
**VOLUME 10 ENVIRONMENTAL
DESIGN AND
MANAGEMENT
SECTION 1 NEW ROADS**

PART 3

HA 57/92

**NEW ROADS
INTEGRATION WITH RURAL
LANDSCAPES**

SUMMARY

This Advice Note gives guidance on the environmental design and integration of new roads with rural landscapes.

INSTRUCTIONS FOR USE

1. Remove existing title page, content page and General Preface page on the Goods Roads Guide series of Advice Notes.
2. Insert new title page.
3. Archive this sheet as appropriate.

Note: New contents pages for Volume 10 containing reference to this document are available with HA 55/92.



THE HIGHWAYS AGENCY



**THE SCOTTISH EXECUTIVE DEVELOPMENT
DEPARTMENT**



**THE NATIONAL ASSEMBLY FOR WALES
CYNULLIAD CENEDLAETHOL CYMRU**



THE DEPARTMENT FOR REGIONAL DEVELOPMENT*

New Roads Integration with Rural Landscapes

* A Government Department in Northern Ireland

Summary: This Advice Note gives guidance on the environmental design and integration of new roads with rural landscapes.

Printed and Published by the
above Overseeing Organisations
© Crown Copyright 1992

Price: £3.00

REGISTRATION OF AMENDMENTS

Amend No	Page No	Signature & Date of incorporation of amendments	Amend No	Page No	Signature & Date of incorporation of amendments

REGISTRATION OF AMENDMENTS

Amend No	Page No	Signature & Date of incorporation of amendments	Amend No	Page No	Signature & Date of incorporation of amendments

**VOLUME 10 ENVIRONMENTAL
DESIGN
SECTION 1 THE GOOD ROADS
GUIDE - NEW ROADS**

PART 3

HA 57/92

**THE GOOD ROADS GUIDE
NEW ROADS
INTEGRATION WITH RURAL
LANDSCAPES**

Contents

General Preface to the Good Roads Guide series of
Advice Notes

Chapter

1. Integration with Rural Landscapes:
Introduction
2. Integration with the English Lowlands
3. Integration with the English Uplands
4. Enquiries

GENERAL PREFACE TO THE GOOD ROADS GUIDE SERIES OF ADVICE NOTES

Structure of the Guide

0.1 The Good Roads Guide is the name given to the series of documents contained in Sections 1, 2 and 3 of Volume 10 of the Design Manual for Roads and Bridges. The Guide is written in nine Parts each of which is published as an Advice Note. The Guide is written to be read as a whole. The Parts of the Good Roads Guide are as follows:-

Section 1 NEW ROADS

Part 1	HA 55/92	Landform and Alignment
Part 2	HA 56/92	Planting, Vegetation and Soils
Part 3	HA 57/92	Integration with Rural Landscapes
Part 4	HA 58/92	The Road Corridor
Part 5	HA 59/92	Nature Conservation
Part 6	HA 60/92	Heritage
Part 7	HA 61/92	Contract and Maintenance Implementation

Section 2 MOTORWAY WIDENING

Part 1	HA 62/92	Environmental Design Widening Options and Techniques
--------	----------	--

Section 3 IMPROVING EXISTING ROADS

Part 1	HA 63/92	Environmental Design Improvement Techniques
--------	----------	---

How to use the Good Roads Guide

0.2 Many of the design ideas put forward in Section 1 - New Roads are also relevant to the other Sections and cross references have been provided.

0.3 The first Chapter of each Part of the Guide reviews the issues and topics covered. The subsequent chapters deal with a particular topic. Within each chapter, the key issues are first listed and then discussed with illustrations drawn from roads throughout the UK.

0.4 The Good Roads Guide is not a step-by-step guide on how to build a road or a substitute for professional advice. It is intended to be used by the designer to help in the identification of areas and issues where careful consideration of environmental factors is required. The division of the Guide into Parts and the Parts into topics has been done to aid this process.

0.5 Environmental design of roads is a matter of respecting the special character of each individual location. The illustrations included show solutions devised to meet the requirements of specific sites. The use of standard solutions, irrespective of the location, is not appropriate.

Implementation

0.6 The principles set out in this Advice Note should be taken into account in the preparation of all schemes for the construction and improvement of trunk roads, including motorways.

0.7 Where conflicts exist between environmental design, costs, engineering feasibility and safety requirements, and competing options are available, the Design Organisation will need to advise the Overseeing Department accordingly.

Application in Wales

0.8 Requirements in Wales are primarily covered by the publications "Roads in Upland Areas: Design Guide" (published by the Welsh office 1990) and "Roads in Lowland Areas: Design Guide" and "Rock Profiling and Vegetation Re-establishment" (both due for publication by the Welsh Office in 1993). This Advice Note supplements these Design Guides.

Application in Scotland

0.9 The Scottish Office Roads Directorate endorses the practice given to the Good Roads Guide. More specific guidance is provided by the Roads Directorate's Landscape Officer.

0.10 The Scottish Office discussion document published in February 1992 "Roads, Bridges and Traffic in the Countryside" addresses related issues.

Application in Northern Ireland

0.11 The principles set out in this Advice Note are endorsed as good practice by the Department of the Environment (NI). The guidance will be taken into account in preparing schemes for the construction or improvement of all roads in Northern Ireland.

1.1 SCOPE

- This part gives guidance on the environmental design and integration of new roads with rural landscapes.

1.2 MAIN ISSUES

- The English landscape is one of the most varied in the world with distinctive landscape character developing over short distances. Good practice needs to reflect the landscape character of each area, which is the result of a long interaction between topography, human activity and natural processes. It is made up of numerous, complex combinations of simple elements - woodland, hedges, fields, heathland, lanes and settlements - each of which needs to be studied and understood by the design team.
- While the local character should be reflected in the roadside landscape, good design also needs to provide consistency and continuity, not through the use of standard details, but through logical and site-specific designs.
- The landscape, especially its hedges, walls, woodland and linear features - needs to be continued across the road to provide good integration. Planting and other treatments should not emphasise the line of the road by reinforcing its linear character.
- One of the best methods of understanding the special character and composition of each landscape type is by studying how it has come to be in its present form through an appraisal of heritage and nature conservation studies.
- Good practice will also take every opportunity to enhance special landscape character by revitalising degraded features like neglected hedges, plantations and walls.

1.3 DESIGN OBJECTIVES

- To recognise and understand the landscape types through which the road passes and to integrate the whole of the roadside landscape from the kerb outwards into its landscape setting.
- Where appropriate, to restore and enlarge the distinctive landscape character of areas adjacent to the road.
- To use fencing and walling types marrying in with adjacent ones and to plant and seed species and mixes that integrate visually and in their nature conservation interest with the existing vegetation.

1.4 MITIGATION

- Local materials and styles should be used wherever possible.
- The lines of adjacent vegetation should be carried across the road, not along it.

1.5 STATUTORY BODIES

- Within this Part, reference to the Department of Transport, English Nature, English Heritage and the National Rivers Authority should also be read as referring to the appropriate statutory authority or adviser for Wales, Scotland and Northern Ireland.

2.1 PRINCIPLE

- Every road needs a site-specific scheme for earthworks and planting, developed from basic design principles and the guidelines set out in Pts 1 and 2. Although the English landscape is infinitely varied in detail, it is made up of a limited range of landscape types. Good design is based on a clear perception of the landscape type and the planting and other measures appropriate to it.

2.2 KEY ISSUES

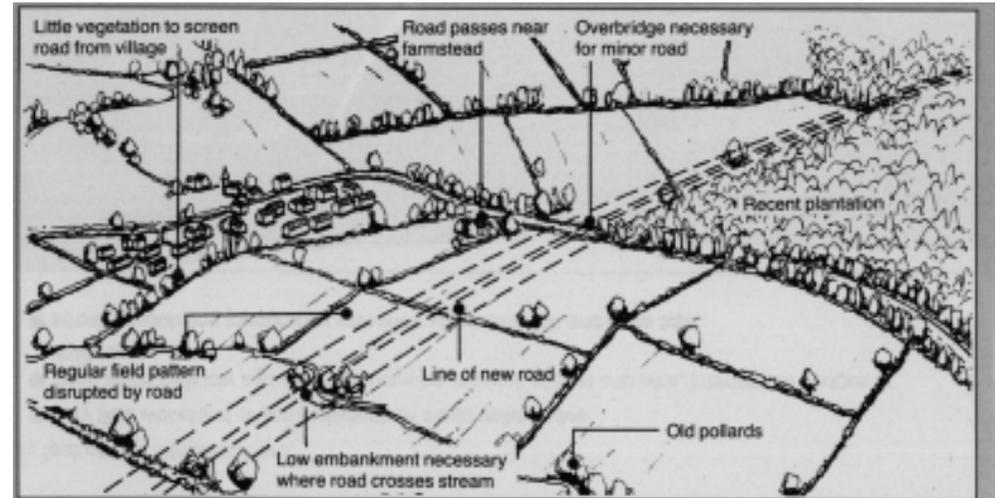
- Each of the main landscape types making up the English lowlands needs a different response to integration. The commonest are:
 - the champion flat or gently-undulating countryside of the eighteenth- and nineteenth-century enclosures with frequent, nucleated villages which is typical of the midlands
 - the ancient, often steeply-undulating, well-wooded countryside of small dispersed settlement and small, irregular fields typical of much of the south east, south west and Welsh marches
 - the downs and wolds such as the South and North Downs and Lincolnshire Wolds
 - the flat, open landscapes of major river valleys, fens and coastal marshlands.
- The English uplands can be as varied in type as the lowlands. However, new trunk roads through them generally follow historic valley routes, such as the A66 Stainmore Gap, where there is a more limited range of landscape issues.
- The overriding consideration for integration must be to retain existing features and to provide new planting and field boundaries which carry landscape character across the line of the road (see Pt , Chs 2, 3, 4, 6, 7 and 8).



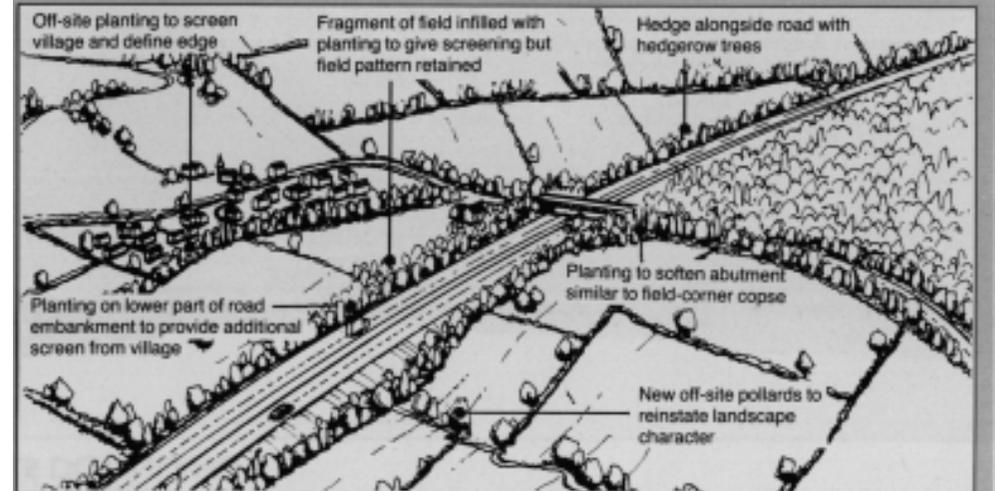
M40: Oxfordshire Plain Typical nineteenth-century, lowland enclosure landscape with low, poor-quality hedges, aging standard trees and a rectilinear field pattern

Key for features for integration are:

- rectilinear pattern of large fields
- well-spaced hedgerow trees
- infrequent copses and recent woodland
- predominantly agricultural land use.



A typical problem



Good practice solutions

2.4 ANCIENT COUNTRYSIDE



Typical Devon ancient countryside

Key features for integration are:

- irregular pattern of small fields
- overgrown hedges and frequent hedgerow trees
- abundant woodland cover from ancient and secondary woodland
- undulating landform which can allow integration of earthworks



Some integration principles

DECEMBER 1992

2.5 DOWNLAND



Typical downland landscape

Key features for integration are:

- very little woodland or scrub, except on steep valley sides
- large fields with low and inconspicuous boundaries of post and wire, intermittent hedges or walling
- strong, undulating topography with wide views from hill and ridge tops.



Integration is largely a matter of good route alignment to fit the topography and the avoidance of roadside planting or conspicuous fencing which emphasise the line of the road. Grading out of earthworks and restoration to agriculture must always be considered.

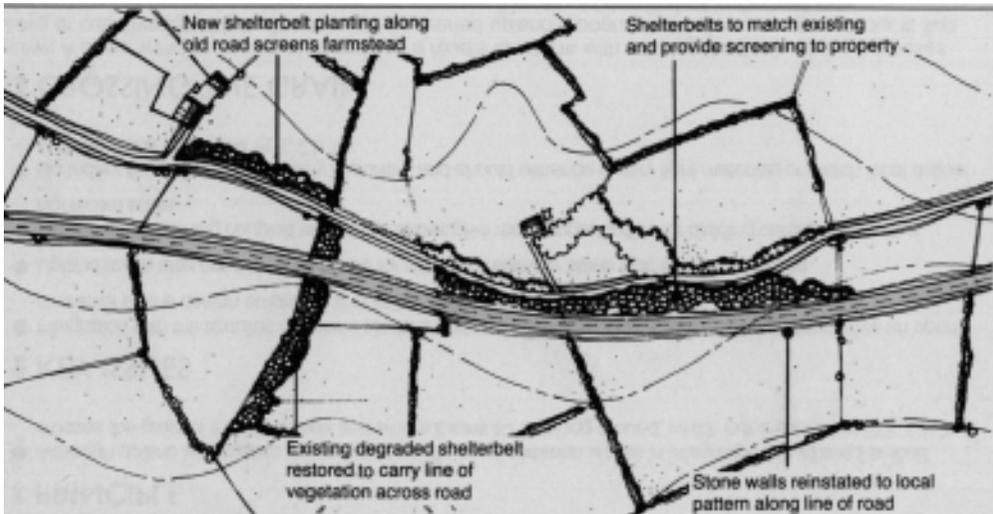
2.6 WOLD



Typical wold landscape

Key features for integration are:

- gently undulating landscape
- woodland cover mainly of recent, regular plantations
- variable patterns of drystone walls and hedges but fields are usually large.



Some integration principles

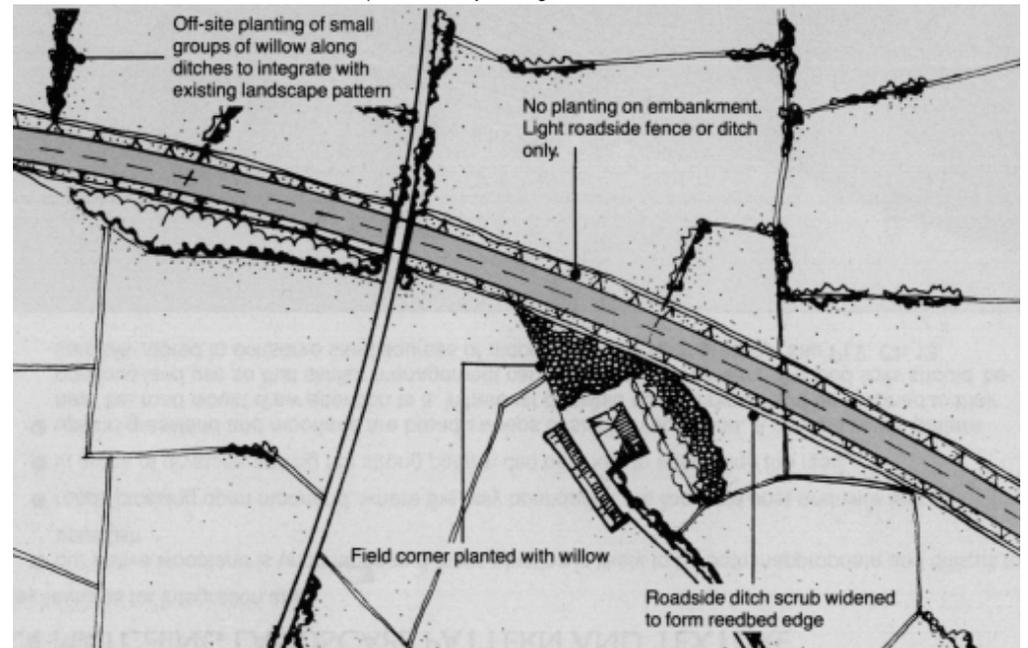
2.7 FLAT, OPEN LANDSCAPE



Typical flat landscape See also Pt 1, Ch 10

Key features for integration are:

- tree and shrub vegetation is generally limited to ditch sides and the edges of settlements
- there is a variable pattern of field size with ditches as boundaries, with or without hedges
- roads need to be above the flood plain, usually on slight embankments



Some integration principles

3.1 PRINCIPLE

- Although upland landscapes are very varied, the most common issues in integration are where the road crosses the grain of the landscape and where it runs on sidelong ground, which is the subject of Pt 1, Ch 7.

3.2 KEY ISSUES

- Integration with the textures of upland pasture and moorland is essential. Many upland areas have an open character so the design emphasis should be on landform rather than planting.
- Upland roads also provide more scope for returning relatively steep side slopes to grazing.
- Low-intensity farming coupled with steep slopes give more opportunities for dividing carriageways on a significant scale.
- Boundary treatment is particularly important and should either be in very light materials or match local details such as stone walls: see Pt 1, Ch 7.

3.3 CROSSING THE GRAIN

Section A deals with the issues of integrating a road's landform with existing landform where it crosses valleys or cuts through ridges. In areas of very varied upland topography, features such as viaducts and major cutting are absorbed by the landscape whereas they would dominate it in the lowlands.



A595, Cumbria *The scale of the landscape absorbs this viaduct leaving the landform of the valley unchanged. The proportions and parapet fencing are appropriate to their setting*

DECEMBER 1992

3.4 MATCHING LANDSCAPE PATTERN AND TEXTURE

Key features for integration are:

- our native woodland is uncommon and mass planting is likely to be both inappropriate and difficult to establish
- roads crossing open moorland, where the only boundaries are roadside post-and-wire fences
- in areas of drystone walling the strong pattern can be a key to integrating the road
- upland grassland and moorland are broad sweeps of similar vegetation. A change in this pattern near the road would draw attention to it. Wherever possible earthworks should be returned to their previous land use so that similar management can reproduce this pattern. Stripped soils should be carefully stored to conserve seed sources of moorland and upland grasses: see Pt 2, Ch 13.



M6, Cumbria *The road is absorbed by the large scale of its upland setting*



M6, Cumbria *The road is absorbed by the strong pattern of the drystone walls which draw the eye away from it*

4. ENQUIRIES

All technical enquiries or comments on this Advice Note should be sent in writing as appropriate to:

Head of Highways Policy and
Environment Division
The Department of Transport
2 Marsham Street
London SW1P 3EB

J ROBINS
Head of Highways Policy
and Environment Division

The Deputy Chief Engineer
The Roads Directorate
Scottish Office Industry Department
New St Andrew's House
Edinburgh EH1 3TG

J INNES
Deputy Chief Engineer

Head of Roads Engineering (Construction) Division
Welsh Office
Y Swyddfa Gymreig
Government Buildings
Ty Glas Road
Llanishen
Cardiff CF4 5PL

B H HAWKER
Head of Roads Engineering
(Construction) Division

Superintending Engineer Works
Department of the Environment for
Northern Ireland
Commonwealth House
Castle Street
Belfast BT1 1GU

D O'HAGAN
Superintending Engineer Works

Orders for further copies should be addressed to:

DOE/DOT Publications Sales Unit
Government Buildings
Block 3, Spur 2
Lime Grove
Eastcote HA4 8SE

Telephone No: 081 429 5170