NATURAL RESOURCES CONSERVATION SERVICE

CONSERVATION PRACTICE STANDARD

WINDBREAK/SHELTERBELT RENOVATION

(Ft.)

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. Extending the length of an existing windbreak is handled under Conservation Practice 380, Windbreak/Shelterbelt Establishment. For normal and periodic pruning, refer to Conservation Practice 660, Tree/Shrub Pruning.

CRITERIA

Thin trees or shrubs to reduce plant competition or alter the density of the planting.

Prune or shear the trees or shrubs to remove diseased branches or alter the density of the planting.

Remove entire or partial rows of trees or shrubs to release adjacent rows.

Trees or shrubs with coppicing capability shall be cut close to the ground to improve density and/or vigor of trees or shrubs in decline

Competing herbaceous vegetation will be mechanically or chemically controlled to improve the growth and vigor of trees and shrubs.

Add rows of trees or shrubs adjacent to or within an existing windbreak or shelterbelt to improve windbreak or shelterbelt density.

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.

Residual plants will be protected during the renovation.

Comply with applicable laws and regulations.

CONSIDERATIONS

Renovation may be accomplished over a period of years.

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

Vegetation removed during renovation can be burned as specified in Conservation Practice 338, Prescribed Burning.

Debris and other vegetation removed during renovation may be used to produce energy. Consider the energy balance of this action.

Erosion control may be needed during the renovation process.

Wildlife and pollinator needs should be considered when selecting tree or shrub species to add or remove.

Species diversity, including use of native species, should be considered.

Increasing species diversity could reduce impact from existing and new diseases and pests.

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

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Consider cultural resources when planning this practice. This practice may adversely affect cultural resources and should comply with General Manual Title 420, Part 401, during planning, prior to installation, and during maintenance.

Refer to Conservation Practice 612, Tree/Shrub Establishment, for further guidance on planting trees and shrubs.

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.

OPERATION AND MAINTENANCE

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):

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.

Supplemental water will be provided as needed.

Trees and shrubs will be inspected periodically and protected from adverse impacts including insects, diseases, or competing vegetation. Trees and shrubs will also be protected from fire and damage from livestock or wildlife.

Noxious plants will be controlled in accordance with state law.

REFERENCES

Bentrup, G. 2008. Conservation Buffers: Design Guidelines for Buffers, Corridors, and Greenways. Gen. Tech. Rep. SRS-109. Asheville, NC: Department of Agriculture, Forest Service, Southern Research Station.

Bradle, J.R. et al. 1988 Windbreak Technolgy. Agriculture Ecosystems and Environment Vol. 22-23. Elsevier Publisher.

Strange, C., et al. 1998. Windbreak Renovation. University of Nebraska Cooperative extension EC 98-1777-X.