

NATURAL RESOURCES CONSERVATION SERVICE
 CONSERVATION PRACTICE STANDARD
 SOUTH DAKOTA SUPPLEMENTS ITALICIZED

FIREBREAK

(ft.)

CODE 394

DEFINITION

A strip of bare land or vegetation that retards fire.

PURPOSE

To protect soil, water, air, plant, animal, and human resources by preventing spread of wildfire or to control prescribed burns.

CONDITIONS WHERE PRACTICE APPLIES

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

CRITERIA

Firebreaks will be vegetative, nonvegetative, or burned.

Vegetative Firebreaks

Vegetative firebreaks are prepared in the following ways:

Shallow cultivation or mowing, shredding or clipping of vegetation.

Application of a herbicide treatment designed to limit growth but not necessarily kill existing vegetation.

Intensively grazing strips of vegetation.

Establishment of low growing short grasses adjacent to the area to be protected.

Species recommended for establishing permanent vegetative firebreaks are:

Species	Full Seeding Rate pls/lb/ac
<i>Hard fescue</i>	4
<i>Kentucky bluegrass</i>	.6
<i>Blue grama</i>	2

Please refer to the Pasture and Hayland Planting practice standard (512) for additional information on seeding.

Vegetative firebreaks will range in width from 20 to 50 feet in width.

Nonvegetative Firebreaks

Nonvegetative firebreaks will consist of exposed mineral soil and their entire width will be denuded of vegetation.

Nonvegetative firebreaks should be developed on the contour or on short gentle slopes (less than six percent) that will keep water erosion at or below tolerable levels. Turnouts or water bars will be established where firebreaks are oriented up and down slopes. Water bars will be spaced according to the steepness of the slope and soil texture as follows:

Spacing between water bars (ft.)

Soil Texture	C Slope (6-9%)	D Slope (9-15%)	E Slope (>15%)
<i>Sand</i>	250	150	100
<i>Sandy Loam</i>	350	225	150
<i>Loam</i>	425	250	200
<i>Clay Loam</i>	475	300	225

Nonvegetative firebreaks will range in width from 5 to 30 feet. Expose soil for a minimum width that is at least five times the height of the uncut vegetation.

Burned Firebreaks

Burned firebreaks will be prepared (burned) prior to the critical period for which protection is needed. Please refer to the Prescribed Burning practice standard (338) for recommendations on performing the burn.

Burned firebreaks will be a minimum of 100 feet wide for tall and mixed grass prairie and 200 feet when significant woody highly volatile fuels such as juniper occur. A minimum of five feet of exposed mineral soil or some other fire barrier such as a road or closely mowed area should be established

on each side of the burned firebreak. These strips should be approximately parallel to each other.

Additional criteria for protecting developed sites and high hazard areas.

Vegetative firebreaks will be 100 to 150 feet wide. Wider barriers are especially important when the structures to be protected are downwind from the prevailing wind direction or adjacent to areas with high fuel loads such as land enrolled in long-term retirement programs.

Nonvegetative firebreaks will be 50 feet wide in high hazard areas.

Vegetative and nonvegetative firebreaks may be combined using the following guidelines:

Two bare ground strips with a mowed or burned area in between.

A single bare ground strip located adjacent to the area being protected with a mowed area bordering the remainder of the field.

The width of the bare ground strip(s) will be a minimum of 50 feet. The minimum width of the mowed or burned strip will be 100 feet.

Additional criteria for protecting windbreaks:

Only nonvegetative firebreaks will be used to protect windbreaks.

The minimum width will be 10 feet.

CONSIDERATIONS

Vegetative firebreaks are most effective in areas of higher rainfall or lighter fuel conditions. They are not as effective during drought conditions when the vegetation is dry and fire danger is high.

Firebreaks provide a certain level of protection, however it must be recognized that under some conditions it cannot be assumed a firebreak of any dimension will halt the advance of a fire.

Firebreak need is dependent on the value of the resource being protected. When determining the feasibility and extent of firebreaks, the cost of installation should be weighed against the potential loss of the resource.

Non vegetative firebreaks are preferred for the protection of windbreaks and forestland. A wider firebreak should be encouraged for these land uses.

In high-risk situations, a combination of vegetative and nonvegetative firebreaks is recommended.

Use aerial photographs, topographic and soil survey maps, climatic and other resource data to assist in determining firebreak location and design.

Ask state and local fire control officials to assist in determining firebreak location and design.

Plan firebreaks to minimize soil erosion.

Incorporate firebreaks into access roads where applicable.

Consider measures that will reduce fire hazard around farmsteads and other high value properties. These include: clipping tall vegetation, setting up a sprinkler system adjacent to buildings which can be turned on in the event of fire, or to keep surrounding vegetation green and growing throughout the year.

Approval may be required for establishing and maintaining firebreaks on lands enrolled in various government programs. Rules regarding the removal of vegetation may influence firebreak design.

Evaluate physiography, topography, field and facility locations, land use, prevailing wind direction, fuel type and amount, and soil factors when determining firebreak location.

Connect firebreaks with natural or artificial barriers such as water bodies, clean tilled cropland, roads, gravel pits, etc.

Control noxious weeds when required.

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.

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.

OPERATION AND MAINTENANCE

Limit access by vehicles to prevent damage to the firebreak.

Re-vegetate plowed, cultivated, or chemically treated firebreaks, which are no longer needed.

Repair any serious erosion problems, which may occur and repair water bars if installed.

Keep firebreaks clean of fallen trees, accumulation of weed residue, regrowth of herbaceous vegetation, or other flammable material.

Maintain nonvegetative firebreaks by blading, plowing, cultivating, or by other means as necessary to kill all vegetation and expose mineral soil. This may require at least two annual treatments.

Maintain vegetative firebreaks by one or more of the following:

Shallow cultivation once or twice during the late fall or early spring, depending on the density of the vegetation, with equipment adjusted for the minimum offset to leave adequate residue for soil protection.

Mowing, shredding, or clipping of the vegetation. Removal of the residue will improve effectiveness. This will normally be done before the vegetation matures so that a short green strip of vegetation is maintained.

An early postemergence herbicide treatment can be applied to inhibit plant production and vigor but not kill vegetation. Please consult your local County Extension agent for all herbicide recommendations.

Intensively graze strips of vegetation adjacent to the areas to be protected. Stubble height should be two to three inches following grazing.