



THE HIGHWAYS AGENCY

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THE SCOTTISH OFFICE DEVELOPMENT DEPARTMENT



THE WELSH OFFICE  
Y SWYDDFA GYMREIG



THE DEPARTMENT OF THE ENVIRONMENT FOR  
NORTHERN IRELAND

# The Planting of Trees and Shrubs

**Summary:** This Advice Note gives guidance on the top-soiling requirements for landscape planting on trunk road and motorway schemes.

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VOLUME 5	ASSESSMENT AND PREPARATION OF ROAD SCHEMES
SECTION 2	PREPARATION AND IMPLEMENTATION

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**THE PLANTING OF TREES AND  
SHRUBS**

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# **1. INTRODUCTION**

1.1 A fundamental principle of highway design and construction is that the completed road should be properly integrated into and related to its setting. That the environmental impact of a new highway can be minimised by the application of the principles of landscape design during the planning and construction of the road has been well established by practice and experience over many years. It is the Department's policy that outline landscape proposals should be prepared by landscape architects coincidentally with the early stages of engineering design and these two aspects integrated into a unified concept that is maintained and developed through the subsequent planning stages. Whenever these proposals are embodied within Statutory Orders or otherwise form part of the Department's evidence at Public Inquiries the Department is publicly committed to their implementation.

1.2 The specification for Road and Bridgeworks Clauses 601(9) and 611 deal with top-soiling, grassing and turfing and the Notes for Guidance suggest thicknesses of top-soil required for grassed areas. There are at present no general specification requirements relating to the special treatment required in those areas which are to be planted with trees or shrubs. This Advice Note provides information and guidance relative to the inclusion of particular requirements.

## 2. GENERAL REQUIREMENTS

2.1 The basic need is for a general provision of 300mm of top soil in those areas where planting is to be carried out. This is necessary not only for the establishment of the plant material, but to produce a growth rate which will provide some visual effect within a reasonable length of time.

2.2 The provision of an adequate surface layer of top soil during the engineering contract is therefore the most practical way of producing satisfactory growing conditions. This has been stressed by the Minister's Landscape Advisory Committee and is accepted by the Department.

2.3 As an alternative where sufficient top soil to achieve 300mm depth is not available, planting may be specified in specially prepared pits into which top soil is imported but this is expensive and, as root development is restricted, it does not produce satisfactory growth in the early years of establishment.

### 3. PARTICULAR REQUIREMENTS

3.1 Wherever the areas of proposed planting have been designated by the landscape architect, the scheme designers should consider all aspects of the horticultural requirements for a successful implementation. Likely problems and possible solutions are as follows:-

#### 3.1.1 Availability of top soil

An assessment of the quantity of top soil which will become available from site stripping should be made to determine where there is need for importation or otherwise a reduction in requirements. For example, where there is an overall shortage of top soil and the planting is considered of vital importance, it may be acceptable to reduce the general depth of top soil in grass areas to, say, 75mm to ensure enough is available to cover planting areas with 300mm. In areas where only a shallow covering of soil occurs naturally it may be possible to reduce the 300mm requirement in planting areas. The drawings and bills of quantity should show the top soil requirements on an area by area basis and if a requirement for importing top soil cannot be accurately assessed at design stage a provisional item should be billed. Where areas of woodland are to be cleared any top soil present should be ignored in the assessment since it is normally destroyed during clearing operation.

#### 3.1.2 Stability of slopes

Because top soil must not be compacted (as normal fill) and is often placed on a smooth surface of compacted soil there is a risk that slips, slides and washouts may occur on slopes. These risks can be minimised by paying attention to the following features:-

- Cutting off drainage (either new or existing land drains) behind the boundary fences so that drainage does not discharge on to slopes.
- Requiring side slopes to be left roughly trimmed so that their roughness provides a key to help support and retain the top soil layer. On very steep or long slopes the thicker layers of top soil needed in areas of tree planting should be stabilised by stakes and brushwood facines or woven fencing.
- Requiring top soil to be spread immediately before the grass is sown, to ensure the speedy establishment of grass. Clause 611.3 requires the Contractor to pay due regard to season.

## 4. CONTRACT ARRANGEMENTS

4.1 As a general rule landscape proposals and planting schemes should be developed at firm programme report stages to ensure that both engineering and landscape requirements are integrated as far as it is possible to do so in the contract documents. The essence of good planning at the design development stage is collaboration between the Engineer designers and the Landscape Architects.

4.2 The stripping and handling of top soil in wet weather will destroy its physical structure, and storing for long periods in large heaps so that air and moisture cannot penetrate throughout destroys the micro-fauna which are essential if it is to remain a viable material. Its handling and stacking therefore has to be carefully managed if it is to be conserved.

4.3 Ideally storage heaps should be kept shallow, machinery used in handling should be light, and compaction avoided in all stages. Under the conditions of an engineering contract these provisions are often difficult to fulfil but, nevertheless, if the dangers of over compaction and handling under poor weather conditions are understood it may be possible to avoid unnecessary damage to the soil. Since it may not always be possible to preplan these requirements at tender stage, the Engineer should in those circumstances order the necessary measures to be taken during the construction stage against provisional items included for the purpose.

## 5. COMMENTS AND ENQUIRIES