Windbreak/Shelterbelt Establishment

Maine Conservation Practice Job Sheet 380

Definition

Windbreaks or shelterbelts are single or multiple rows of trees or shrubs in linear configurations.

Purpose

Windbreaks or shelterbelts are generally established to protect or shelter nearby, leeward areas from troublesome winds. Such plantings are used to reduce wind erosion, protect growing plants (crops and forage), alter the microenvironment to enhance plant growth, manage snow, improve irrigation efficiency, and delineate field boundaries. Windbreaks also protect structures and livestock, provide wildlife habitat and travel corridors, enhance aesthetics, increase carbon storage, and reduce energy use. Also, when used as a living screen, windbreaks control views, reduce noise, and intercept chemical drift.

Where used

Windbreaks are “environmental buffers” that are planted in a variety of settings, such as on cropland, pasture, along roads, adjacent to farmsteads, feedlots, or waste storage facilities, and in urban areas.

Resource management system

Windbreaks and shelterbelts are normally established concurrently with other practices as part of a resource management system for a conservation management unit. For example, conservation crop rotation, residue management, and windbreaks can act together to control wind erosion year-round.

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):

- Replacement of dead trees or shrubs will be continued until the barrier is functional.
- Supplemental water will be provided as needed.
- Thin or prune the barrier to maintain its function.
- Inspect trees and shrubs periodically and protect from adverse impacts including insects, diseases or competing vegetation. The trees or shrubs will also be protected from fire and damage from livestock and wildlife.
- Periodic applications of nutrients may be needed to maintain plant vigor.

Wildlife

For plantings to function properly, access by livestock and certain wildlife must be managed year-round (use exclusion and fencing). Connecting shelterbelts with existing or planned perennial vegetation, such as woodlots and woody draws (tree/shrub establishment) or riparian areas (riparian forest buffer), provides additional benefits for wildlife and aesthetics. Select native or adapted species that provide wildlife food or cover.

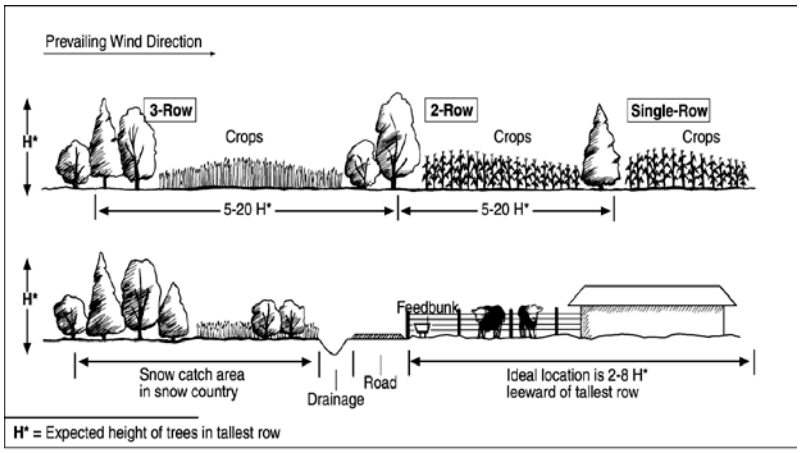
Specifications

Site-specific requirements are listed on the specifications sheet. Additional provisions are entered on the job sketch sheet. Specifications are prepared in accordance with the ME NRCS Field Office Technical Guide. See practice standard and Specification Guide Sheet Windbreak/Shelterbelt Establishment - code 380.

Conservation practice standards are reviewed periodically and updated if needed. To obtain the current version of this standard, contact your Natural Resources Conservation Service. Contact Gerald Barnes, Forester at 207-990-9580 or email gerald.barnes@me.usda.gov

Windbreak/Shelterbelt Establishment – Job Sheet

For:	*County:* *Farm #:*	*Town:* *Tract #:*
Field(s):	*Designed By:*	*Approved By:*
Contract Item number (if applicable):	*Program:*	
Scheduled Date:	*Completed Date:*	



A windbreak or shelterbelt usually consists of multiple rows, with shrubs in the outer rows and taller trees in the interior. Complementary practices work with these environmental buffers to further control wind erosion and snow deposition and modify site characteristics for habitat and screening purposes. For comprehensive protection of a field, windbreaks are placed in a series across the area (typically spaced at intervals of 5 to 20 times the height of each windbreak), with individual windbreaks running parallel to one another, but perpendicular to prevailing winds.

Purpose for Planned Windbreak/Shelterbelt (check all that apply):	
☐ Reduce soil erosion from wind	☐ Provide living noise screens
☐ Protect plants from wind-related damage	☐ Provide living visual screens
☐ Alter microenvironment for enhancing plant growth	☐ Improve air quality by reducing and intercepting air borne particulate matter, chemicals and odors
☐ Reduce energy use	
☐ Manage snow deposition	☐ Delineate property and field boundaries
☐ Provide shelter for structures, livestock, and recreational areas	☐ Improve irrigation efficiency
	☐ Increase carbon storage in biomass and soils
☐ Enhance wildlife habitat	☐ Increase carbon storage

Location and Layout Specifications: (Include a sketch, or aerial photo on page 4.)	
Width (feet; include widths of maintenance areas next to outer rows):	
Length (feet):	**Area** (acres):
Total area of zone protected/sheltered (acres; based on expected height and density):	
Additional requirements:	

Woody Plant Materials Information:					
Species/cultivar by row number:	Kind of stock	Planting Dates	Distance between plants within row (ft)	Total number of plants per row	Distance (ft) from this row to next row
1					
2					
3					
4					
5					
6					
7					

Bareroot, Container, Cutting; include size, caliper, height, and age as applicable. Adjusted for width of maintenance equipment and type of plant material.

Note: Sources of Plant Materials can be found in the Maine Field Office Technical Guide and 380 Specification Guide Sheet.

Windbreak/Shelterbelt Establishment – Job Sheet

Woody Plant Material Quantity Summary

Species/cultivar	Kind/Size of stock	Planting Dates	Total number of same size species per row:	Total number of rows with same size species	Total number of species needed:

Temporary Storage Instructions

Planting stock that is dormant may be stored temporarily in a cooler or cool, moist, darkened area up to 3 days. For more than 3 days or for stock that is expected to begin growth before planting, dig a V-shaped trench (heeling-in-bed) sufficiently deep and bury seedlings so that all roots are covered by soil. Pack the soil firmly and water thoroughly. Additional requirements:

Site Preparation

Remove debris and control competing vegetation to allow enough spots or sites for planting and planting equipment. The following method of site preparation is planned: ☐ Mechanical means such as plowing, disking or rototilling, ☐ Chemical control of vegetation, ☐ Hand scalping the area where trees are to be planted, ☐ Other: _____
Additional requirements:

Planting Methods

For container and bareroot stock, plant stock to a depth even with the root collar in holes deep and wide enough to fully extend the roots. Pack the soil firmly around each plant. Cuttings are inserted in moist soil with at least 2 to 3 buds showing above ground. Pest Management including weed control is required.
Vegetation Mat-Size_____#_____ Tree Shelter-Size_____#_____ Other _____

Additional requirements:

Operation and Maintenance

Replacement of dead trees or shrubs will be continued until the barrier is functional.
Supplemental water will be provided as needed.
Thin or prune the barrier to maintain its function.
Inspect trees and shrubs periodically and protect from adverse impacts including insects, diseases or competing vegetation. The trees or shrubs will also be protected from fire and damage from livestock and wildlife.
Periodic applications of nutrients may be needed to maintain plant vigor.
Other:

COMPLETION/CHECKOUT CERTIFICATION

I have job approval authority and certify this practice as applied meets NRCS Standards and Specifications:

NRCS Representative name and title (type or print):		
NRCS Representative Signature:		Date:
As-Built Notes (include date completed by client, treated acres and describe any changes to original design):		

Questions regarding the planting or maintenance of the windbreak/shelterbelt planting should be directed to Gerald Barnes, at (207)990-9580.

If needed, an aerial view or a side view of the practice can be shown below. Other relevant information, complementary practices and measures, and additional specifications may be included.

Scale 1"=_____ ft. (NA indicates sketch not to scale: grid size=1/2" by 1/2")

Additional Specifications and Notes:

LANDOWNER/OPERATOR ACKNOWLEDGES:

a. They have received a copy of the specifications and understand the contents including the scope and location of the practice.
b. They have obtained all necessary permits and/or rights in advance of practice application, and will comply with all ordinances and laws pertaining to the application of this practice.
c. No changes will be made in the installation of the job without prior concurrence of the NRCS.
d. Maintenance of the installed work is necessary for proper performance during the life of the practice. The practice life is _____.

I have reviewed all specifications and agree to install as specified:

Landowner/operator name and title (type or print):		
Landowner/operator Signature:		Date: