

NATURAL RESOURCES CONSERVATION SERVICE CONSERVATION PRACTICE STANDARD

FIREBREAK

(Feet)

CODE 394

DEFINITION

A strip of bare land or vegetation that retards fire.

PURPOSES

- To prevent spread of wildfire.
- To control prescribed burns.

CONDITIONS WHERE PRACTICE APPLIES

All land uses where protection from wildfire is needed or prescribed burning is applied.

CRITERIA

Firebreaks may be temporary or permanent and shall consist of fire-resistant vegetation, non-flammable materials, bare ground, or a combination of these.

Firebreaks will be of sufficient width and length to contain the fire.

Firebreaks shall be located to minimize risk to the resources being protected including minimizing soil erosion.

Plant species selected for vegetated firebreaks will be based on their attribute in retarding fire, will be non-invasive, and easy to maintain.

The width of the firebreak includes the natural, burned, and constructed portions. Each of these types of firebreaks can be used in combination.

Erosion control measures shall prevent sediment from leaving the site.

Comply with applicable federal, state, and local laws and regulations, during the installation, operation, and maintenance of this practice.

Location

Constructed, burned and vegetated firebreaks should be located:

- Parallel to public roads, railroads, and adjacent to field boundaries.
- Along property boundaries and, where determined necessary, within fields. Farm or ranch roads may serve as firebreaks.
- Where possible, the firebreaks should be connected to natural barriers, such as cultivated fields, streams, rock bluffs, roads, etc.
- To protect farmstead or other structures vulnerable to wildfire, locate firebreak around perimeter.

TYPES OF FIREBREAKS

Natural firebreaks.

Existing terrain features can serve as a firebreak. Small roads, trails, and similar features may be used for installing low-intensity backfires done when relative humidities are above 40%, air temperatures are below 60 degrees and wind speeds are not above 6 mph, provided adequate personnel and equipment are available for spot suppression.

Any terrain feature such as cropland, rivers, roads, or other areas devoid of fuels can serve as a firebreak for headfires when least 100 feet wide. For volatile fuels having the potential for down-range spotting, a 300 - 500 feet minimum shall be used for firebreaks. Refer to Prescribed Burning (338) for specific design width.

Constructed Firebreaks.

Construct the firebreak before the fire hazard season. The firebreak should be constructed so that it may be traversed by fire suppression vehicles.

The vegetation and other flammable material will be removed or covered with soil by use of appropriate machinery on a strip of land adequate to contain the backfire. Heavy equipment such as a bulldozer or maintainer may be required to remove thick brush, large trees or other obstructions or on areas of rocky terrain, creek crossings and steep slopes. Trees shall either be stacked outside the burned area or burned prior to the prescribed burn during a time when the surrounding fuel is too green to burn, covered with snow, or is too wet to burn.

If the constructed firebreak is the only planned means of fire protection, then the width shall be at least 10 times wider than the height of the fuel load to be burned or a minimum of 100 feet.

Slopes 10% and greater will have water bars constructed. (See Forestry Extension Report #5, Best Management Practices for Forest Road Construction and Harvesting Operations in Oklahoma.)

Maintenance Rework firebreaks at least once annually, just before the fire danger season, or prior to implementing a prescribed burn. During an extended summer drought, the firebreak should be worked as needed to maintain fire protection.

Burned Firebreaks.

Burned firebreaks can be installed using wet-lines as long as adequate personnel, equipment, and water supplies are available to safely conduct the procedure. The width of a burned firebreak should be 10 times wider than the effective height of the fuel being burned and at least 100 feet wide.

Burned firebreaks can also be installed by constructing two parallel strips to mineral soil around the area to be burned (Refer to Job Sheet JS 394 01). The two parallel strips should be approximately 100 feet apart on grasslands and up to 500 feet apart when volatile fuels are to be burned. Remove large flammable material, such as logs, limbs,

standing cedar, or discarded fence posts from the area between the strips. Burn the area between the strips to complete the firebreak.

If located in the Oklahoma Forestry Division protection area, refer to Prescribed Burning standard (338), and notify the Division prior to burning and obtain permission to burn.

On forestland, burn the area between the strips using guidance found in the Prescribed Burning standard (338), or with assistance from the Oklahoma Forestry Division, where available.

On nonforestland burn, use guidance found in the Prescribed Burning standard (338).

Maintenance Burn the strip as often as necessary to eliminate flammable material.

Vegetated Firebreaks.

Construction Prepare a seedbed 10 to 100 feet wide depending upon need. Use the maximum width if the vegetated firebreak is the only means of fire protection.

Seed and fertilize the prepared area to vetch, forage sorghum, rye grass, or small grain at rates consistent with Pasture and Hayland Planting standard (512) and/or Cover Crop standard (340). ^{1/} Annual crops are preferred for firebreaks as perennial grasses contain litter and carryover plant material that will be flammable.

Firebreaks planted with alternating strips of cool-season crops and warm-season crops offer year-round protection.

Vegetated firebreaks can also be used in combination with burned firebreaks.

Maintenance Fertilize at maintenance rates, refer to Nutrient Management standard (590). Reestablish as necessary.

Disk or till down standing residue as needed for protection following seed maturity.

Allow seedlings to develop an adequate root system prior to grazing.

^{1/} *Seed only where locally adapted.*

Access Road as a Firebreak.

Location New roads should be located to best serve protection needs, as well as adequate access to the area. Ridge tops are excellent locations for access roads and make good firebreaks, refer standards to Forest Harvest Trails and Landings (655) and Access Road (560).

Maintenance Remove flammable materials, such as fallen trees, from the roadway at least annually, just prior to the fire danger season.

Erosion control measures shall prevent sediment from leaving the site.

Comply with applicable laws and regulations.

CONSIDERATIONS

Use existing barriers such as streams, lakes, ponds, rock cliffs, roads, drainage canals, railroads, utility right-of-way, and cultivated land as natural firebreaks.

Locate firebreaks on the contour where possible to minimize risk of soil erosion.

Attempt to locate firebreaks near ridge crests and valley bottoms. If winds are predictable, firebreaks should be located perpendicular to the wind and on the windward side of the area to be protected.

Select plant species that provide wildlife habitat if compatible with purpose.

PLANS AND SPECIFICATIONS

Specifications for applying this practice shall be prepared for each site and recorded using approved specification sheets, job sheets, narrative statements in the conservation plan, or

other acceptable documentation. Record location, type, dimensions, equipment requirements, and maintenance of the firebreak.

OPERATION AND MAINTENANCE

Mow or graze vegetative firebreaks to avoid a build-up of dead litter, and to control weeds. Do not allow annual vegetated firebreaks to volunteer so as to prevent spread of plant diseases and insects.

Inspect for and remove woody materials such as dead limbs and blown down trees from firebreak.

Inspect annually and rework bare ground firebreaks as necessary to keep them void of flammable vegetation.

Inspect annually and rework erosion control measure as necessary to ensure proper function.

Access by vehicles or people will be controlled to prevent damage to the firebreak.

Bare ground firebreaks which are no longer needed will be stabilized.

REFERENCES

OSU Extension Facts No. 5019, "Need to Burn Debris? Burn Within the Law".

OSU Extension Circular No. 927, "Using Prescribed Fire in Oklahoma".

OSU Extension Video Tape No. 108, "Wildfire Strikes Home".

A Guide for Prescribed Fire in Southern Forests. USDA Forest Service, Southern Region. Technical Publication R8-TP 11, February 1989.