



1.0 Background

Plowing snow is expensive in terms of labor, fuel, and equipment. HMM 06-15-40, Drift Prevention, addresses controlling blowing and drifting snow. A living snow fence, designed to match snow transport, [will last for a number of years and will control drifting snow](#) in a cost-effective manner.

The department has traditionally planted rows of trees and shrubs to act as living snow fence. Living snow fence has advantages over commercial wood slat or polyethylene snow fence because it is (a) not put up and taken down annually, (b) relatively long-lasting, (c) almost maintenance free once established and, (d) more aesthetic.

2.0 Location

Living snow fence is desirable in areas where right-of-way widths are adequate to provide snow storage and where soil conditions allow. Living snow fence is normally planted within the right-of-way limits but may be planted off the right-of-way when an agreement can be reached with the abutting landowner. Living snow fence plantings should be planned and developed in accordance with roadside vegetation management plans and Procedure 27-20-5 of the Facilities Development Manual and in cooperation with the Bureau of Highway Maintenance landscape architects.

3.0 Design

[FDM 27-20-05](#) discusses design considerations for living snow fences, including the impact of various site conditions on the dynamics of drifting snow.

[FDM 27-20-05 Figure 5](#) lists plant species suitable for use as living snow fence.

Generally, living snow fence should consist of several (typically three) rows of deciduous shrubs and/or evergreen trees. Deciduous shrubs are preferred statewide. Evergreen trees may be used in the northern half of the state but rows of evergreen trees should only be used in conjunction with rows of deciduous shrubs, with the shrub row(s) located nearest the roadway. Deciduous shrubs should be planted 4 feet apart in rows that are 4 feet apart. Evergreen trees should be planted 8 feet apart in rows that are 6 feet apart. Plant spacing should be staggered from row-to-row.

As a “rule of thumb”, a triple row planting should not be used in areas with less than 70 feet of width between the right-of-way line or fence to the roadway. Also, allow a space of at least 8 feet between the right of way fence and the first row of plants to allow space for future maintenance operations.

Do not plant vegetation that may affect future viewing of outdoor advertising signs in violation of the viewing distances required in [SS. 84.305\(2\)](#). Vegetation that obscures outdoor advertising signs must be removed if it is planted after the sign has been erected. If there is a need for living snow fence in those areas, exercise care in selecting vegetation so that, at its mature height, it will not obscure the view of the sign face.

Do not plant vegetation that is capable of growing to a trunk diameter of greater than four inches in the clear zone. See HMM 07-10-05, Woody Vegetation Control, for a description and dimensions of clear zones.

The Bureau of Highway Maintenance (BHM) landscape architects should be consulted for design guidance.

4.0 Planting

Plants to be used for living snow fences may be obtained either from the Department of Natural Resources (DNR) or from private nurseries. DNR plants are seedlings or transplants and vary in height up to approximately

12 to 15 inches or more and must be purchased in minimum lots of 1000 (graded) or 3000 (bulk). Check the [DNR web site](#) for species availability and cost. In order to assure the desired species are available, orders should be placed in late October or early November. Delivery can be expected mid- to late April the following spring.

Seedlings and transplants may also be purchased from private nurseries but will cost more than those purchased from the DNR. Larger plant sizes are available as nursery stock. Common size ranges are 12 – 15 inches, 15 –18 inches and 18- 24 inches in height.

Plants obtained from the DNR are typically planted using county highway personnel and equipment. A tree planter may be available on loan from the DNR, depending on timing and demand. The advantage of using DNR plants planted by the county highway provider is the initial cost. A disadvantage of doing this type of large scale planting with the county highway provider is the success of the planting will depend on adequate rainfall until the plants become established unless the county highway provider has the time and equipment necessary to water effectively.

A second option is to hire a landscaping contractor through the normal bid letting process. Although more expensive, a let contract has the advantage of requiring the contractor to provide care and replacements during the establishment period as described in [Section 632.3.19](#) of the Standard Specifications for Highway and Structure Construction, thereby assuring a higher rate of success. Because of the larger size of the nursery stock and the greater likelihood of successful establishment, a snow fence planted under contract may become effective in stopping snow more quickly than the smaller DNR plants.

5.0 Replacement

Gaps in the snow fence seriously affect the trapping efficiency and storage capacity of the snow fence. Therefore, plants that die should be replaced as soon as practical.

6.0 Record Keeping

For plantings accomplished by a method other than a let contract, develop a sketch of the area to be planted. Use the most recent highway construction plan sheet(s) as a base. Include stationing for the beginning and end of the planting area. Show any breaks in the planted area. Also include the number of rows, the species planted and the number of each, as well as the date planted. Provide a copy to the BHM landscape architects to be used as reference material for future requests for site clearing from outdoor advertising companies.

Regional records management staff should enter “As Built” plans or sketches into DOTView with a “landscape” tag.

NOTE: Evergreen trees are not recommended for snowdrift control. They should be used only in exceptional cases when shrubs are not appropriate. The bureau of highway maintenance landscape architects should be consulted prior to such plantings.