue). With these lines, you will start a backfire in order to get a black line established. Make sure the black line is at least 30 foot wide before setting flank/head fires.

Wet line Firebreak – A wet line firebreak is established by wetting down the ground and vegetation on the edge of the prescribed burning unit. This can be done when water is readily available for the burn crews. You do not want to run yourself short on water and then need it later.

Natural/Man-Made Firebreaks - Good fire lines can also be along barriers such as ATV trails, roads, creeks, ponds, and agricultural field (little crop residue on top). These areas are generally maintained but any debris or thatch that crosses these areas must be removed to prevent a fire from crossing them.

Green Line

Note: Dead thatch under green firebreaks may still be able to carry a flame. Maintaining breaks and using several practices in conjunction will help prevent accidents.

Rake/Leaf Blower Line

Disked Line

Wet Line

Field Road Burn Break (bottom of photo)

Prescribed Burning (Practice Code 338) - Dates – Oct 1-April 30 annually
Burning will be one of the most efficient and useful management tools for wildlife management and invasive species control. Used properly, fire is a safe and economical tool, but careless burning can threaten life and property. Removes vegetation debris (duff) increasing bare ground, controls woody plant invasion, promotes growth of grasses/forbs that produce wildlife food, and stimulates mast and legume growth important for birds and other wildlife.

Prescribed Burning to Benefit Wildlife – From Missouri NRCS (IS-MO338)
http://efotg.sc.egov.usda.gov/references/public/MO/PrescribedBurn_InfoSheet_4_08.pdf

One of the primary uses of prescribed fire is to manipulate or manage vegetation for the benefit of wildlife species. The timing of the burn depends on the wildlife management objectives for the specific species. Some things to consider are:

1. Burns should be managed with consideration for wildlife needs, such as nesting and feeding cover. There should always be habitat available. Burn 1/3 or ½ of the area.
2. Fall and winter burns generally favor the forb component in mixed stands, and help improve plant structure and habitat diversity.
3. Burning in spring and fall of the same year greatly reduces stands of cool season grasses, including tall fescue.
4. Fall burns are generally best for forest habitats to reduce undesirable species.

Grassland: Late spring fires promote warm season grasses as well as inhibit woody encroachment (March to April). Dormant (Oct, Feb-March) fires promote forbs (flowers), so this type of fire may be better occasionally to promote the forbs in the stand. If prescribed fire is unable to be conducted, a conservation mowing management activity may be acceptable over short durations (i.e. drought, wet during burning season). Stands need to be burned periodically to rejuvenate the stand and inhibit woody plant invasions.

Start back fire first to establish good fire lines

Do not burn tree plantings – Protect them from fire

Established Forest: Established forest stands also can benefit from occasional burning to remove invasive and unwanted species from the stand. In Illinois, dominated by oak-hickory forest type, fire is key in opening up light pockets for oaks to grow. Fire also inhibits many invasive plants (bush honeysuckle) and other undesirable species in the uplands (maples). Fire can be useful in controlling your woodland from being overcome with brush. Prescribed burning in the timber usually takes a lot longer than grass burning that most people with fire experience have conducted.

For best forest management, burning can take place bi-annually for several years to control invasive species. After invasive/undesirable species have been controlled and the next generation of oak saplings has started to sprout in the understory, fire needs to be excluded for several years for the trees to establish. Protect tree plantings from prescribed burning as well.

Conducting a prescribed burn: In order to ignite a prescribed burn, 1st have your firebreaks prepared surrounding the entire area that is going to be burned. Be aware of where all people are at all times and be in constant communication. Prescribed burns generally start on the downwind side in order to create a safe firebreak. Some of the most effective burns for controlling woody species are these slow backing burns that put more heat on woody stems for a longer time. Be aware of topography, relative

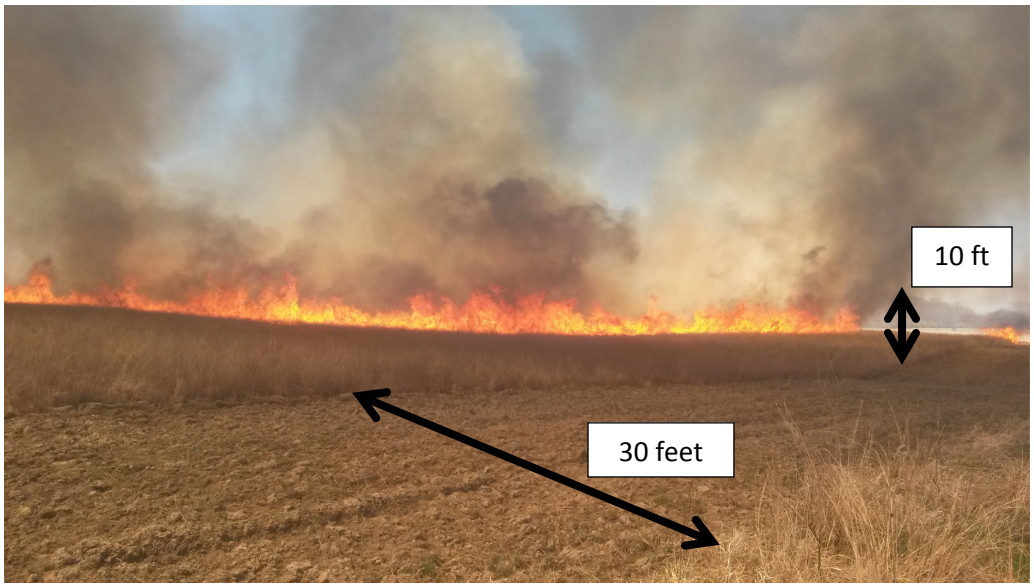
humidity, wind speed, amount of fuel (leaf litter, dead grass, downed trees etc.) and other things that could change the behavior of fire.

An example of this is a hill will act like a chimney during a prescribed burn, with heat rising and heating the vegetation above it quickly and rapidly moving up a hill. If you start at the top of the hill and burn downhill, the fire is much slower and more controlled because the heat cannot build up as well going downhill.

On the downwind side, you will ignite the fire along the firebreaks. You will allow the fire to continue to burn into the stand but will make sure it is extinguished along the firebreak side so that it will not cross the firebreak. After letting this burn for a while and making sure the backline is extinguished, you can continue to move on the downwind side of the unit. Continue until the entire side of the unit has a black line across it before you start a head fire (with the wind).

When the back line has sufficiently burned a large area, you can proceed to starting flank (side) fires moving into the wind. Take your time and ensure that the firebreaks are still secure and that no spot fires have started across the lines. Continue to light flanking fires all the way the other end of the unit. After the backline and flank lines have been well established, a head fire can be lit. This should only be done if adequate lines have been established around the unit.

Adequate burn breaks are crucial in preventing fire escapes



Mop Up: After the unit has been burned entirely, you will need to ensure that all things that are still smoldering or on fire will not start additional fires when you are finished. This can be completed by making sure that all smoking areas are extinguished before leaving. Snags and other debris that is off the ground and either smoldering or still on fire needs to be brought to the ground to prevent sparks from being sent airborne. This can happen hours after a burn say when the winds pick up stoking the

fire inside the hollow tree (like a chimney) and sending embers flying through the air out of the top. Be sure that all things still smoldering are extinguished or at least on the ground surrounded by a large blacked out area from the burn.