

NATURAL RESOURCES CONSERVATION SERVICE
CONSERVATION PRACTICE STANDARD

WINDBREAK/SHELTERBELT RENOVATION (FEET)

CODE 650

DEFINITION

Replacing, releasing, and/or removing selected trees and shrubs or rows within an existing windbreak or shelterbelt, adding rows to the windbreak or shelterbelt or removing selected tree and shrub branches.

PURPOSE

Restoring or enhancing the original planned function of existing windbreaks or shelterbelts.

CONDITIONS WHERE PRACTICE APPLIES

In any windbreak or shelterbelt that is no longer functioning properly for the intended purpose.

This may occur due to using short-lived species, competing vegetation, overcrowding, insect and disease, livestock damage, herbicide damage, and/or drought.

CRITERIA

Evaluate the windbreak/shelterbelt to determine why it is not functioning as intended.

The following criteria will be used individually or in combination to restore or enhance the performance of a partially functioning or non-functioning windbreak or shelterbelt:

- To reduce plant competition or alter the density of the planting, individual trees or shrubs will be identified for thinning.
- To remove diseased **and damaged** branches or alter the density of the planting, the trees or shrubs will be pruned or sheared.

- To release adjacent rows of trees or shrubs, entire or partial rows of trees or shrubs will be identified and removed.
- To improve density and/or vigor of identified rows of trees or shrubs in decline, trees or shrubs with coppicing capability will be cut close to the ground to allow sprouting.
- To improve the growth and vigor of trees and shrubs, competing herbaceous vegetation will be mechanically or chemically controlled.
- To improve windbreak or shelterbelt density, additional rows of trees or shrubs will be added adjacent to or within an existing windbreak or shelterbelt. Existing growing space, shade level and root competition will be evaluated and determined to be at acceptable levels to permit unimpeded growth to new plantings. (Note: Extending the length of an existing windbreak is handled under **Field Office Technical Guide (FOTG), Section IV–Practice Standards and Specifications, 380–Windbreak/Shelterbelt Establishment**).

Residual plants will be protected during the renovation.

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

Renovation may include a combination of actions to restore or create the proper spacing, density or structure in a windbreak/shelterbelt.

Burning of vegetation removed during renovation shall follow the criteria and considerations listed in the **FOTG, Section IV–Practice Standards and Specifications, 338–Prescribed Burning**.

**NRCS, MT
March 2004**

Conservation practice standards are reviewed periodically and updated if needed. To obtain the current version of this standard contact the Natural Resources Conservation Service.

NOTE: This type of font (**AaBbCcDdEe 123..**) indicates NRCS National Standards.
This type of font (**AaBbCcDdEe 123..**) indicates Montana Supplement.

CONSIDERATIONS

Renovation may be accomplished over a period of years.

Consider allowing enough space for plants to grow and for cultivation equipment.

Debris should be removed from the site and disposed properly if the debris will cause insect, disease, fire, or operability problems.

Elm trees should be burned or debarked to prevent creating habitat for the insect that spreads Dutch Elm Disease.

Consider the use of mechanical chipper/mulchers for effective disposal of branches/limbs and creating a usable mulch product.

Consider the current condition of the plants and their ability to respond to improved growing conditions. Some short-lived species are generally not worth renovation depending on their age and condition. (i.e., Siberian elm, sand and nanking cherry.)

Debris and other vegetation removed during renovation may be used to produce energy. Management alternatives should consider the amount of energy required to produce and convert the biomass into energy with the amount produced by the biomass.

Sufficient herbaceous vegetation must be left in the windbreak or shelterbelt following thinning to prevent wind erosion and other natural resource concerns.

Consider shade tolerance when selecting species for replanting within or adjacent to an existing windbreak or shelterbelt.

Consider the longevity and desirability of the species involved.

Wildlife needs should be considered when selecting tree or shrub species. Species diversity, including use of native species, should be considered. **Consider leaving some snags, down logs, and brush piles for wildlife.**

Avoid plants that may be alternate hosts to undesirable pests.

PLANS AND SPECIFICATIONS

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

As a minimum, the Windbreak/Shelterbelt Renovation practice will have the following components in its plan and specifications:

- **A narrative that describes the producer's goals and objectives. Identify why the practice is needed and feasible.**
- **An environmental assessment of the planned practice that includes the potential impacts on soil, water, animals, plants, air and humans.**
- **An alternatives narrative that identifies and describes several methods that could be used to address the resource issue. Also identifying the producer selected method.**
- **The Montana Windbreak/Shelterbelt Renovation practice job sheet and specification.**
- **Plan map and soil map of site with location of practice on the map.**
- **Operations and maintenance instructions.**

OPERATION AND MAINTENANCE

Windbreak/shelterbelt renovation is part of windbreak/shelterbelt maintenance program.

The following actions shall be carried out to insure that this practice functions as intended throughout its expected life. These actions include normal repetitive activities in the application and use of the practice (operation), and repair and upkeep of the practice (maintenance):

- Replacement of dead trees or shrubs in new plantings or rows will be continued until the barrier's function is restored.
- Competitive vegetation will be controlled when it inhibits the renewed growth and vigor of the windbreak or shelterbelt. **It shall be controlled for the life of the practice.**

- Supplemental water will be provided as needed.
- The trees and shrubs will be inspected periodically and protected from adverse impacts including insects, diseases or competing vegetation. The trees or shrubs will also be protected from fire and damage from livestock or wildlife.
- Additional thinning, pruning, or coppice management may be needed in the future to maintain function.
- Periodic applications of nutrients may be needed to maintain plant vigor.

Livestock and destructive wildlife populations shall be controlled or excluded as necessary to achieve and maintain the intended purpose. Refer to FOTG, Section IV–Practice Standards and Specifications, 382–Fencing for guidance.