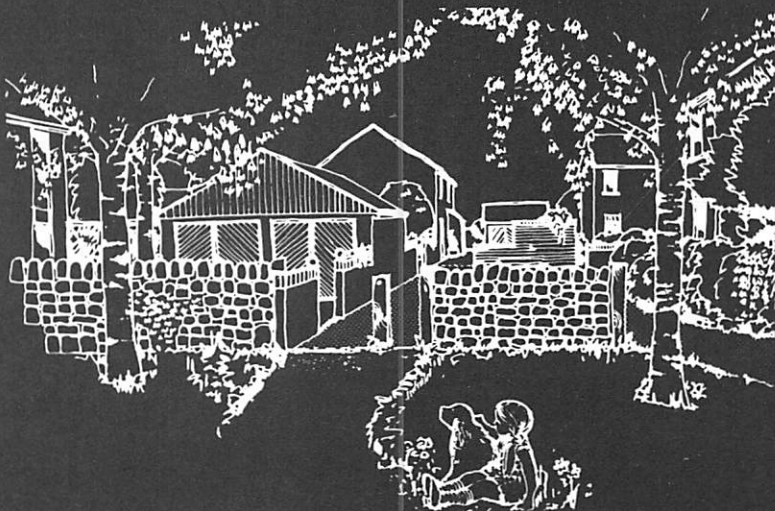


LEICESTERSHIRE'S
HOUSING
DEVELOPMENT
GUIDE

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GUIDE



PARTICIPATING AUTHORITIES

This document has been prepared by the Planning Authorities in Leicestershire listed below. It is a guide and indicates their attitudes to the planning aspects of housing development. Any proposals for such development will be considered against the background of this guide.

Blaby District Council,
Council Offices,
Narborough,
Leicester. LE9 5EP.

Leicester 863491.

Harborough District Council,
42 High Street,
Market Harborough,
Leicestershire. LE16 7AG.

Market Harborough 67251

Leicester City Council,
New Walk Centre,
Welford Place,
Leicester. LE1 6ZG.

Leicester 549922

Leicestershire County Council,
County Hall,
Glenfield,
Leicester. LE3 8RJ.

Leicester 871313

Melton Borough Council,
Warwick Lodge,
Dalby Road,
Melton Mowbray,
Leicestershire. LE13 OBW.

Melton 67771

North West Leicestershire District
Council,
Council Offices,
Coalville,
Leicestershire. LE6 2JF.

Coalville 36371

Rutland District Council,
Council Offices,
Catmose Street,
Oakham, Rutland,
Leicestershire. LE15 6HP.

Oakham 2577

Introduction

Much housebuilding of the last 50 years has resulted throughout the country in development lacking in identity and local character. There has frequently been a deadening uniformity in the size and type of dwelling provided, with two-storey three-bedroom detached and semi-detached houses predominating. All too often development has taken place on rigid building lines, using housebuilders 'standard' designs no matter what the location or character of the site.

Housing development makes the greatest demands on land of any of our building activities and forms the environment in which we, and especially our families, spend a considerable part of our lives. It is important that this land for housing be used wisely and economically, and that we seek to create surroundings of pleasing quality with conditions such as privacy and quiet which will allow people to follow their individual interests and lead their own lives.

It is not intended that the Guide shall apply to housing in Town and City Centre locations where special problems apply; nor does it deal with development of sites in sensitive and historic surroundings, where conservation aspects may be paramount.

The guide starts with the process of Making a Planning Application, then proceeds in three stages, dealing firstly with problems that may be encountered designing house extensions and individual infill plots — normally undertaken by a private owner — and then to the more complex problems of designing groups of houses. This latter section explains an example chosen to cover the majority of Planning problems normally encountered. There is then a section discussing problems associated with larger housing areas. Background detailed technical information is contained in Data Sheets.

The purpose of this Guide is to assist all who are intending to carry out housing development, from a house extension to a large estate. It seeks to set down those matters which are of primary concern to the Planning Authorities in Leicestershire when dealing with planning applications. The Guide is an advisory document not a statement of planning policy*, and in addition to assisting applicants would be used by planning officers to assess the suitability and quality of proposed housing development.

** as defined in Paragraph 32, Schedule 16 of the Local Government Act 1972.*

CONTENTS

Introduction	Explaining the aims of the guide and its basic format.
Section 1	Making a simple planning application — basic information on planning applications for house extensions and infill plot; an example of a planning application for an extension.
Section 2	House extensions — some planning factors which control their design; brief architectural guidance.
Section 3	Infill plots — planning factors additional to those in Section 2 which affect the design of a small group of houses on an existing road frontage; brief architectural guidance; examples.
Section 4	House groups — planning applications relevant to groups of houses; a moderate size example development; analysis of planning factors for this example; brief discussion of group forms.
Section 5	The larger estate — development of a large area of housing; land allocations; methods of sub division; privacy and community; influences on group scale.
Data Sheets	These may be added to at intervals.

1 Making a planning application

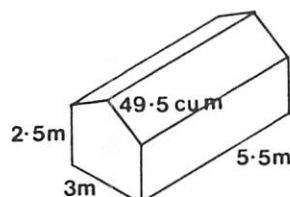
Almost all building work requires planning permission under the Town and Country Planning Acts. Other approvals may also be needed, for example, Building Regulations. Normally it is necessary to make an application to your District or City Council who can either grant or refuse permission.

This Section, together with Sections 2 and 3, contains most of the basic information needed to make a simple planning application as follows:

1. **Making a Planning Application** — Permitted Development and the General Development Order; kinds of Planning Permission; example of Planning Application for a simple home extension.
2. **Home Extensions** — Space; Privacy; Environmental Considerations; Architectural aspects.
3. **Simple Infill Plots** — Space; Privacy; Environmental Considerations; Extensible Homes; Examples; Larger Infill Plots — brief comment.

Permitted Development

- 1.1 Some categories of building work do not require the permission of the local planning authority as they are permitted by the current Town and Country Planning (General Development) Order normally referred to as the General Development Order.



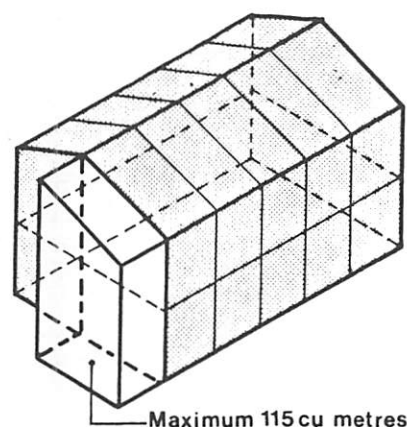
House extensions exempt in this way must be less than the specified maximum volume which may be:

50 cu. metres — the size of a large garage (50 cu. metres is approximately 1765 cu. ft.)

or ONE TENTH of the volume of the *original house* to a maximum volume of 115 cu. metres (4065 cu. ft.)

This limit is the maximum. Any *extension* contributes towards it whether it has planning permission or not. Once reached, any further extension needs planning permission.

figure 1.



Its height should not be more than the maximum height of the roof of the *original house*.

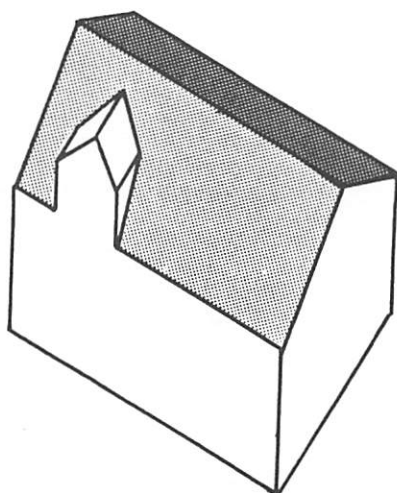
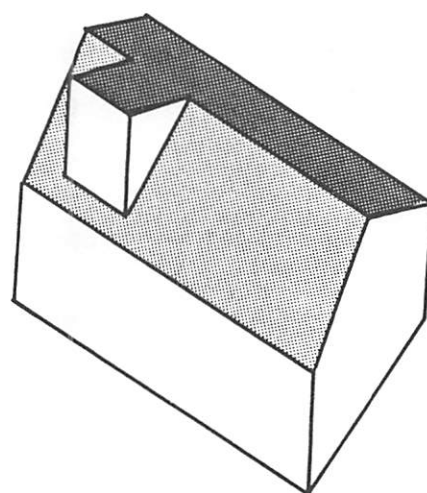


figure 2. An extension below ridge may be Permitted Development.



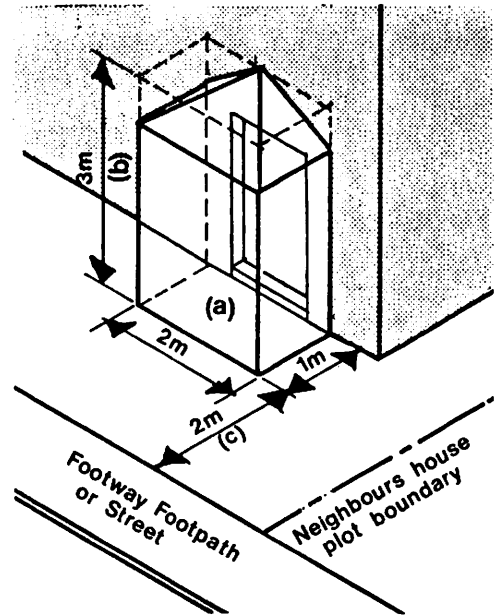
Any extension projecting above ridge requires Planning Permission

ORIGINAL HOUSE means the house as first built or as it existed on 1st July, 1948.

EXTENSION includes garages, stables, loose boxes or coach houses.

HIGHWAY means land adopted by the Highway Authority including roads, streets, public footpaths, services reservations, service roads and visibility splays.

A porch erected outside an external door providing that (a) its floor area does not exceed 2 sq.m. (21 sq.ft.), (b) it is no more than 3 metres high measured from ground level (9ft. 10"), (c) it is not less than 2 metres (6ft. 6") from any boundary belonging to the house which fronts a highway does not require planning permission.



Problems arise with any house extension facing the highway. The General Development Order is vague and any such extension may need planning permission. Consult your District or City Planning Office.

figure 3.

The following conditions must also be fulfilled for the General Development Order exemption:—

- The extension must not be contrary to any existing planning permissions.
- The extension must not be for occupation as a separate or independent dwelling.
- The extension must not obstruct the view of persons using the highway used by vehicular traffic in such a way to cause danger.
- The extension must not necessitate the construction, alteration of a means of access to a trunk road or other classified road.

If in doubt about your particular project, you should either consult a professional adviser or your District or City Planning Office, as it is possible for a planning authority to stop and to remove works in contravention of the Planning Acts.

A SIMPLE ENQUIRY AT AN EARLY STAGE BEFORE WORK IS STARTED CAN SAVE YOUR TIME AND MONEY.

To make a planning application a form reference CS21 should be obtained from your District or City Planning Office. The form is in three parts, but for housing development only Part 1 has to be completed.

At the same time you should ask for the *Forms of Certificate* which must accompany your application. These will certify either that you own the land affected by the proposed work or that the owner or occupier has been properly informed of your intentions.

The amount of information needed will then vary according to the scale of proposed development but should consist of drawings and descriptions sufficient for people to understand precisely where it is and what it is. If inadequate information is provided, the planning authority will have to ask for further details before it can decide whether or not to grant permission. This will inevitably cause delay.

A PROPERLY DETAILED APPLICATION WILL SAVE YOUR TIME AND MONEY.

You should consider whether you have the expertise to prepare the application, particularly drawings or plans, or whether you need professional assistance. An example of a completed planning application follows in this section.

In certain circumstances, for example where the property involved is a *LISTED BUILDING* or where it is situated in a *CONSERVATION AREA*, special considerations may apply and preliminary consultation with your District Planning Office before an application is submitted may avoid delay.

LISTED BUILDING — a building listed by the Department of the Environment as being of architectural or historic interest.

CONSERVATION AREA — In this context a part of a City, Town or Village which by virtue of its historic or aesthetic importance has been designated for preservation and/or improvement under the Town and Country Planning Acts.

Types of Planning Permission

- 1.2 Briefly, an outline permission is for the erection of buildings in principle. A detailed permission is for the erection of a building and other works as shown and described on the application.

A Simple Planning Application

- 1.3 The following is a checklist for information required in a planning application and an example of a completed application for a home extension.

Forms: CS21

Forms of Certificate

Drawings

1. **Location Plan** minimum scale 1/1250-1/2500 *figure 4*, showing:—

- a. The street or road named
- b. The house name and/or number
- c. The extent of the land attached to the house outlined in red
- d. Existing buildings
- e. Any other adjoining land owned or controlled by yourself outlined in blue
- f. Location and size of proposed extensions, alterations or infill development coloured pink
- g. Any roads or footpaths adjoining the site
- h. Site boundaries
- j. Trees on the site

2. **Site Plan**, minimum scale 1:500 showing accurately:

figure 4.

- a. Extent of site outlined in red
- b. Position and size of existing buildings within and adjacent to the site
- c. Position and size of proposals coloured pink
- d. All means of access to the site, existing and proposed
- e. All site boundaries, their nature and size
- f. Trees in and adjoining the site, their location, height, spread and type
- g. Any roads and footpaths adjoining the site
- h. Differences in level between site and adjoining land.

3. **Detailed Drawings**; minimum scale 1:100 accurately representing:

figure 4.

- a. Plans, elevations, of buildings as existing where extensions are intended or of existing buildings being retained where infill development is intended
- b. Plans, elevations and sections showing extensions, alterations and any new buildings together with existing, with the new coloured pink
- c. Materials and colours used for all external finishes in detail
- d. Drainage points, particularly soakaways
- e. Differences in level between extension and original building

figure 5.

Example of a planning application

figure 4.

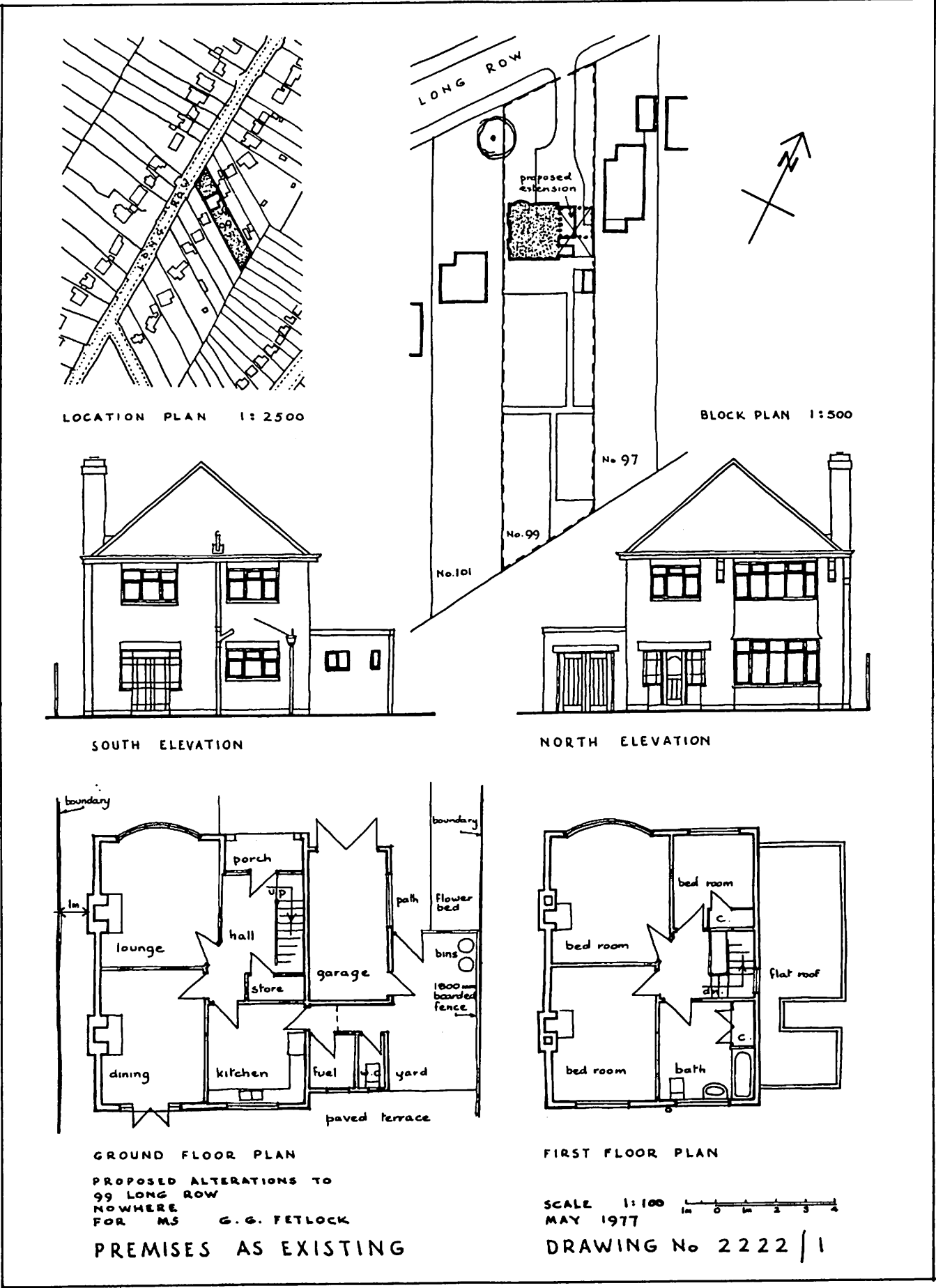


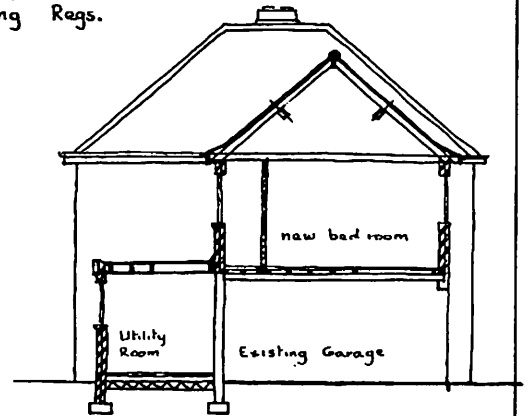
figure 5.

NOTE !! These drawings are appropriate for submission for Planning Consent. They do not provide sufficient detailed information for consideration in respect of Building Regs.

NOTE !
All external materials to match existing
Lintol & Cill details to match existing
Purpose made timber casements to match existing



RELATIONSHIP WITH ADJOINING PROPERTIES



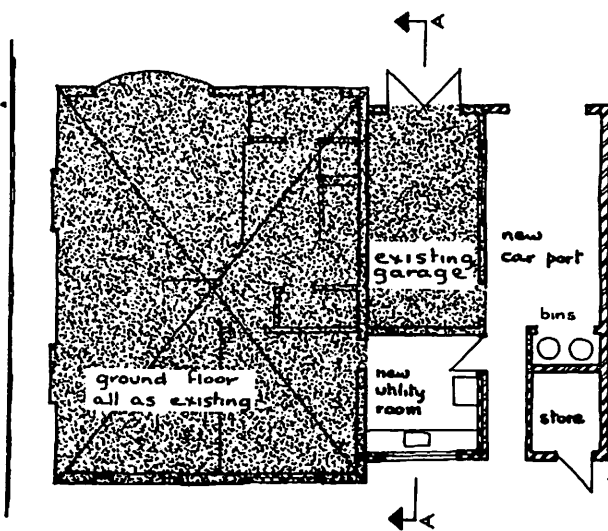
SECTION A - A



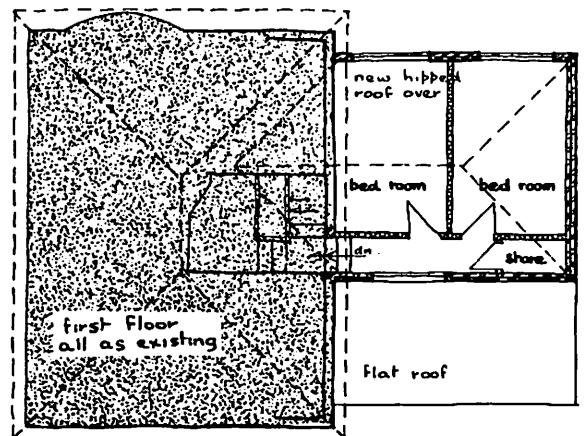
SOUTH ELEVATION



NORTH ELEVATION



GROUND FLOOR PLAN
PROPOSED ALTERATIONS TO
99 LONG ROW
NOWHERE
FOR MS G. G. FETLOCK
PROPOSED ALTERATIONS



FIRST FLOOR PLAN

SCALE 1:100
MAY 1977
DRAWING No. 2222 / 2

Application for permission to develop land etc.

Part 1

(Including application for approval of reserved matters)

Town and Country Planning Act 1971

Four completed copies of this form and plans should be submitted to the District Council. The pink copy is for your own retention. Unless you are seeking the approval of reserved matters only, one copy of the appropriate certificate under Section 27 of the Town and Country Planning Act 1971 must accompany this application.

Application no.	For official use only	
Date received	C	D

PART 1 – to be completed by or on behalf of all applicants as far as applicable to the particular development

1. Applicant (in block capitals)	Agent (if any) to whom correspondence should be sent (in block capitals)
Name MS G. G. FETLOCK	Name WREN + HAWKES HEAAS FRCS
Address 88, LONG ROW	Address HOWARD HOUSE
NOWHERE, LEICS	NO STREET, LEICESTER
Tel. No. NO 1212	Tel. No.

2. Particulars of proposal for which permission or approval is sought	
(a) Full address or location of the land to which this application relates and site area	88, LONG ROW, NOWHERE LEICS. 1156 sq metres.
(b) Particulars of proposed development including the purpose(s) for which the land and/or buildings are to be used	EXTENSION TO EXISTING HOUSE COMPRISING CAR PORT, UTILITY ROOM, 2 BEDROOMS + STORES. FOR PRIVATE DWELLING.
(c) State whether applicant owns or controls any adjoining land and if so, give its location	NO

(d) State whether the proposal involves: –	State Yes or No		
(i) New building(s)	NO	If residential development, state number of dwelling units proposed and type e.g. houses, bungalows, flats.	
(ii) Alteration or extension	YES		
(iii) Change of use	NO		
(iv) Construction of a new access to a highway	vehicular pedestrian	NO	
(v) Alteration of an existing access to a highway	vehicular pedestrian	NO	
(vi) The demolition of any of the existing buildings on the site		NO	

3. Particulars of application (see note 3)		
State whether this application is for: –		If yes, delete any of the following which are not reserved for subsequent approval
(a) Outline planning permission	State Yes or No NO	1 siting
(b) Full planning permission	YES	2 design
(c) Approval of reserved matters following the grant of outline permission	NO	3 external appearance
(d) Renewal of a temporary permission or permission for retention of building or continuance of use without complying with a condition subject to which planning permission has been granted	NO	4 means of access
		5 landscaping
		If yes, state the date and number of outline permission
		Date
		Number
		If yes, state the date and number of previous permission and identify the particular condition (see note 3iv)
		Date
		Number
		The condition

4. Particulars of present and previous use of buildings or land

State

- (a) Present use of buildings/land (a) PRIVATE SINGLE DWELLING.
- (b) If vacant, the last previous use and date when last used, if known (b) N/A.

5. Additional information

- State Yes or No (* These parts of the form are supplied separately from Part 1)
- (a) Is the application for industrial, office, warehousing, storage or shopping purposes? (see note 5) NO → If yes, complete Part 2* of the application form
- (b) Does the application relate to a proposed dwelling in connection with agricultural land or a Market Garden? NO → If yes, complete Part 3* of the application form
- (c) Does the application relate to the winning and working of surface or underground minerals? NO → If yes, complete Part 4* of the application form
- (d) Does the application relate to tipping of materials? NO → If yes, complete Part 5* of the application form
- (e) Does the proposed development involve the felling of any trees? NO → If yes, indicate positions on plan
- (f) (i) How will surface water be disposed of? (i) EXISTING DRAINAGE SYSTEM
- (ii) How will foul sewage be dealt with? (ii) DITTO

6. Plans

List of drawings and plans submitted with the application. (see notes 6 – 8)

1. PLANS, ELEVATIONS + SECTIONS AS EXISTING (2222/1)
2. PLANS, ELEVATIONS + SECTIONS AS PROPOSED (2222/2)

NOTE: The proposed means of enclosure, the materials and colour of the walls and roof, landscaping details etc. should be clearly shown on the submitted plans, unless the application is in outline only.

I/We hereby apply for

- *(a) planning permission to carry out the development described in this application and the accompanying plans, and in accordance therewith.
- or *(b) ~~planning permission to retain buildings or works already constructed or carried out, or a use of land already instituted as described in this application and the accompanying plans.~~
- or *(c) ~~approval of details of such matters as were reserved in the outline permission specified herein and are described in this application and the accompanying plans.~~

* Delete whichever is not applicable.

Date 17th May 1977

Signed Wren + Hawkes

On behalf of MS G. G. PETLOCK (insert applicant's name if signed by an agent)

TOWN AND COUNTRY PLANNING ACT, 1971

Certificate under Section 27 of the Act

Complete (a) One of the Certificates in Part I.

(b) Part II.

PART I

Certificate A

I hereby certify that:

1. No person other than the applicant was an owner of any part of the land to which the application relates at the beginning of the period of 20 days before the date of the accompanying application.

Certificate B

I hereby certify that:

1. * I have given the requisite notice to all the persons other than * myself who, 20 days before the date of the accompanying application, were owners of any part of the land to which the application relates, viz:-
The applicant has the applicant

Name of owner

Address

Date of service of notice

(Notice No. 1 should also have been completed).

Certificate C

I hereby certify that:

1. (i) * I am unable to issue a certificate in accordance with either paragraph (a) or paragraph (b) of Section 27 (1) of the Act in respect of the accompanying application dated.....
The applicant is

(ii) * I have given the requisite notice to the following persons other than * myself who, 20 days before the date of the application, were owners of any part of the land to which the application relates, viz:-
The applicant has the applicant

Name of owner

Address

Date of service of notice

(iii) * I have taken the steps listed below, being steps reasonably open to * me to ascertain the names and addresses of the other owners of the land or part thereof and * have been unable to do so:
The applicant has him has

(a) Insert description of steps taken.

(a)

(b) Insert name of local newspaper circulating in the locality in which the land is situated.

(iv) Notice of the application as set out below has been published in the

(b)

(c) Insert date of publication (which must not be earlier than 20 days before the application).

on (c)

Copy of notice as published

* Delete where inappropriate

(Notices No. 1 and No. 2 should also have been completed).

Certificate D

I hereby certify that:

1. (i) * I am unable to issue a certificate in accordance with Section 27(1) (a) of the Act in respect of the accompanying application dated and * have taken the steps listed below, being steps reasonably open to * me to ascertain the names and addresses of all the persons, other than * myself, who 20 days before the date of the application were owners of any part of the land to which the application relates and * have been unable to do so.

(a) Insert description of steps taken.

(a)

(b) Insert name of local newspaper circulating in the locality in which the land is situated.

(ii) Notice of the application as set out below has been published in the

(b)

(c) Insert date of publication (which must not be earlier than 20 days before the application).

on (c)

Copy of notice as published

(Notice No. 2 should also have been completed).

This Part must be completed by every applicant.

PART II

*2. None of the land to which the application relates constitutes or forms part of an agricultural holding.
OR:—

2. ~~I have~~ given the requisite notice to every person other than ~~ myself~~ who, 20 days before the date of the application, was a tenant of any agricultural holding any part of which was comprised in the land to which the application relates, viz:-

(d) If you are the sole agricultural tenant, enter "None".

Name of tenant	Address	Date of service of notice
(d)		

Signed Wren + Howes

*On behalf of MS. G. G. FETLOCK

Date 17th May 1977

2 House Extensions

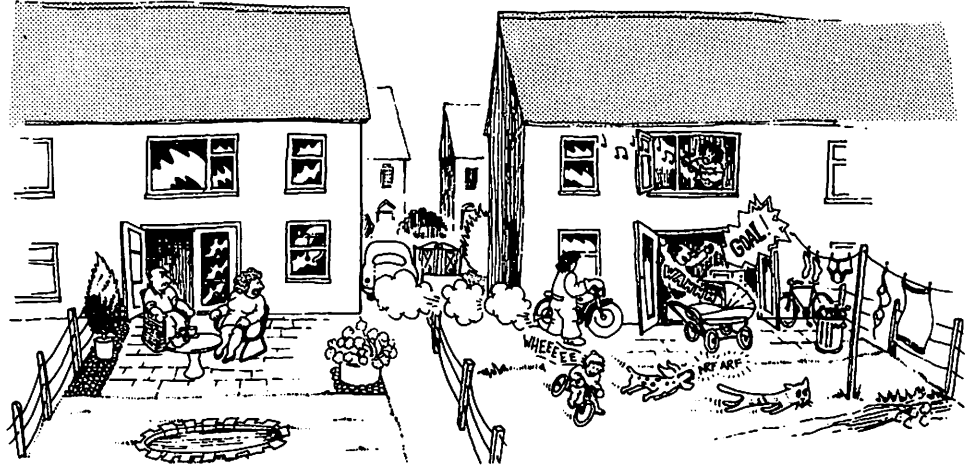
Extensions means additions to an existing house that are smaller than the original building. Anything larger than this may be considered as rebuilding.

Certain common factors apply to most kinds of extension. Each has advantages and problems and these are discussed firstly in this section, followed by some examples. The most common problems encountered by planning officers dealing either with planning applications for extensions or complaints arising from the building of extensions are size, infringement of neighbours' privacy and unsightly additions neither complementing nor harmonising with the existing surroundings.

- 2.1 The key word when considering house extension is 'neighbourliness' both in human and architectural terms. Care should also be taken not to infringe common law rights, for example, rights of light. See also paragraph 1.1 *General Development Orders* and permitted development.

Space Around the Home

2.2



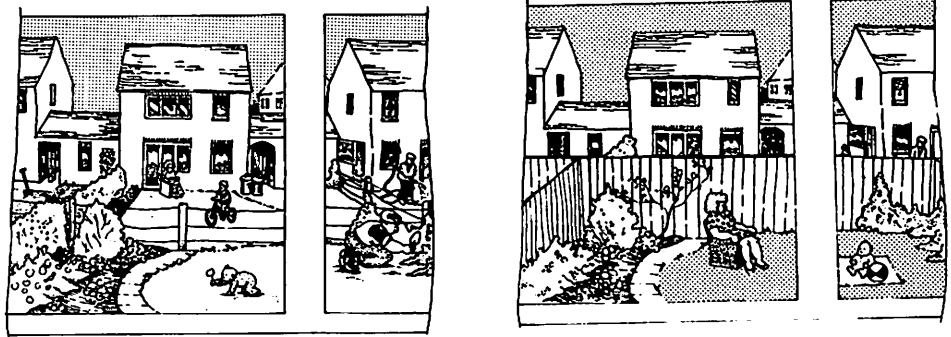
Many activities need to be accommodated in the garden areas surrounding a home. They vary with the size of family and their interests. A certain size of home should have a related amount of outdoor space to accommodate children's play, adults' hobbies, gardening and so on. The Data Sheet entitled "Space Around the Home" at the end of this Guide shows recommendations for private garden areas related to the number of bedrooms.

A house extension should not significantly reduce these recommendations. If the plot is minimal for a two bedroom house, it is too small for a three bedroom house, and also too small to accommodate a new room. It is now the policy of some Authorities to request builders to submit plans, when they design estates, showing how their houses might be extended. These plans then form a basis for later permissions to build house extensions.

CONSULT YOUR CITY OR DISTRICT PLANNING OFFICE BEFORE YOU SPEND ANY MONEY ON A HOUSE EXTENSION.

Privacy

2.3



The need for privacy about the home varies according to personal taste, type of house and the type of overall environment in which the house is situated. In planning terms it is of most concern when designing groups of houses but cannot be ignored when considering extensions and alterations.

A secluded area of garden is considered by many to be a desirable feature which a family can use in summer as an outdoor living room. At the same time the garden is a place where it is possible to make social contact with neighbours away from the busy activities of the street.

Over a period of years a distance of 23 metres (75 feet) between the backs of houses has come to be generally acceptable as the minimum separation of overlooking rows of houses. This remains so, but an alternative approach to privacy from overlooking is contained in **Data Sheet 1**. Likewise a distance of 14 metres (45 feet) remains the minimum acceptable for a house wall without windows facing the main wall

of another home with windows to habitable rooms.

New rear extensions should not extend beyond these limiting dimensions. Neither should new windows introduce new intrusions into a neighbour's privacy in his garden or home. This applies from large windows in a roof to a glazed door for a new home extension.

Nuisance

- 2.4 Whereas privacy mainly refers to visual overlooking, nuisance means other forms of interference — car maintenance, radio or television noise, extractor fans blowing smells directly into a neighbour's property, general overhearing problems.

Attention to the small details like the position of windows and doors, angles at which they open and the use of good screen walls are all of assistance in this respect.

Whilst a thick hedge will provide visual separation it does not reduce the transmission of sound in any perceptible way. Screen walls need to project forward approximately 2½ metres between a pair of semi-detached or terraced houses to be of use and also need to be several inches higher than ground floor opening windows to reduce noise transmission from house to house via this route.

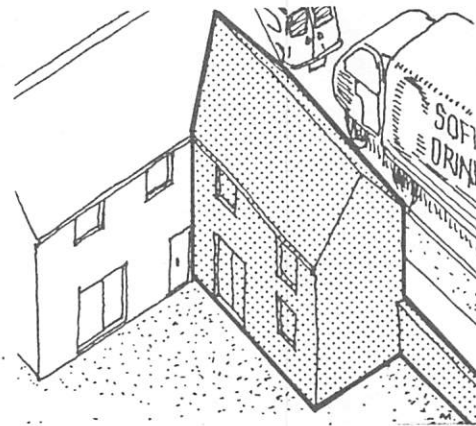


figure 6. The extension on this house, along the road boundary, together with the 2 metre high wall, helps to protect it from road noise and

This means noise such as main road traffic, aircraft or railways, that does not originate from the home environment. Careful siting and planning of an extension can in some situations reduce the effect of noise on a house and its garden by forming a solid screen between the noise source and windows. Badly positioned it can be a reflector, adding to existing problems. Where there is noise from air traffic, dormer and roof windows may present additional problems. In general air traffic noise is best dealt with by heavy construction and materials and good thick insulation. Double glazing of small windows may sometimes help.

has windows facing into the garden rather than towards the road.

Sunlight and Daylight 2.6 A

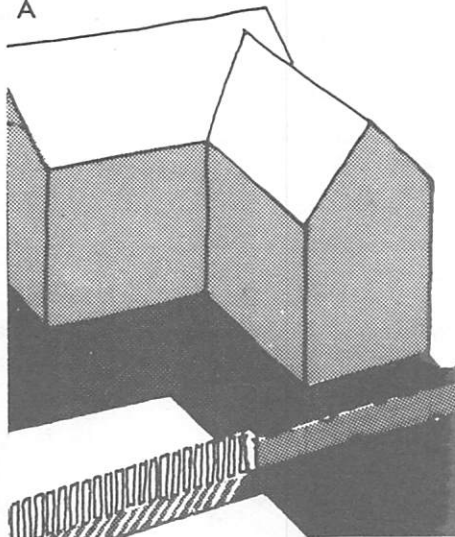
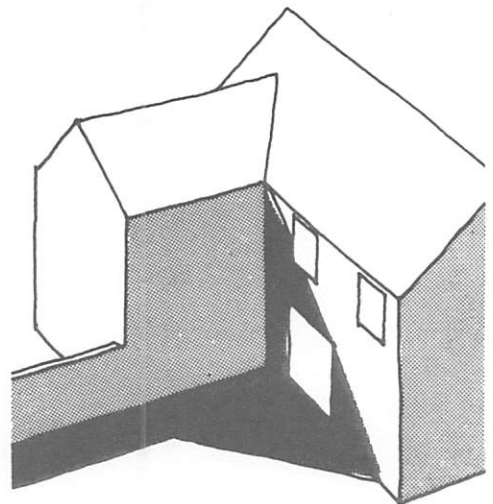


figure 7. A. If back to back distances are too small, a two storey rear extension could seriously affect sunlight to the house opposite. It would also appear overpowering.

B



B. On a semi detached house, a large two storey extension could cast a heavy shadow across the main windows of its neighbour and the sitting out area. Like 'A' it would also appear overpowering.

No house extension should significantly obstruct sunlight or daylight from neighbours' rooms or sitting out area. Most problems in this respect would relate to two

storey rear extensions, but single storey could in some circumstances unacceptably obstruct sunlight.

ARCHITECTURAL
CONSIDERATIONS

The Street

2.7 Visually streets consist of three main elements:

Paved surfaces

Buildings, walls and gaps

Areas of trees and shrubs

The way in which these elements are assembled controls the appearance depending upon which one dominates.

Paved surfaces can dominate in a negative way. Large expanses of dark grey tarmacadam separated by white kerb lines do not generally make for an attractive feature. Surfaces can be designed to dominate in a positive and attractive way, such as widening into a large formal paved square with a carefully styled surface pattern, or giving a small road an overall pleasing texture or pattern.

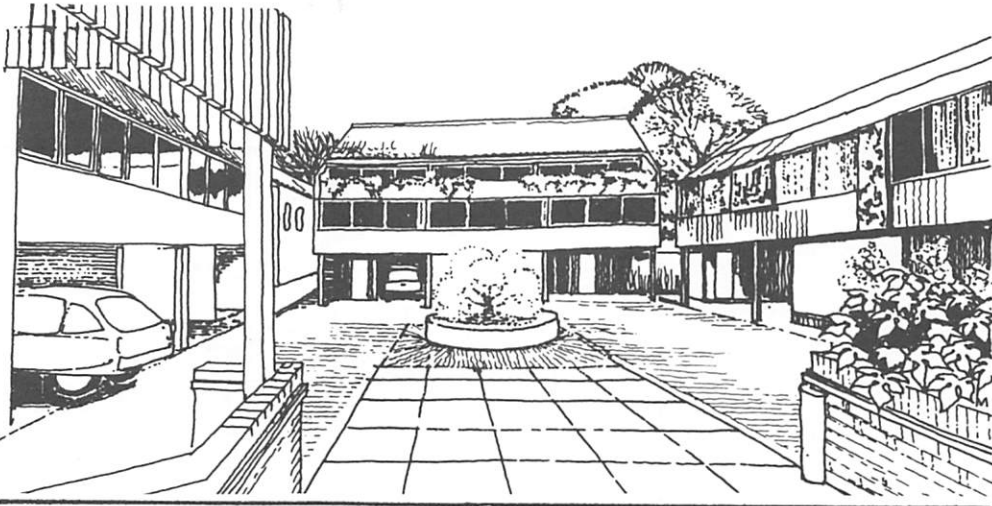


figure 8.

Buildings dominate when there are few large trees or shrubs. The figure illustrates the point. In such a street the planting or removal of a single tree has considerable

effect as also do alterations or extensions on the fronts of houses. Architectural style is most important under these conditions as it affects the whole group.



A

In this kind of street a single tree is very important. A variety of architectural styles can blend happily providing there is some basic relationship. Many attractive village streets are like this.



B

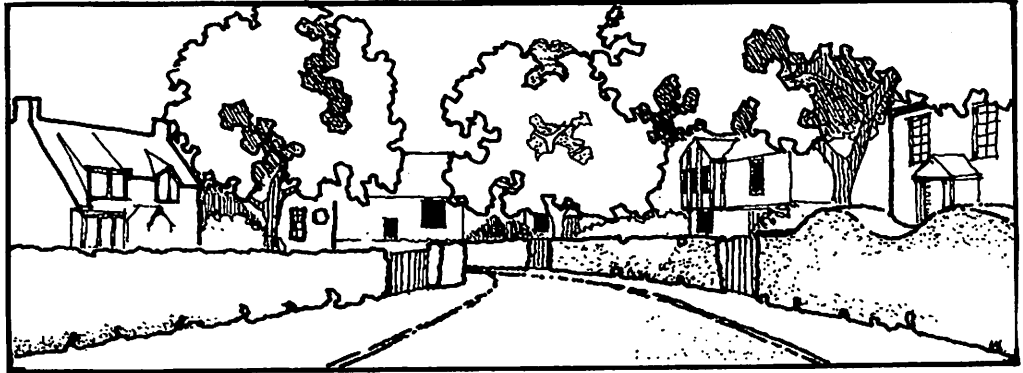
Removal of the mature tree when building on an infill plot or extending a house behind it is a significant loss.

figure 9.



A

Providing the trees are undamaged architectural detail is of minor importance in this type of street.



B

figure 10. *However, removal of even a few trees quickly changes the character and increases the impact of architectural detail.*

Some streets are dominated by large trees and shrubs. If the trees and shrubs remain intact, extensions and alterations to each house would have little effect upon the street, and architectural style is important relative mainly to the individual house. However, it is important to preserve all trees and large shrubs. Widespread extensions to

the houses, or additional development in their gardens would cause the street eventually to tend towards an appearance dominated by buildings.

Most housing streets are somewhere in between these extremes.

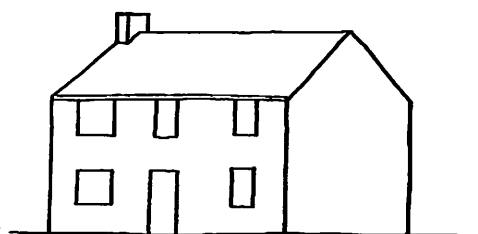


figure 11.

This figure represents a simple basic house, used to illustrate the various kinds of extension which follow.

Front Extensions

2.8 This is taken to mean extensions projecting forward of the main public face (street or footpath) of a house. Generally speaking these require planning permission — that is they are not permitted development.

These will normally affect a whole group of houses and should therefore be considered not only in relation to the house being extended, but also to those others with which they will be seen when travelling down a street.

Porches, bay windows, bow windows and garages are the most frequent extensions on the front of a house, but occasionally on a large plot with an awkward house plan it may be necessary to make room extensions on this side.

The following diagrams and their captions illustrate various points to consider.



figure 12.

Small front extensions can add interest providing they are kept in style and nicely detailed.

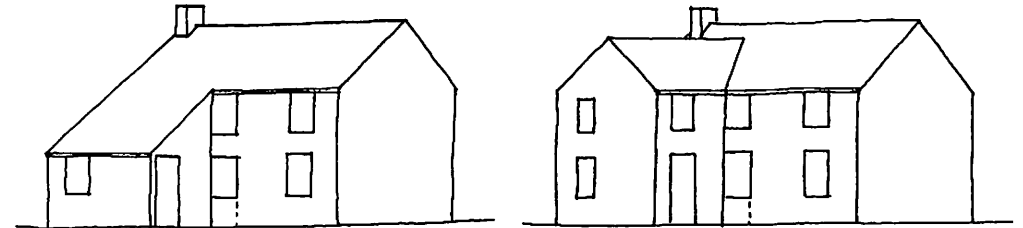


figure 13. *A front extension should generally be made in style with the main building but remain subordinate to it.*

Side Extensions

2.9 Side extensions means extensions to the side of a house which do not project forward of the main front face of that house. Such extensions also affect a group of houses in a street and should be considered in relation to the street, like front extensions.

The most usual side extensions are garages, garages with rooms over and rooms over existing garages.

A garage at the side of a house should not obstruct service access to the rear – that is, refuse collection or emergency services. Refuse collection is easily provided for by the addition of a special bin enclosure at the

front of the house accessible from the outside, but unless there is an alternative route to the rear for fire fighting access, a garage extension should not form a complete barrier between the house and its boundary. A reasonable route should be left between front and rear.

Some Planning Authorities operate policies in respect of side extensions, for example that they may not be built up to the boundary of a plot where there is the likelihood that, in so doing, a terrace of houses may be formed.

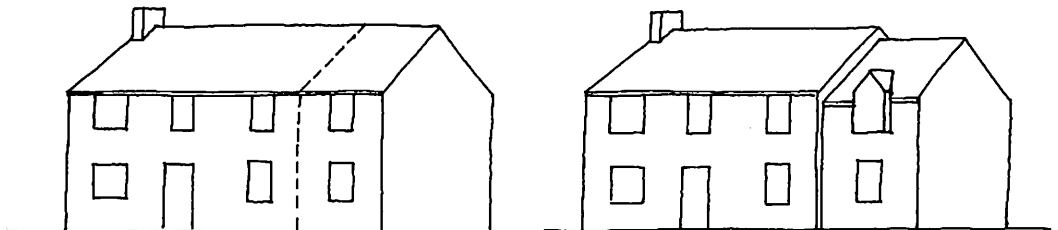
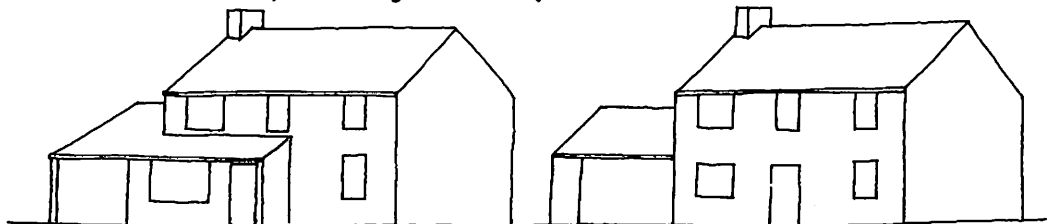


figure 14. *Side extensions should either completely match the main building with the roof continued over them, or be designed to look like an extension, smaller in size and using only minor variations for interest.*



Garage extensions should be kept simple:

figure 15. *A. It is better if garages do not protrude forward of the main house front when linked to it. This leads to a rather clumsy*

lumpish appearance. It is more attractive to have a simple side extension set back slightly.

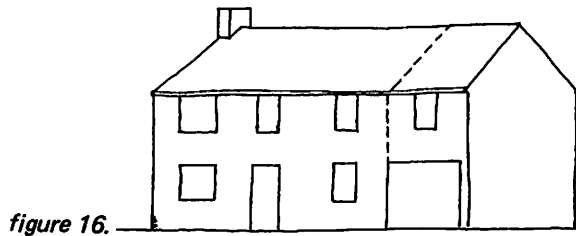


figure 16.

If the garage is contained in a matched side extension continuing the main building, the door tends to look ungainly and out of proportion. This would be better treated as a subordinate extension.

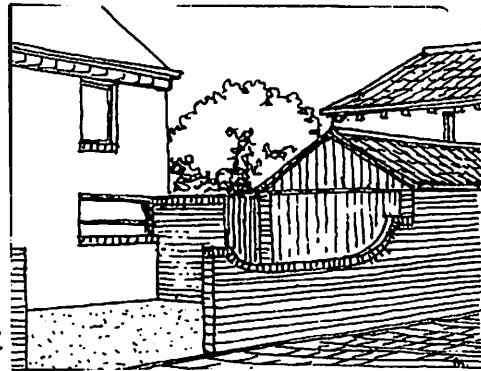


figure 17.

Where there is sufficient space, a garage turned side to the road and linked to a wall, forming a forecourt, can make an attractive feature.

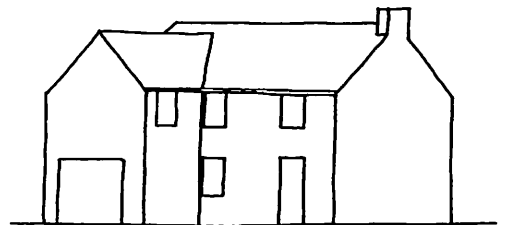
Reference should be made to Data Sheet "Planning for Access" at the end of this Guide for information on minimum dimensions and permissible arrangements of garage and driveway.

Rear Extensions

2.10 Two Storey Rear Extensions

These are likely to receive planning permission only if the plot size is large enough and if they do not overshadow or overpower neighbours' houses and gardens. Unless the original house has a flat roof, the extensions should not have a flat roof. It is worth remembering that, in practical terms, flat roofs can cause more maintenance problems than traditional pitched roofs.

figure 18.



Also paragraph 2.6 makes a point about Sunlight and Daylight. The detailing of any such extension should match or complement that of the main part of the house.

Single storey rear extensions generally present few architectural problems. Careful positioning can improve conditions for you and your neighbours. It is difficult to provide new rooms on a small house by this method because existing windows are obstructed, but additional space can be added to a living/dining room or to a small kitchen.

Large single storey extensions are possible on a house with a sufficient area of garden with the proviso that they should not obstruct access to services at the rear nor overshadow or overlook neighbours.

To find out whether your plot size is large enough to accommodate a rear extension you should refer to Data Sheet "Space Around the Home" at the end of this Guide. There you will find a table relating to the size of garden considered appropriate to the number of bedrooms. This area of garden should remain after you have built your extension. Also on this Data Sheet is a system for assessing privacy for neighbours. Either you should use this as a basis for designing your extension or you should not reduce the minimum distances set out in paragraph 2.3.

Roof Extensions

2.11 The traditional 40° to 60° pitched roof usually has sufficient space for providing additional rooms. Modern houses with their flatter pitches and trussed rafter construction do not offer this facility. It is therefore an expensive or fruitless exercise to contemplate extending into the roof of most recently built estate houses.

Usually the only external alteration necessary when extending into a roof space is the provision of windows and is probably the cheapest form of house extension. The need to comply with Building Regulations may cause additional problems.

Where there is sufficient headroom the cheapest, easiest and most unobtrusive solution is to insert a new window into the brickwork at the gable end. Roof windows

are an inexpensive alternative and also unobtrusive. Building Regulations regarding space outside windows should also be consulted.

Dormer windows can be used to raise the headroom over small areas of roof space. When on the front of the house, it is important that the detailed design and scale should match the existing building. The windows should be kept well away from the gable ends of the roof. Several smaller dormer windows are usually preferable to one large one. This is because a large dormer window covering the majority of the roof area is frequently a flat roofed additional storey and entirely changes the character of the house.

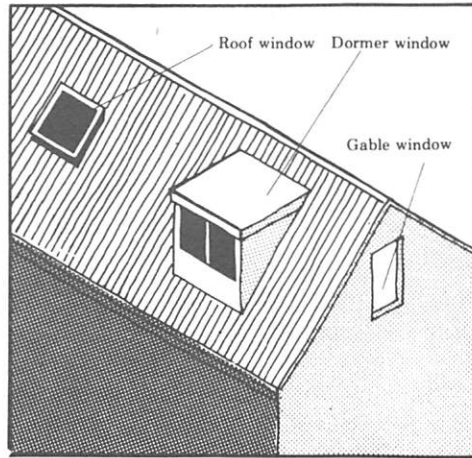


figure 19.

This figure shows three different ways of lighting a roof space. The easiest is a gable window, for which many variations are possible. Where there is sufficient headroom, a simple roof window is neat and unobtrusive, retaining the roof line. The dormer window is generally the most expensive, particularly when large.

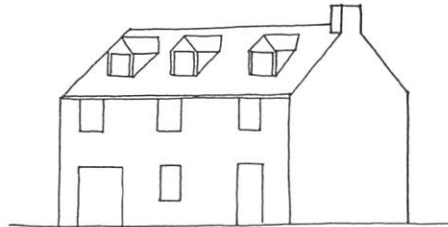
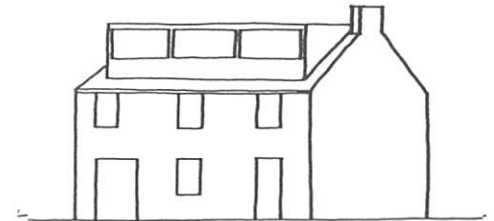


figure 20. Several small dormer windows are less intrusive than one large one.



The problem at the rear of the house is largely one of overlooking. If a very large dormer is built it creates very obvious intrusion into neighbours' privacy. In general, keep dormer windows small so that they do not intrude and do not break the roof line of the house. Use materials to match those of the house. If a large amount of new floorspace is needed an additional floor fully in the style of the original house should be considered.



figure 21.

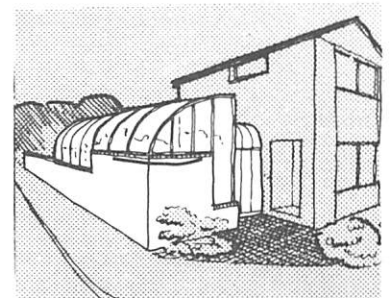
The traditional dormer windows represented in this sketch either form part of the facade design or blend in with the roof.

Variants

2.12



figure 22.



Where a street has no strong unifying style it may be possible to build an extension to a house which adds interest and variety by contrasting with its surroundings. This can be particularly successful when for example two neighbours co-operate to build side extensions or on a corner plot. Victorian architects and builders were particularly good at putting such surprise elements on their house designs and many lessons can be learned from looking at buildings of that period.

On this corner plot a novel design for an extension adds interest to a row of standard house types.

3 Infill plots

Infill plot means a parcel of land with planning permission to build one or two houses. Larger plots are covered in the final paragraph of this section.

Building a house on an infill plot will always require planning permission. Not all vacant sites in housing areas are suitable for building on. You should ascertain as early as possible whether the land you have chosen is suitable. An informal talk with your District or City Planning Office would prove helpful in this respect.

- 3.1 The Data Sheets "*Space around the Home*" and "*Planning for Access*" give basic guidance relevant to designing on infill plots. The principles that apply to extensions, Section 2 also apply here.

Privacy

- 3.2 The examples at the end of this section show how to manipulate available space to advantage. There are of course many variants.

Consult Data Sheet "*Space around the Home*"

As in paragraph 2.3 there is a basic minimum window to window distance of 23 metres (75 feet) and gable or blank wall to main window distance of 14 metres (45 feet).

It is particularly important that a new house built within an existing group, as implied by this section, does not intrude upon the privacy enjoyed by those existing householders. This applies to houses and their gardens.

Privacy from the Street

- 3.3 Privacy from the street is two-way. The passer-by does not normally want excessive private clutter to intrude into visual enjoyment of the street — this means long term car repairs, sheds and such like. This is best avoided by careful planning.

The householder whilst wishing to look out onto the happenings of the street, usually does not want to be exposed to the constant attention of passers-by. This is best avoided by combination of careful planning and appropriate architectural detail. Low walls, gates and small windows to those rooms facing the street all help in this respect.

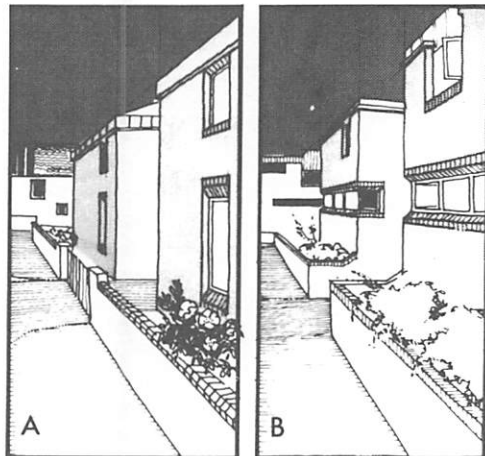


figure 23. A. Vertically proportioned windows help privacy by producing only a short glimpse into the house for the passer-by and at the same time give a more even light distribution across the room.

B. Horizontal windows with a high cill prevent casual looking in or out, give a greater penetration of light to the rear of the room but with a less satisfactory overall distribution.

Nuisance

- 3.4 As for extensions, careful planning from the outset can not only ensure minimal interference with neighbours but also sometimes improve on an existing situation for all.

Extraneous Noise

- 3.5 This is an environmental factor which is now receiving more attention than in the past as the extent of damage to health which it can cause becomes more well known. In certain situations it may not be possible to build a house because of it; in others where it is severe but not prohibitive, a house using special construction and design devices may be built.

Road Traffic Noise:

Adjacent to a busy main road, traffic noise levels may be continuous and high. They also cover a wide frequency range (pitch), making it difficult to take counter measures. Solid masonry — brick, concrete, stone — built sufficiently high may deflect much noise, but low frequency sound — rumbling and bass notes — can be transmitted through

certain types of subsoil and also bend (diffract) more readily over obstructions. A hedge or fence will afford no protection. Where there is enough space, an earth bank carefully sited and appropriately contoured and planted may give some screening.

In the detailed design of the house, very small windows and doors, or none at all on those sides which face traffic, will reduce the amount of noise penetration into rooms, particularly when these openings are double glazed. Reference should be made to *Department of the Environment Design Bulletin 26, "New Housing and Road Traffic Noise"* or consult your District or City Planning Office.

Rail Traffic Noise:

Similar standards apply as do to busy roads. The noise is more sudden and intermittent.

Aircraft Noise:

Recommendations are published by the Department of the Environment in *Circular 10/73 "Planning and Noise"*. In certain circumstances no development is permissible. At a slightly lower level occasional houses are permissible providing they have the necessary degree of sound insulation. Your District Planning Office or *Circular 10/73* should be consulted for details.

Other Noise:

This means such things as the proximity of factories or plant and your City or District Planning Office will be pleased to assist.

Sunlight and Daylight

- 3.6 Do not design in such a way that you significantly obstruct sunlight or daylight from neighbours' houses or gardens.

The Extensible House

- 3.7 Where the opportunity presents itself, it is a good idea to design a house that can be extended. It is frequently advantageous to have a home enabling a family to grow without having to move. The best and cheapest way in the long term is to have a roof design which enables that space to be converted at a later date. Modern trussed rafters for roofs often have shallow pitches and their design leaves insufficient free

space, though they may be initially a cheaper form of construction.

Alternatively a house may be planned so that it can be extended in stages as needed, providing the plot is large enough.

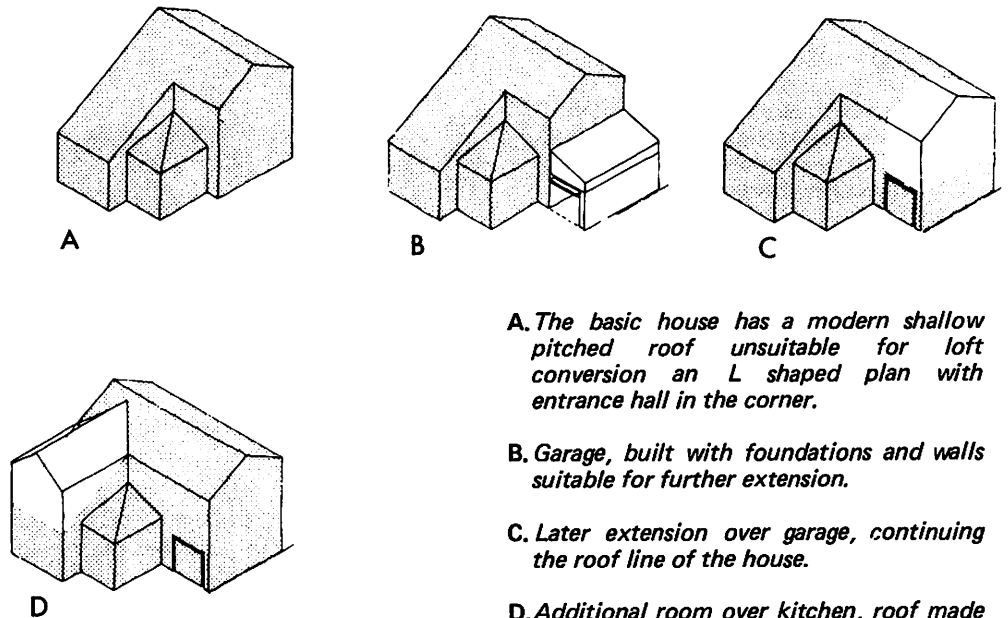


figure 24.

A. The basic house has a modern shallow pitched roof unsuitable for loft conversion an L shaped plan with entrance hall in the corner.

B. Garage, built with foundations and walls suitable for further extension.

C. Later extension over garage, continuing the roof line of the house.

D. Additional room over kitchen, roof made subordinate to main pitch.

Architectural Considerations

- 3.8 Infill development should generally be designed to be in keeping with its surroundings, particularly where it fronts

onto a street. This however should not preclude the use of contrasting ideas which enliven some situations.

Larger Infill Plots

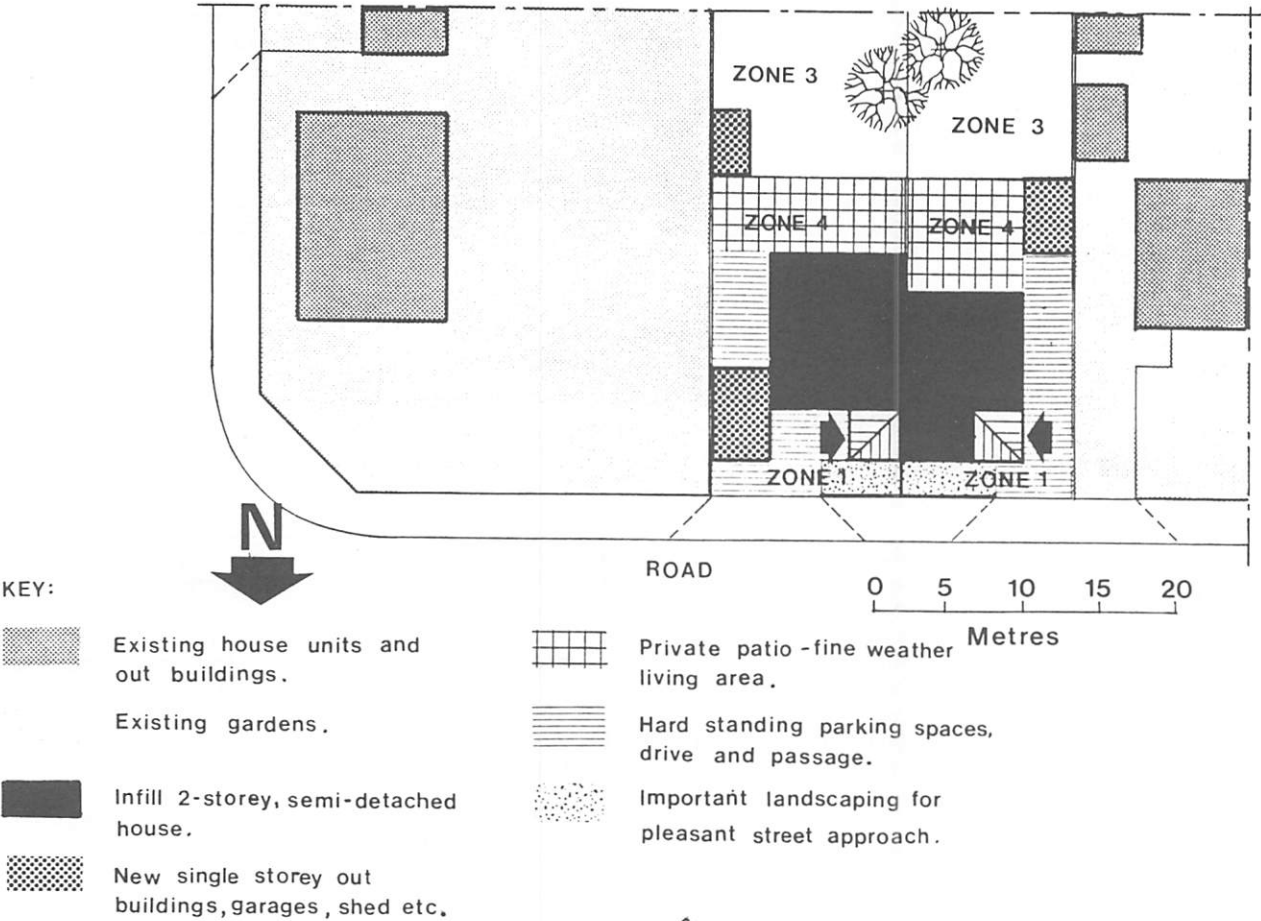
- 3.9 Where infill plots occur for a small group of houses on a road frontage, the same principles as discussed above generally apply, but special care should be taken to ensure that a single house type is not repeated. Even a semi-detached pair does not

necessarily consist of two identical houses. Example 1 below illustrates two dissimilar house types in a pair. This becomes particularly important in a village setting where traditionally houses differ in detail if not in major planning.

Example 1
figure 25.

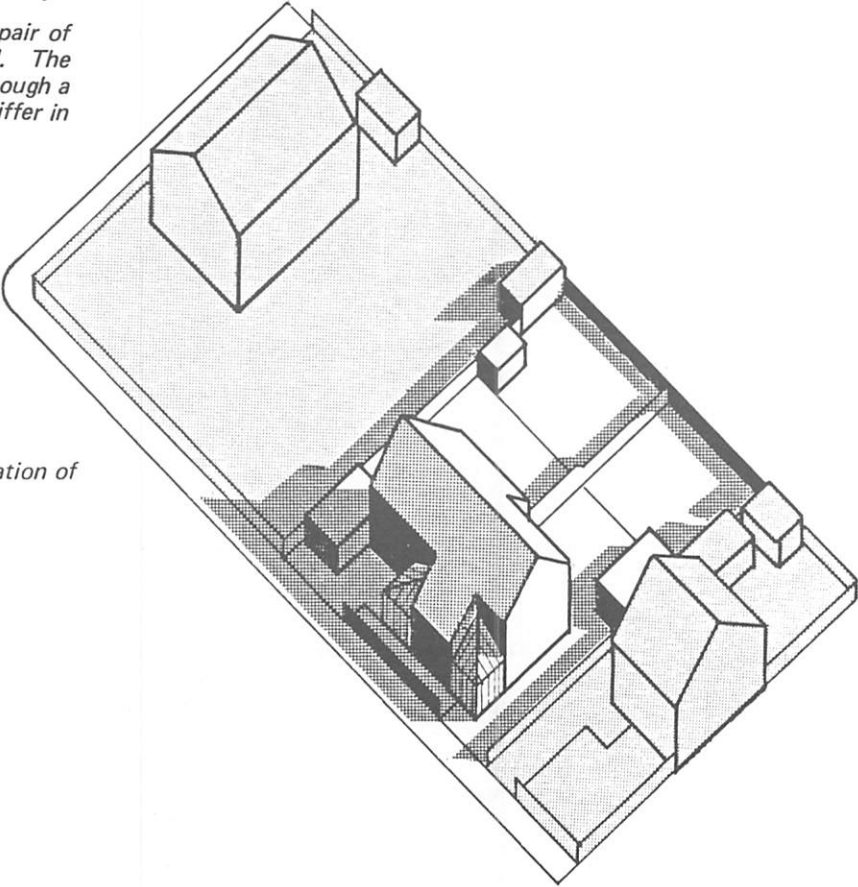
3.10 This plot is part of the garden of a house on the corner of a junction between one housing access road and another. A housing access road is a normal road in a housing area that carries traffic only for a group of houses numbering not more than 200. Such plots are now the most frequent for infill

purposes. Other houses in this street are semi-detached and have variable styles and distances from the road. The layout of the plot shows how to manipulate many of the factors discussed above and in the Data Sheets which follow.



A This is a plan of a plot, on which a pair of semi-detached houses is proposed. The various zones are clearly marked. Although a pair of houses, they are designed to differ in detail for interest.

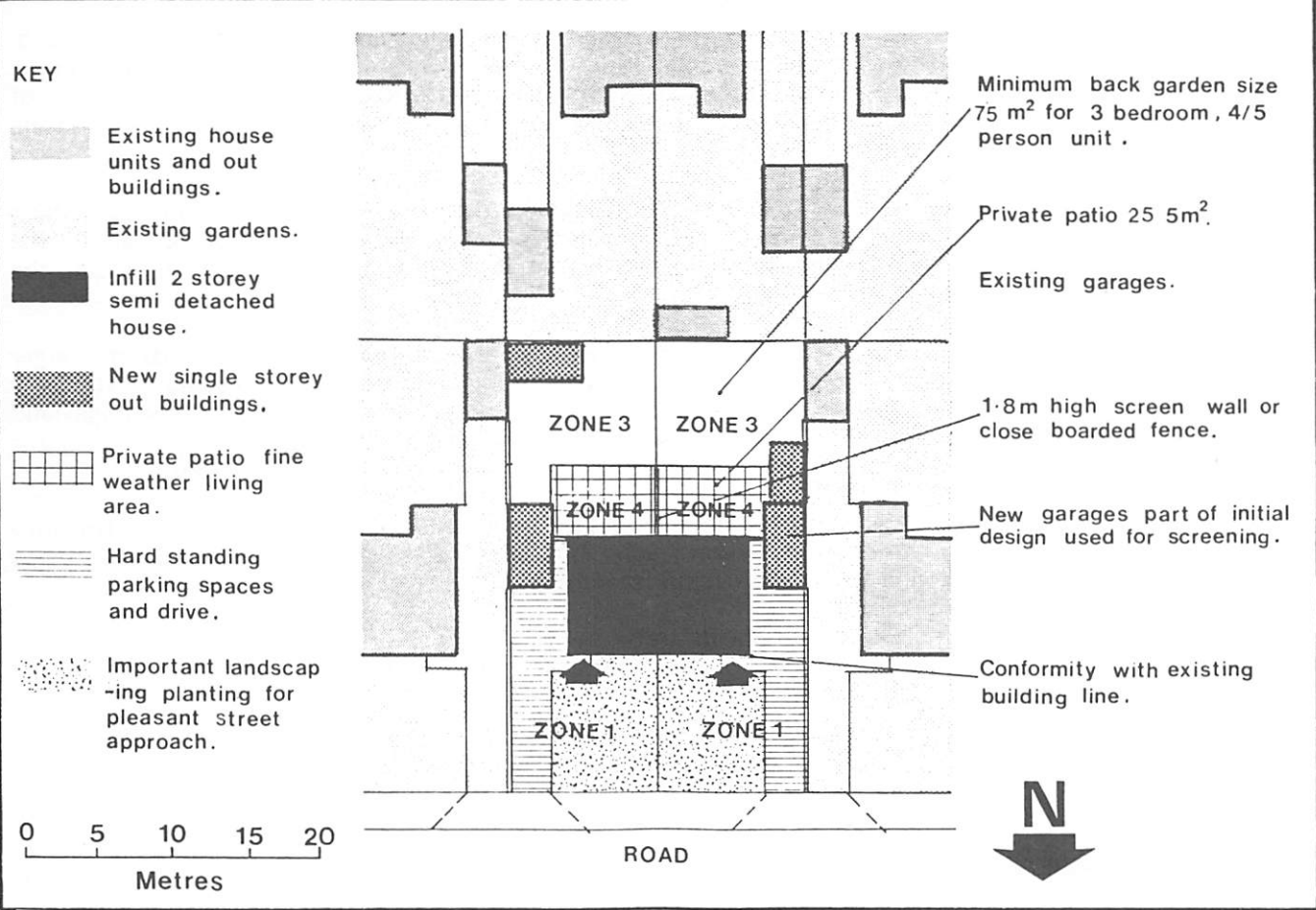
B This is a three dimensional representation of figure 25.A



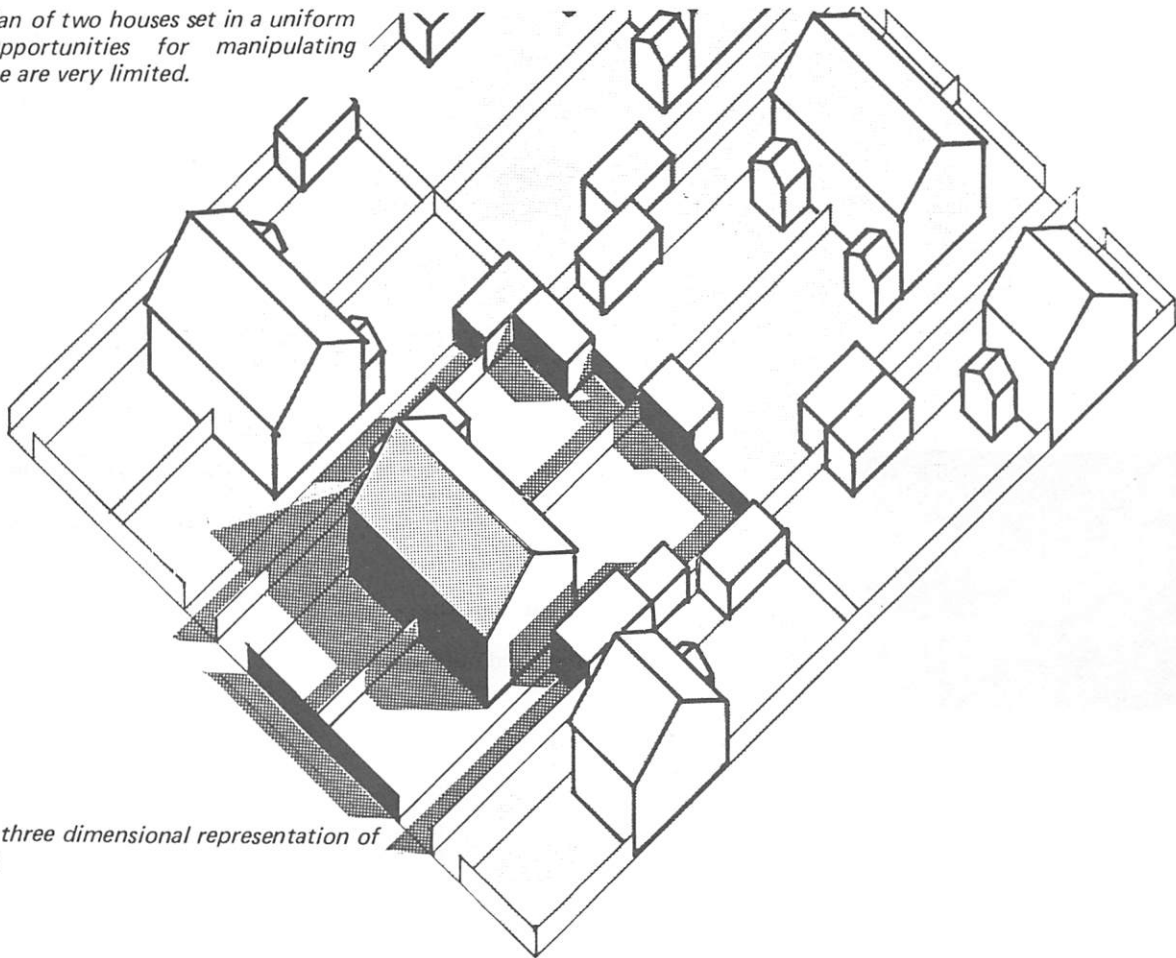
Example 2
figure 26.

3.11 An alternative pair of houses inserted into a row. This is for an infill plot in a street of similar houses set back on a uniform line.

Some of the advantages of position in example 1 are inevitably lost but a general conformity is obtained with a large front area or garden.



A This is a plan of two houses set in a uniform layout. Opportunities for manipulating garden space are very limited.



B This is a three dimensional representation of figure 26.

Introduction

4.1

The previous sections have dealt with information primarily aimed at the private individual wanting to make a planning application. The following sections contain information for builders and other professionals involved in planning housing in Leicestershire.

Section 4 — is based upon housing development for an edge of settlement site, already allocated in a local plan for this land use. It is not intended as a model layout, but contains most of the planning problems related to this scale of development and sets out to explain the relationship between all these and the solutions arrived at.

After a brief introduction it starts with the map-based information upon which an outline planning application is based and develops it in accordance with the various landscape, access and other planning influences, finally discussing the fully integrated layout.

Section 5 — is a discussion on applying these influences to the needs of a larger housing area, using them to create interest and diversity and achieve efficiency of layout. In it will be found the basic information upon percentage land allocations for various uses within the overall housing envelope, and some comment upon the effects of road type upon scale of environment.

Data Sheets. This may be expanded from time to time. To ensure that revisions and additions are sent, you should complete the registration card that is contained in the guide and forward to the address stated.

Initially the Data Sheets are:—

- 1. Space around the home
- 1A. Community and Privacy
- 2. Planning for access
- 3. Public space allocations
- 4. Incidental and Play Places
- 5. Systematic circulation
- 6. Circulation Geometry
- 7. Materials and Local Character

4 House groups

4.2

This section shows the planning process for a small housing development on land allocated to this use. It deals only with matters which are the proper concern of the Planning Authority and aims to reduce time involved in abortive or inadequate work.

The section is sub-divided as follows:—

- | | |
|---|--|
| 4.3 Map Based Information and outline applications | 4.7 Relating this information to development |
| 4.4 Roads and sewers applications | 4.8 Planning constraints and opportunities |
| 4.5 Detailed planning application | 4.9 Some three dimensional aspects |
| 4.6 Appraisal — Physically based information relative to actual site and its surroundings | |

Outline Planning Applications

4.3 The purpose of an outline planning application is usually to establish the principle and the extent of development of a specific area of land.

If granted, detailed planning permission may then be applied for as Reserved Matters if it involves no modification to the boundaries of the land for which outline permission has been obtained. These Reserved Matters are set out in the G.D.O. (see section 1).

Documents required for an outline application include the forms as set out in Section 1 of this guide. An accompanying Location Plan is needed. Below is an example of a Location Plan. Its purpose is to clearly identify the site under consideration in relation to its surrounding uses and the network of communication and services. This basic information is usually incorporated into a 1:2500 or 1:1250 scale plan as follows:

1. The name of the nearest settlement (town or village).

2. Boundaries of the site and all adjoining land controlled by the applicant.

3. Position, extent and use of all adjoining fields or plots.

4. All neighbouring development, named if not residential, and if the site is removed from the settlement, the nearest edge of the settlement.

5. All roads serving the site, named and identifiable.
6. Footpaths neighbouring or traversing the site.

7. Water courses, canals, railways, lakes, reservoirs etc. neighbouring the site or in it.

8. Major tree groups – woodland, copses, coverts – on or adjoining the site.

9. Orientation of the plan – that is, north point or O.S. grid.

10. The scale of the plan.

Location Plan

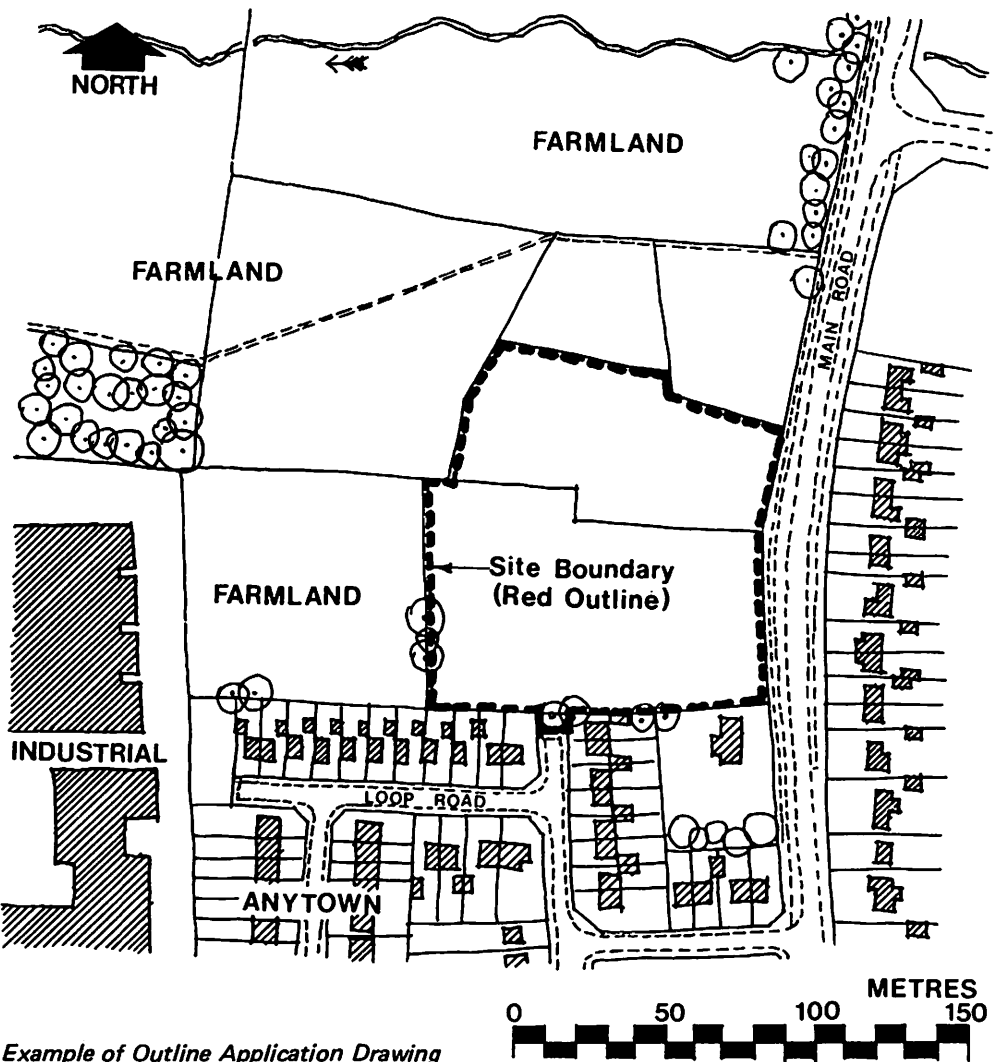
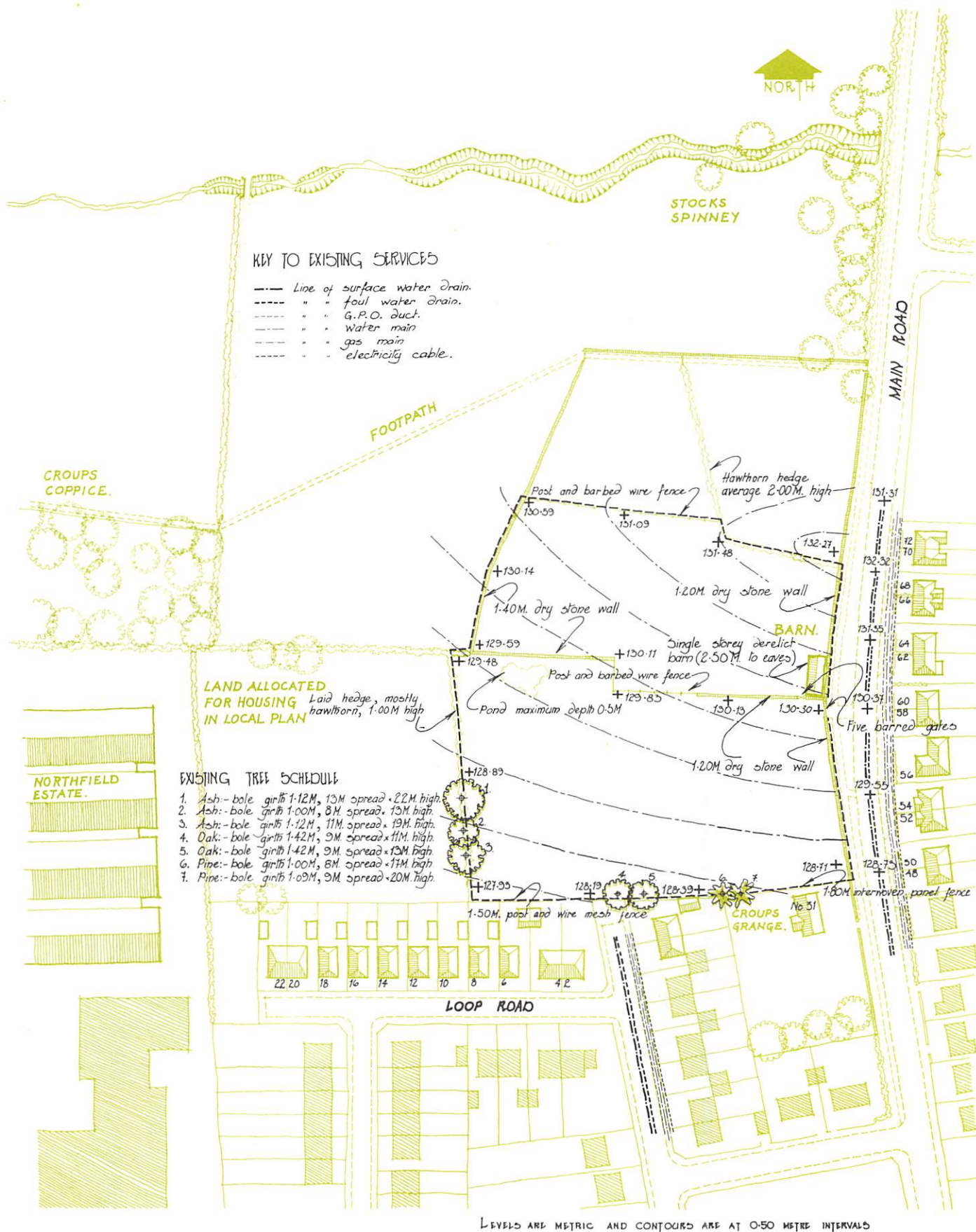


figure 27. Example of Outline Application Drawing



Example of a site plan for a planning application. figure 28.

Roads and Sewers Applications

- 4.4** This form of planning application is not adequate without a supporting plan indicating clearly and accurately the layout of houses. It may not be acceptable at all in certain circumstances.

The purpose of a Roads and Sewers application is to establish the overall form of a layout before resolution of the detailed grouping of houses or their architectural form. Permission on this enables a builder to

proceed with constructing roads and sewers in accordance with the layout.

Documents required are quite extensive and include detailed constructional drawings. The planning application forms used are standard as in *Section 1.3*.

In addition to a Location Plan, a Block Plan of minimum scale 1:500 is required together with engineering details.

Detail Planning Application

- 4.5** A detail planning application incorporates all the elements of the previous paragraphs, together with architectural details of all the buildings and structures and landscape layout.

The forms used are outlined in *Section 1* of this guide.

Drawings required are:

Location Plan — see '*Outline Permission*' — at 1:2500/1:1250

Block Plan — *incorporating:*

A. Existing features —

1. Boundaries — nature and dimensions.
 - a) Boundaries of the site.
 - b) Field boundaries within the site.
 - c) Gates and other openings.
2. Topography — for example grid of levels sufficient to enable land form to be fully appreciated or measured contours at about ½ metre to 1 metre intervals.
3. Structures — nature and dimensions.
 - a) Buildings (derelict or otherwise) on site.
 - b) Buildings (derelict or otherwise) adjoining site.
 - c) Historical remains.
 - d) Archaeological remains.
4. 'Natural' features — nature and dimensions.
 - a) Trees — species, (trunk, height, spread) measurement, precise location.
 - b) Large shrub groups.
 - c) Rocky outcrops.
 - d) Water — streams, ponds, springs, marsh.
 - e) Wash land.
5. Communications and services.
 - a) Roads — accurate dimensions, location and alignment.
 - b) Footpaths — accurate location adjoining or on the site.
 - c) Sewers and drains, soil and surface water, dimensions and location.
 - d) Overhead lines near or on the site.
 - e) Other underground services on or adjoining the site.
6. Other major constraints on development, special soil conditions, subsidence, fill, wayleaves, covenants and so on.

B. Proposals —

1. All boundaries — nature and dimensions, retained or new.
2. Topography — levelled or contoured land form changes.
3. Structures — all new buildings and engineering works properly to scale.
4. 'Natural' features.
 - a) Existing features to be retained.
 - b) Existing features you intend to remove, replace or otherwise alter.
 - c) New tree or shrub planting.
 - d) Water features.
5. Communications and services.
 - a) All changes to existing roads, sewers or other services.
 - b) All new roads, cycle ways, footpaths.
 - c) New sewers.

Note: All new services must normally be underground.

Detail Drawings — see *Section 1.3*

Location plan
Block plan — existing
Block plan — proposals

- 4.6 The previous information is entirely factual and quantitative. Before a design can be fully evolved other more qualitative factors deriving from the site and its surroundings are of at least equal importance. These we place under the heading 'Appraisal', which incorporates not only comment about the interaction of existing elements but also how they may be used to advantage in designing a new development. They are value judgements related to complete environmental character. This evaluation should be done by any designer and would certainly be undertaken by a Planning Officer responsible for the three dimensional aspects of development. It forms an important basis for 'Planning Design Briefs' which are issued with many outline consents.

It is not possible to check-list such assessment, but an annotated plan opposite, incorporates some of the aspects and others are indicated below. Plan drawings for this would be supplemented by other three dimensional representative material, for example, sketches, photographs, models, the extent depending upon the importance and size of the site.

- A. *Psychological Environment* — the atmosphere or feel of a place and its analysis — a sensory response.



- B. *Land form* — high points, long slopes, valleys, steep slopes, their prominence within and around the site; how these and the traditional settlement form are related.
- C. *Settlement form* — edges, centres, extent, density, apparent density, relationship of building groups to one another and their internal landscape; possible improvements which could be made by new development and its surroundings.

- D. *'Natural' features* — trees, large shrubs and shrub groups, hedges, how they relate to land form and settlement form (limitations and potential), water, the condition and content of streams and ponds, (rocky outcrops, for example, for use in play areas).

- E. *Architecture* — traditional forms, proportions, materials, colour, texture, characteristic details; buildings on the site which may be retained and used to provide the sense of historical continuity.



- F. *Physical environment* (other than visual) — micro climate (orientation, slope), sound (desirable and detrimental): tactile; smell (desirable and detrimental).

- G. *Historical and archaeological* — visible remains which may require preservation, protection or archaeological examination; association with historical events.

On any one site, such factors occur in varying permutations, differ in their effect on the designer and frequently therefore, if used rather than swamped, are one of the main sources for achieving the differences in character that enable one place to be distinguished from another.

An appraisal is limited in its extent and its influence on the design process only by the skill and imagination of a person undertaking it.



The sketches on this page show how quickly existing characteristics can be conveyed; opposite is a plan showing how a site appraisal might be noted.



- 4.7 This plan represents an intermediate stage between appraisal and the final layout design. It shows responses by the designer to features and constraints established by appraisal. Many options are explored in such a process. This one was rejected in favour of the final layout because many interesting and valuable features would have been lost in highway requirements for the junction between *Main Road* and the new cul-de-sac — *The Barn*, the stone wall — and much site area would have been lost with visibility splays.

This is typical of a rough intermediate exploratory sketch and is intentionally included on that basis, as one of many. "*The Green*" had already appeared at this stage as a central feature — a response to the countryside beyond.

Contrasting house groups:

Group 1 — open textured, low density large gardens much landscaping.

Group 2 — tightly grouped around the cul-de-sac, typical of village clusters in the area, but with large private gardens, still presenting much landscape to the surrounding countryside.

Group 3 — formal arrangement to act as a feature — not perhaps appropriate in this context and could lead to conflict with road; potential link across "*The Green*".

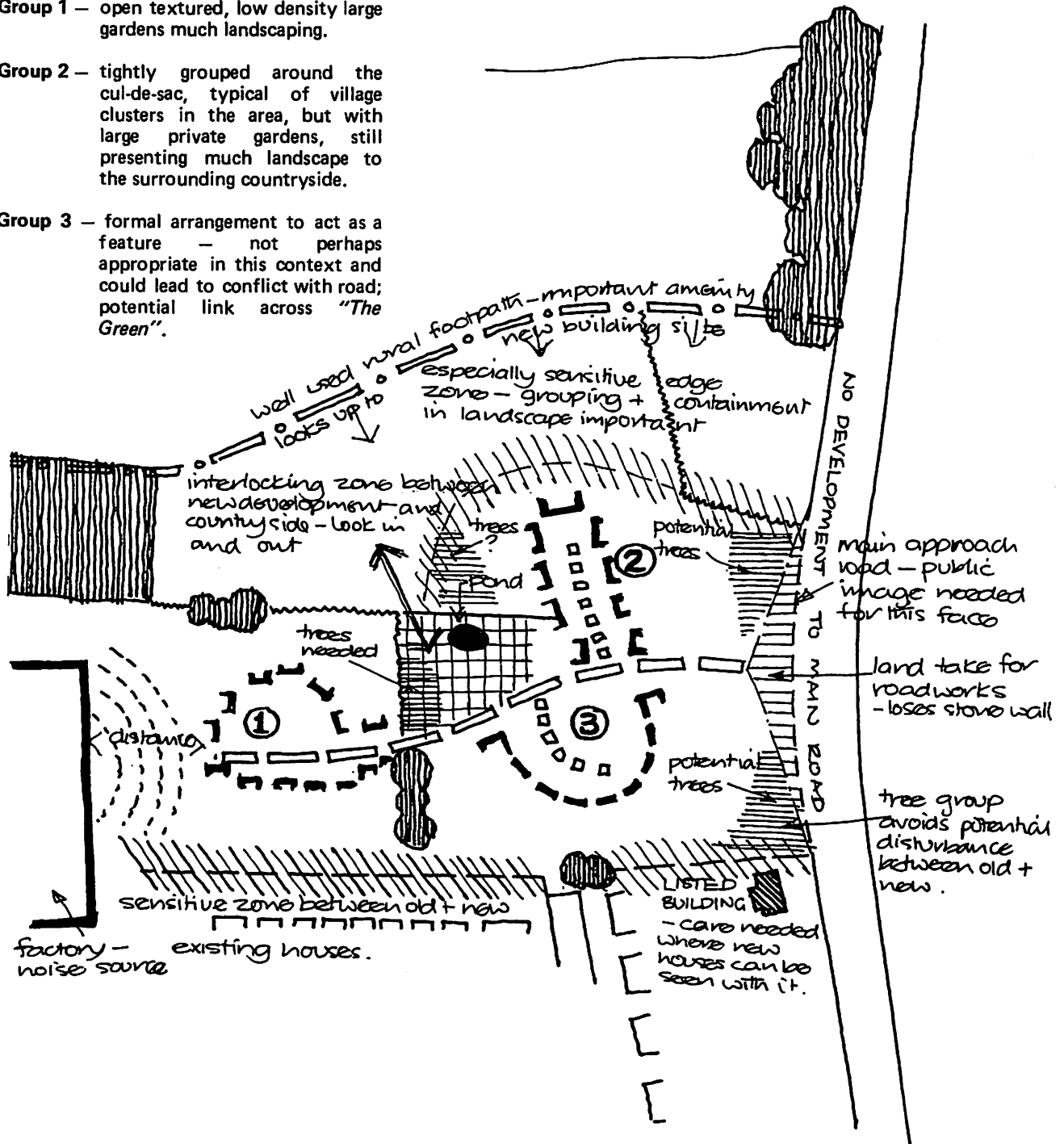


figure 30.

HOUSE TYPES AND PARKING.

- [A] 3 Bed.
 - [B] 4 Bed.
 - [C] 2 Bed.
 - [X] 'Special' individually designed.
 - [Cn] Converted Barn.
 - [*] Single storey dwelling.
 - [g] Garage.
 - [] Drives and Parking Spaces.
- ## SITE FEATURES.
- Contours at 0.5m. intervals.
 - Existing stone wall 1.2m. repaired and retained.
 - Brickwall 1.8m.
 - Brickwall 1.0m.
 - Existing hedge retained.
 - New hedge.
 - Existing tree retained.
 - Existing tree removed.
 - New tree planting.
 - New block planting. (extent of canopy when mature).
- ## DRAINAGE.
- Surface water.
 - Foul water.

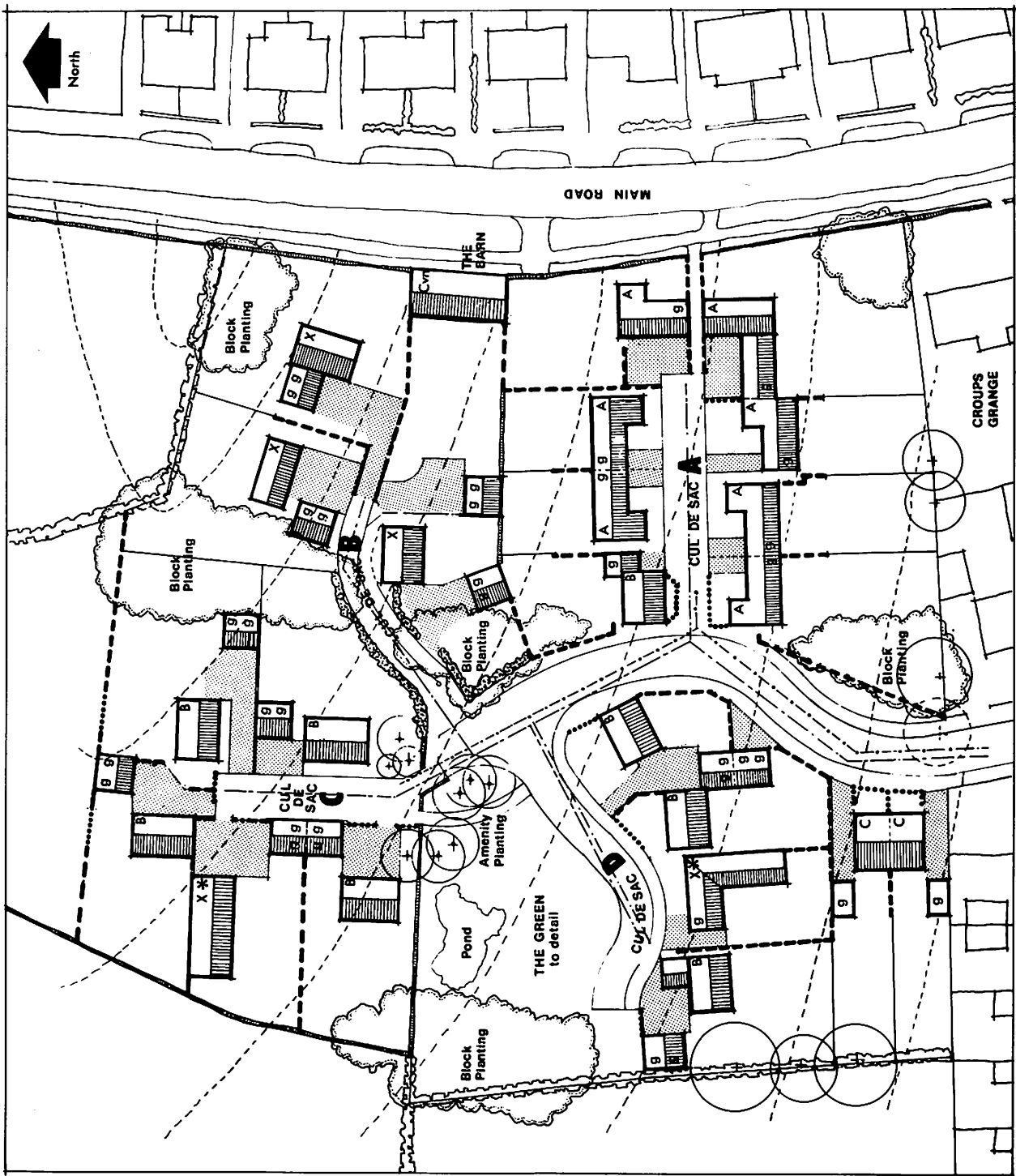


figure 31.

Example of a layout plan for a planning application on the site.

Planning Constraints and Opportunities

Introduction

4.8 The following pages constitute an analysis of planning aspects of the scheme shown on the detailed application plan. Each element is extracted separately on the plan base and then discussed in relation to the Town and Country Planning Acts and relevant topics in the following order:—

1. Features of existing landscape retained
2. Major landscape and planting
3. Public visual penetration
4. Space Around the Home
5. Private vehicle manoeuvring parking and service vehicle access
6. Circulation use types
7. Adoptable areas and Highway Land take
8. Statutory Undertakers provision

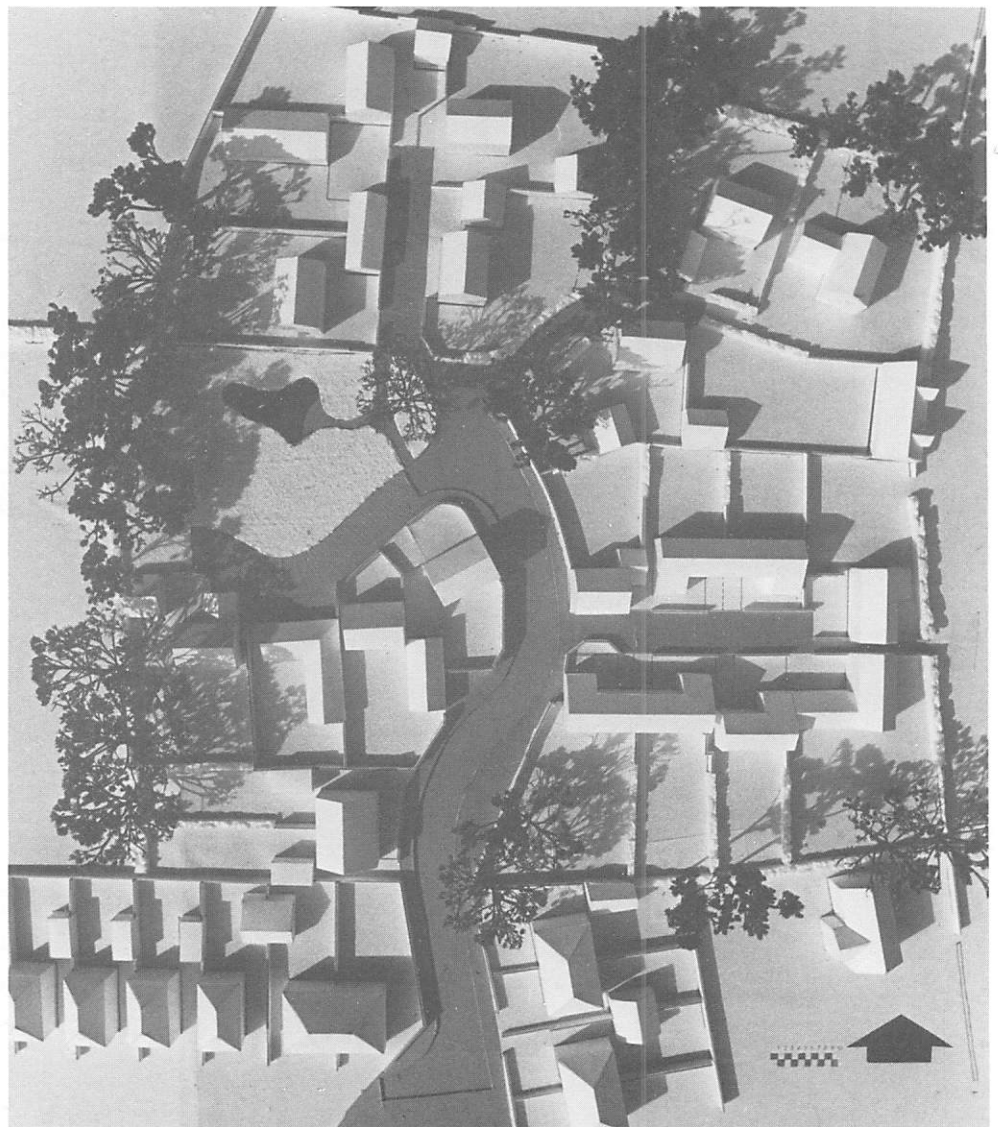


figure 32. This photographic plan view of a model of the layout may help in relating the plans which follow to the three dimensional consequences.



figure 33. Plan showing existing landscape features retained

Introduction

This plan shows those features of the existing landscape which would be retained in this development. Their retention would be a major factor in the design from the outset. Included are trees, hedges, pond, field walls and a barn.

The following general Town and Country Planning Constraints may be found applicable on many such sites.

- 1. Tree Preservation Orders
- 2. Listed Buildings – Structures, for example walls, forming essential part of Listed Building group.
- 3. Conditions of planning consent.
- 4. Conservation areas.

On this particular site the following features are developed.

A. Hedgerows are not normally covered by a Tree Preservation Order, but young trees within such a hedgerow may be. Hedges may be protected by a condition attached to any planning consent.

Large hedgerows in particular have immediate landscape impact in a new residential area, where frequently they are the only available large scale vegetation until new planting and gardens mature. Those on this plan are retained for two additional reasons – one forms essential screening for the estate from the main road approaches; the other has valuable trees in it. Both form a substantial basis for new block planting until that matures.

B. Existing mature trees may enjoy the protection of a Tree Preservation Order or a condition of planning consent. Such trees on a residential site should be considered a valuable environmental resource greatly enhancing the potential enjoyment of living there.

Most established settlements have room for large trees. Careful planning is necessary to incorporate them satisfactorily within a layout, but apart from that, they require little in the way of additional resources.

There are two existing groups in this layout, B1 and B2.

B1 is the group of hedgerow trees at their prime. The house adjacent to it has been so planned that the gable, containing only minor windows is 2 metres minimum outside the largest envisaged canopy spread. Had this been a wall with major windows in it – for example the only window to a living room – this distance would have necessarily been much greater, depending upon the size and density of the tree.

In no instances should garden areas be planned so that mature trees take up any of the allocation referred to in the Data Sheet 'Space Around the Home'. As a general guide line this zone should be so planned that it is not overshadowed for more than half the average available hours of sunlight.

It has been necessary to plan for the removal of one tree from group B2 because the access road cannot pass elsewhere.

All the old sandstone field walls have been retained and incorporated logically into the new layout. Not only do they provide an interesting variant to available modern house building materials, but also a sense of continuity with the greater landscape.

seepage. Potentially self cycling and properly landscaped, it has been used to form a most valuable focal feature for this residential area.

The pond is spring fed, but drained by

An existing field barn is retained and incorporated as a conversion.

Major Landscape and Planting

4.8.2







- KEY
-  Embellishments and smaller elements
 -  Major Amenity Planting
 -  Block Structure Planting
 -  Wall above eye level
 -  Wall below eye level
 -  Grassed Areas



figure 34. Plan showing developed landscape design.

Introduction

This analysis shows new planting of three types, together with new boundary features related to the development. It is commented upon under four headings, three of which — *Block Structure Planting*, *Large Scale Amenity Planting* and *Smaller Elements* — are part of the initial work done by the developer, whereas the fourth, *Embellishments*, indicates the 'thickening out' opportunities for individual owners. All this is additional to the existing features retained discussed on the preceding page.

Settlements expanding rapidly into the farming landscape tend to obliterate remnant hedgerow trees. Even where they are retained, their impact within a large area of housing is considerably less than it was as part of a line of vegetation and effective only over a much smaller radius. On the other hand the impact of housing in modern materials and large increments of growth is considerable, viewed in the overall landscape of the Leicestershire towns and larger villages.

This is an edge of settlement site. It is necessary to develop a proper transition between farming land and residential growth. Opportunity for tree planting in the modern farming landscape is there, although infrequent, providing that the field pattern is adapted to the changing needs of mechanised farming, but this is a gradual evolution.

Lines of trees on the edges of housing estates do little to alleviate the situation. Careful design of the housing layout is necessary to incorporate groups of large trees in such a way that they penetrate the housing. (This may be achieved by a systematic gradation of tree planting).

Block Structure Planting

This is put in by a developer either before the estate is built or in the very early stages of building. Its function is to provide groups of trees as quickly as possible at salient points identified by the appraisal. Blocks are closely planted as for forestry, protected throughout early years of growth and

progressively thinned. Because of this, and because it is generally in fairly large blocks, it is feasible to plant before an estate has been started. Such planting may be adopted or transferred to private ownership; it may have a Tree Preservation Order applied shortly after planting.

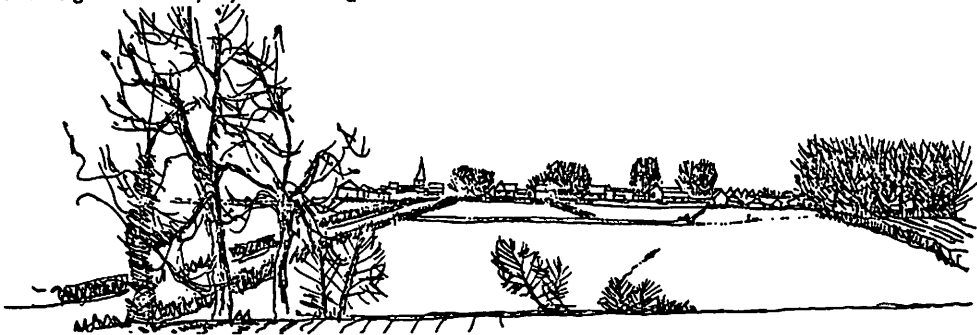


figure 35.

This view from 'main road' towards 'anytown' shows how the main planting has been used to contain the new development. 'Stocks Spinney' is left foreground, with the stream and 'Croups Coppice' is on the right.

On this lay-out, a grid of block structure planting has been designed to achieve maximum impact. Because of the location of the site, the allowance is at the upper end of the scale indicated on the Data Sheet. There are five blocks labelled A, B, C, D, E.

Blocks A and B link visually with *Stocks Spinney* — see survey plan. Together with *Croups Coppice* these two blocks will also contain and frame new development within the settlement edge. By positioning them in this way, relating to mature clumps, more effective use is made of quite small new block plantings. B is designed to penetrate into the housing in an area of large gardens so that when mature it would be a significant feature from many viewpoints — whilst travelling along *Main Road* in and out of *Anytown* it would be a backdrop to the houses. Approaching *Anytown* along *Main Road* it frames and contains the housing; in the long view in the landscape it intensifies the tree massing at the settlement edge; from within the new housing, read with Block C,

it gives a strong indication of open country beyond, whilst forming a backdrop at the end of the road; it also forms part of the group of internal features that give a sense of place, of arrival and interest, and is then read with Block C and D, *The Green* and the stone field wall. The three dimensional consequences may be seen on the two large axonometric views and sketches in 4.9.2

Group D is important, both relative to *The Green* and to the important footpath — see survey and appraisal plan; it also forms a backdrop from *Main Road*; it makes a spatial sub-division between this housing and future development in the adjoining field.

E is placed to form a feature at the end of a long road vista and to link in with the overall tree grid seen in distant views of *Anytown*.

None of this planting encroaches upon the basic garden areas recommended in Data Sheet 1 'Space Around the Home'.

Large Scale Amenity Planting

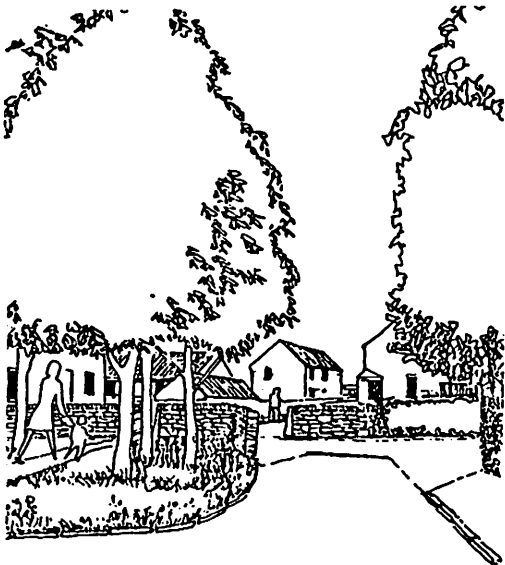


figure 36.

On the right hand side of this sketch is part of the block planting adjacent to cul-de-sac B; on the left is the clump of trees on 'The Green' which would be considered large scale amenity planting.

Like the Block Structure Planting this would be put in by the developer, but as each part of the estate was developed. When incorporated in the house curtilage it should wherever possible be planted before the house is sold. Its functions are similar to those of the Structure Planting but looser, to give continuity to the landscape penetration.

The planting design of both block planting and large scale amenity planting should be carefully detailed to use the optimum canopy spread to best advantage — that is, to use smaller trees where spread is undesirable and large scale trees for bulk at the centre or on edges where canopy spread is unlikely to be a problem.

Smaller Elements

Hedges, walls, fences — all have considerable impact on the public environment and should form a part of the initial design and installation of any residential development. Continuous 'open frontage' is not suitable for any but the most rigidly controlled architectural approach as it conflicts with the owners potential desire to personalize.

It is far better to design an enclosure or forecourt for front gardens as part of the initial concept, particularly in owner occupied housing, to enable people to treat

these areas individually and at the same time maintain some continuity to the street — the public zone.
These should be installed by the developer. Some of the walls and fences shown on the plan are essential screening for the *Sitting Out* area of the garden. This screening should always be masonry — brick, stone — or solidly constructed close boarded timber fencing. Generally available panel fencing is not suitable for such situations due to its fragility, most particularly when adjoining streets, footpaths or other public areas.

Embellishment

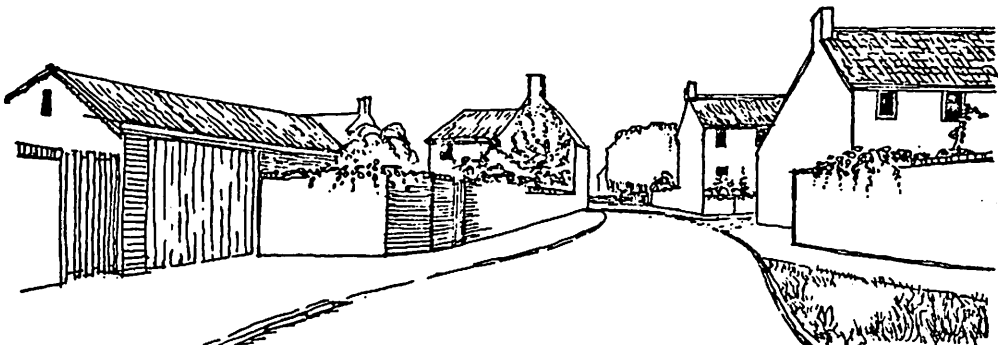


figure 37. Even where gardens are enclosed by walls for reasons of privacy, the planting in them has some effect upon the street as it matures, overhanging walls or growing up them.

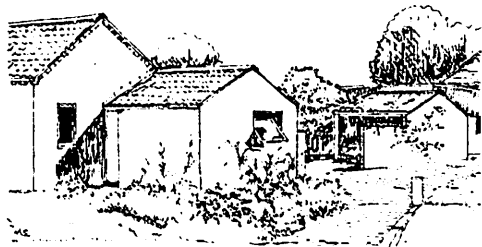


figure 38. Where houses have gardens without walls, private planting has immediate impact, as it is effectively part of the street landscape.

This is the personal element, the contribution of each householder. The planting of private gardens with individual treatments is of great importance in a residential environment. Glimpses are usually visible from the public zones, occasionally planting spills out over the walls and fences, all adding immeasurably to the pleasure of living in such an area.

Possibilities for this personal planting are briefly indicated on the plan.

Special Features

In this development there is a feature. This has been called '*The Green*'. It is intended as the focus and creates a sense of being somewhere rather than anywhere. Such

events need to be approached on that basis at the outset of design, whether they use existing features — as this does — or create an entirely new one.

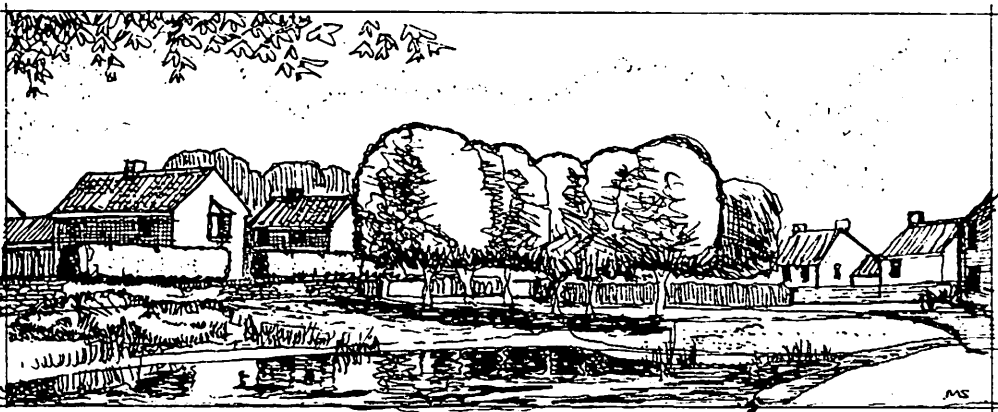


figure 39. *The Green* — picturesque intentions.

4.8.3 The Data Sheet "Space Around the Home" outlines relationships between the various zones of outdoor space from the housing

street, *Zone 0* to the sitting out area of the private garden — *Zone 4*. This plan shows how this relates to a layout.



figure 40. On this plan the extent to which a passer-by can see into private curtilage is indicated by the intensity of stipple.

The public zone in this case consists of "The Green", the new estate road and the small housing roads, together with a very short footpath. *Main Road* has a different zone rating as it is a more dominantly public area. This is discussed in **Data Sheet 1A "Community and Privacy"**.

Measures should be taken during layout design to ensure that the degree of exposure of the private garden — *Zones 3 and 4* — to the housing street — *Zone 0* — is carefully restricted. As will be noted on this layout, this has been done wherever possible by interposing the house between the two and where this is not possible, using walls. This leads to the traditional interplay, experienced in villages in particular, between high walls and the larger bulk of houses, and between the walls and the details of their openings. Glimpses of the internal areas seen at occasional corners or breaks add to this dynamic interplay.

However, on this layout it will be seen that there could be unsatisfactory situations. On *Cul-de-sac A*, two houses at the end could have their whole garden area exposed behind a 1.2 metre high wall, suitable only for enclosing a forecourt or front garden. This is not as serious for house No. 2 as there is a very large garden with ample opportunity for internal screening, but house No. 1 would need additional screening at the outset, adjacent to the boundary.

The important footpath noted on the **Site Plan** and **Appraisal** has also been considered here and taken care of by retention of the existing hedge, block plantings and new boundary walls to the gardens off *cul-de-sac C*.

It should be noted that total screening — that is extensive obliteration from view — is not recommended over a large area. A system of containment may be used as in this scheme on *Main Road*, providing that the needs for sitting out areas in private gardens are fulfilled. If reference is made to the **Main Plan**, in figure 31. *Detailed Planning Application*, it will be seen that this has been achieved by using bulky elements end-on to the road — the group of trees on the boundary with *Croups Grange* — the layout of *Cul-de-sac A* like a peninsula, "The Barn", and the block planting at the outer edge of the site. This means that seen in perspective along the road the gardens are concealed, and only when one is actually alongside could one see in to any depth.

"*Main Road*" and the important footpath would be graded *Zone C* on the basis of "Community and Privacy" — **Data Sheet 1A** — and as such need attention to more "Civic" aspects of design since they affect outside visitors to "Anytown".

Space Around the Home

4.8.4 This follows on naturally from **Public Visual Penetration** and the drawing shows the location of the zones within this layout as

shown on Data Sheets 1 and 1A. There is some overlap between this and 4.8.3 “**Public Visual Penetration**”.



figure 41. Plan showing disposition of garden zones.

In designing this layout a serious attempt has been made to organise external space so that privacy infringement between one household and another as well as between the public zones and gardens, has been kept to a minimum.

A combination of building angles, outbuildings, walls, and additional features has been used to this end. It is possible to devise groups placing greater reliance on building angles and less on walls than this layout does. Every design is a response to a different combination of circumstances.

The layout contains new road types – *Type 4* and *Type 5* Culs-de-sac. Details concerning these may be found on **Data Sheet 6** “*Circulation Geometry*” and their use within the overall circulation system in **Data Sheet 5**, “*Systematic Circulation*”.

The use of these small housing roads is advantageous in this context as they reduce the potential for conflict between public and private. Each house group is small and only visitors to that group are likely to use the street in addition to its residents. The whole

development is based upon a cul-de-sac system. This means that even the public zone of “*The Green*” will relate to a group of at most 60 houses. At this scale it is possible for a sense of individual involvement to be achieved, with supervision and possibly even some maintenance undertaken by residents’ groups. It is considered that this sense of group “ownership” enhances the potential for successful integration of attractive features in housing. If involvement is too extensive – that is if the feature is open to a large community – this sense of ownership is lost. **Data Sheet 1A** “*Community and Privacy*” represents an attempt to gradate this concept sufficiently to make it a design tool or a basis for assessment. **Data Sheet 1** is concerned with those spaces immediately surrounding the home.

In this instance, walls are an essential part of the screening from the main cul-de-sac – a *Type 6* traditional housing cul-de-sac – refer to **Data Sheets 5** and **6**.

Some gardens on this layout consist entirely of sitting out area — *Zone 4*. This is because the gardens are well screened so that the whole area is suitable for the degree of privacy recommended for sitting out areas. The houses at the head of cul-de-sac A each have two “front gardens” one of which will be a garage forecourt, the other facing onto *Main Road*. It is nevertheless possible for main windows to face into private garden areas — *Zones 3 or 4*. Two of the sitting out areas on *Cul-de-sac A* will have partial shading. However, the gardens are large and as an exception this may be acceptable.

Main Road bounding the east of the development site is an important route into and out of *Anytown*. It does not carry heavy traffic, there is a by-pass elsewhere, so there is little noise problem. However, it does have general community importance, so that care is needed in the design of the area alongside it, and in providing privacy for garden zones from it. The former has been discussed in 4.8.3 “Public Visual Penetration”. The latter would need detailed attention in the form of screening within the plots at the end of *Cul-de-sac A*.

Private Vehicle Manoeuvring, Parking: Service Vehicle Access

4.8.5

KEY

Service Vehicle access

Private Vehicle manoeuvring and parking facilities



figure 42. Plan showing private parking and garage spaces and areas with heavy vehicle access.

Private vehicle parking takes up quite a large amount of space, and if it is provided away from the area immediately adjoining the highway access, requires additional drive length. This layout demonstrates a wide range of variants from minimal forecourt parking to feature forecourts, rear garages for narrow plots and quite long drive entrances. They add variety, but long drives need large plots and it is generally better to design parking areas as efficiently as possible.

In most residential areas of owner-occupied housing it is normal to allocate vehicle parking in the form of garages and parking spaces within the individual plot in the ratio of two spaces per dwelling. The details are discussed in **Data Sheet 2** of this Guide.

This is the solution preferred by most house owners and is the most secure. On group A the two houses at the head of the cul-de-sac need additional manoeuvring

space, either within the adoptable zone or in their own forecourts, even with a 6 metre wide surface.

On group B each house must have a turning space to enable a car to enter and leave forwards and turn in the direction of the road exit, angling the drive towards the direction of travel. On group C it is not necessary to have internal turning spaces for each house because the cul-de-sac is 6 metres wide, enabling a vehicle to be backed out and turned. The forecourts here have been used as a design feature. On group D each unit is treated as for a standard *Type 6 or 7* route.

Heavy service vehicle access is limited to the Zone indicated on the main access and cul-de-sac D.

See **Data Sheets 5 and 6** and '*Highway Requirements for New Developments and Estate Roads*' published by Leicestershire County Council for details of road types.

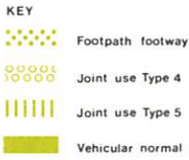


figure 43. Plan showing analysis of circulation system.

This analysis serves to show how the gradation of access can be used to serve groups of houses. Used in this way each group can be small and distinctive in layout even though a unified architectural style may be used.

Details of road types used in housing layouts may be found in **Data Sheets 5 and 6.**

All housing access roads give pedestrian precedence. Because of this they need to be designed in such a way that they encourage low vehicle speeds. In **Data Sheet 5, "Systematic Circulation"**, recommended maximum road speeds are indicated where appropriate for each element within the Circulation System. Potential vehicle speed on housing access roads *Type 4 to 7* should be maintained well inside these maxima for best efficiency of layout.

On this layout 3 vehicular streets have been used. The largest is a *Type 6* cul-de-sac, with *Types 4 and 5* cul-de-sac branches.

figure 44.

Type 6 Cul-de-sac

This is the traditional housing cul-de-sac that has been used throughout the County for many years, with the 5.5 metre wide carriageway, and 1.75 metre wide raised footways each side and standard turning

head. Some minor modifications to the turning head have been possible, enabling retention of the field wall, due to the designed configuration of branch streets.



The curves on this *Type 6* cul-de-sac both help grouping characteristics and keep vehicle speed to a minimum giving a very informal and relaxed atmosphere.

Type 5 Cul-de-sac D

This is the larger of the newly introduced streets, see **Data Sheets 5 and 6**. In this layout it has been taken off the head of the larger cul-de-sac thus avoiding duplication of road surface. This road type has a specified maximum length of 100 metres. In this example it is intended that it would be extended into the adjoining site to serve any future development to maximum of 40

dwelling total. At present only four are served from it. In its truncated form here it does not need a turning head because it is short, but when extended would require one. This road type is capable of carrying heavy goods vehicles at slow speed. There is a 4.5 metre main carriageway plus a hard surfaced 2 metre wide services reservation.

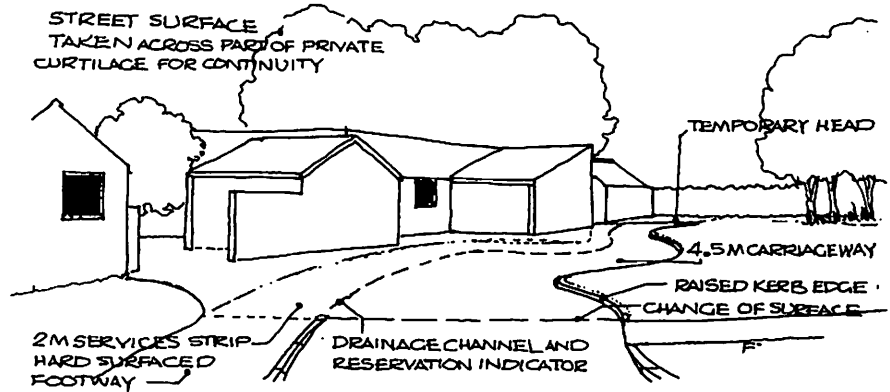


figure 45. This is a simplified sketch of cul-de-sac D from its junction with the main cul-de-sac. The Green is on the right of the sketch. The main features of the road are emphasized. Bends are to reduce vehicle speed and the services reservation is always on the left on entry.

Type 4 Cul-de-sac A, B, C

This is the smallest vehicular street and like **Type 5** newly introduced. There are many variants. Two are shown on this layout. All are joint use.

1. **Cul-de-sac A** is a 6 metre wide form. This is the minimum width into which a private car can back and turn from a private drive. Several configurations are possible at the entrance. On this the essential narrowing that prevents heavy vehicle entry takes place between a garden wall and bollard. At the end is a small footpath which allows egress to **Main Road**. This complies with the comments related to footpaths and **Type 4** culs-de-sac in that the number of households using it is very small. However, it is a weakening of the essential privacy concept of these small streets. Even though the road is 6 metres wide, it has been necessary to enlarge the garage forecourts of the end houses to enable cars to enter and leave adequately.

The street is at its maximum length, so service points of the end houses — dustbins, etc. — would need to be as near the head as possible. No turning heads are necessary in these streets.

2. **Cul-de-sac B** is the smallest width form at 2.75 metres paved width. In addition there is a soft services reservation — grass or small plants — 2 metres wide which could be gardened by the occupants of the house adjoining it. No planting of large shrubs — over 1 metre ultimate size — or trees could occur, and any planting is liable to be dug up at sometime for access to underground services. Generally it is better maintained as grass or herbaceous plants.

All private drives off this minimal street must incorporate integral turning heads with the exit angled towards the cul-de-sac entry, otherwise it would be extremely difficult to enter and leave. For this reason this minimal road is most suitable for low density developments of the type shown here.

2 METRE WIDE SOFT SURFACED SERVICES RESERVATION

2.75 METRE WIDE HARD SURFACE

END OF HIGHWAY

INTEGRAL TURNING SPACE IN PRIVATE FORECOURT

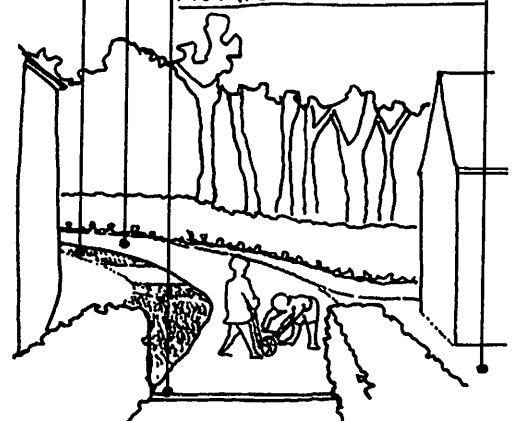


figure 46. This simplified sketch is taken from the head of cul-de-sac B where it becomes private forecourts. In the foreground is a private drive between hedges. Where the children are standing is the hard surface of the street 2.75 metres wide. On the left hand side is the 2 metre services reservation, in this particular instance, soft surfaced. In the background is block planting and the houses of cul-de-sac C.

3. **Cul-de-sac C** is similar to cul-de-sac A being maximum length – 30 metres – and 6 metres wide.

As with *Culs-de-sac A and B*, some of the flexibility for manipulating design at entry points to these roads is shown. Here it is a 2.5 metre break in the existing field wall, a feature that would have been impossible with any other road type.

Footpaths

Two footpaths are shown here. At the head of *Cul-de-sac A* is a *Type 1* – See *Data Sheet*. The footpath traversing 'The Green' is not strictly necessary, but forms an attractive link through a landscaped area to *Cul-de-sac C*.

Note that *Type 4 + 5* culs-de-sac should be differentiated in surface treatment from *Type 6 or 7* access roads and could be similar to footpaths in appearance.

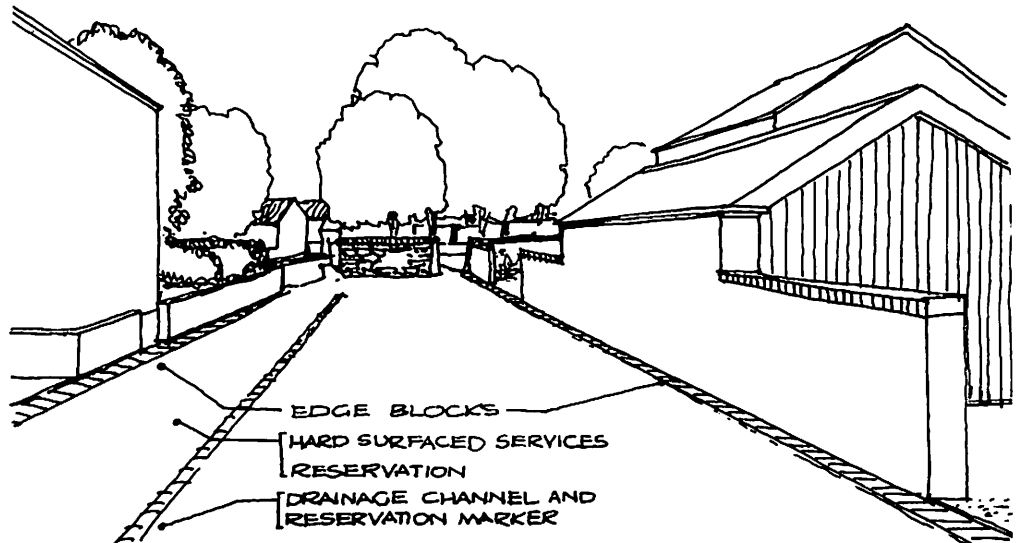


figure 47. On cul-de-sac C walls and garages contain the street, but edge blocks are still necessary. The services reservation is hard surfaced. Cul-de-sac A is similar to this. The sketch is taken from the head, looking towards 'THE GREEN'.

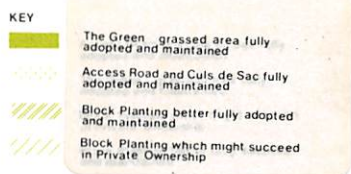


figure 48. Plan showing all areas which need adoption for maintenance.

Essential Circulation is adopted by the Highway Authority and includes all essential footpaths and services reservations as well as routes for vehicular traffic. Multiple private drives, which are not adoptable, are not incorporated into this layout, a more suitable substitute being the new small joint use cul-de-sac (Type 4).

The soft surface reservation on *Cul-de-sac B* has also been differentiated because this situation is seen as the exception rather than the rule and applicable only to low density areas.

It will be readily seen that all access routes are adoptable on this layout.

The following have been the underlying factors in arriving at this circulation layout:—

1. It would have been expensive in roadworks and would have had more environmental impact to have taken it off *Main Road*.
2. The entry point off existing estate roads permitted the use of reasonable initial approach speeds and the use of a very economical layout to serve the house groups.
3. It was necessary to reduce road speed approach as soon as possible to keep visibility splays within the layout to a minimum. The main access cul-de-sac was therefore given a bend immediately upon

joining the existing road. Road speeds are estimated by traffic engineers related to each individual configuration of bends, junctions and lengths of road. The basic information is contained in *Department of the Environment Design Bulletin 32*.

4. The configuration of access road and *Cul-de-sac D* had been devised to form a turning head, thus avoiding this as a separate feature and providing an economical informal arrangement that satisfies traffic needs.
5. *Cul-de-sac D* which would eventually be extended has also been designed to hinder build up of traffic speed.

Details of junction splays are contained in the current Leicestershire County Council Publication '*Highway Requirements for New Development and Estate Roads*', and in the relevant **Data Sheets** in this guide.

The Green is adoptable open space. This would not be adopted by the Highway Authority as it is not essential access. There is as yet no agreed procedure for adopting open areas in housing throughout Leicestershire. This is receiving urgent consideration as such space is an important feature of housing areas.

It is also better if block planting areas are adopted to ensure their continuing maintenance however minimal this may be.

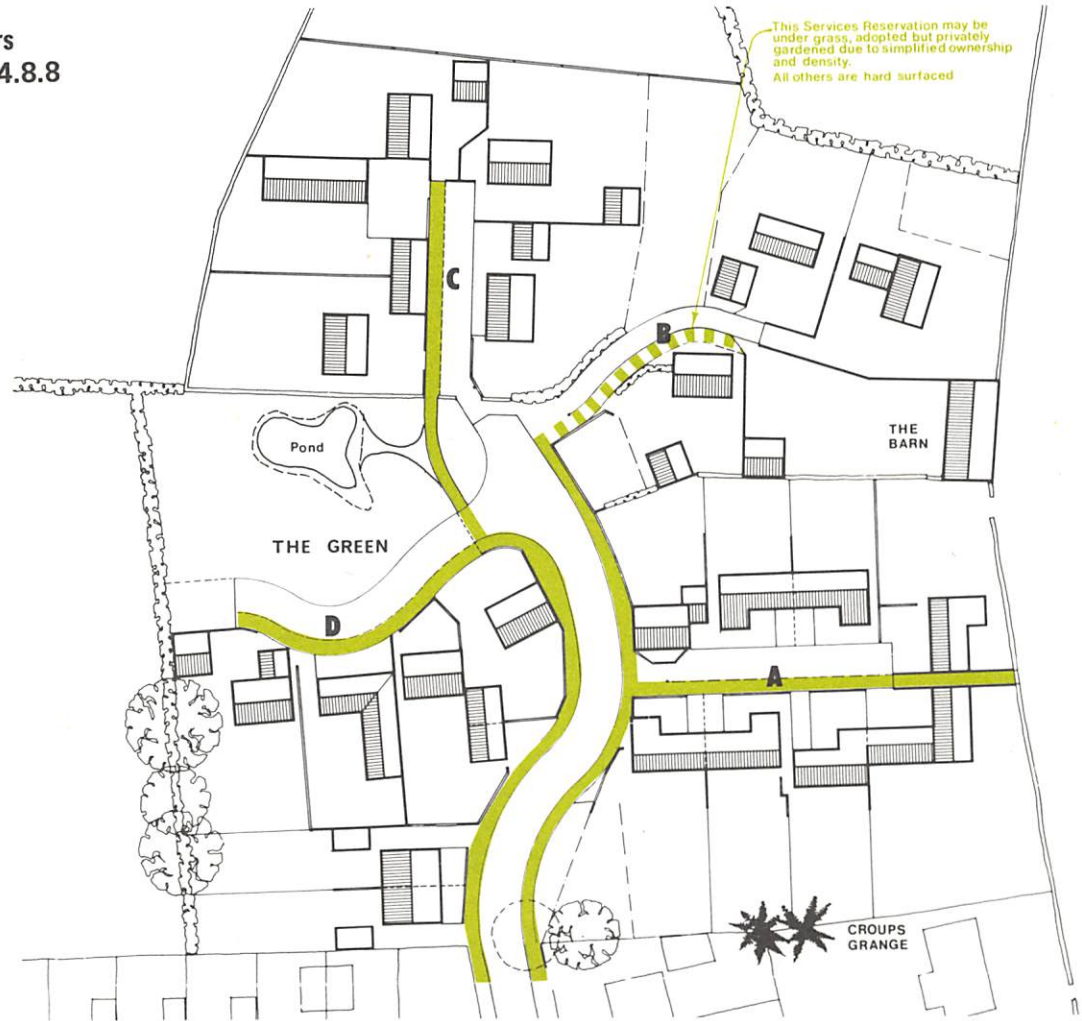


figure 49. Plan showing reservations for underground statutory services.

All services should be underground. It is necessary to incorporate defined routes for all underground services to housing; these include electricity, telephone, gas and water supply – in such a way that they are always reasonably accessible to the statutory undertakers concerned. This means they must be within adopted highway. The **Statutory Undertakers** prefer this to mean either special reservations under grass or under footways. Grass reservations are not acceptable to the Highways Authority except under special circumstances – see ‘Cul-de-sac B’ below – joint use road types have services reservations as follows:–

Cul-de-sac A and C These are both small joint use culs-de-sac – Type 4 – with a maximum length of 30 metres and an overall hard surface. In both instances the services reservation is 2 metres wide, marked with a flat drainage channel. It is possible on this road type to have two reservations each 1 metre wide both sides of the cul-de-sac. This presents some practical difficulties with narrow trenches and features additional lines in the surface which are considered normally undesirable.

Cul-de-sac B This is the smallest form of small joint use cul-de-sac type 4. There is a 2.75 metre hard surfaced area, 30 metres long. This is the maximum length. The services reservation is in this instance soft surfaced. In exceptional circumstances as

here for low density enclosed groups in a suburban or village situation, this is possible if the reservation surface can be gardened – mowing or small herbaceous planting – by the adjoining householder. It is still adopted by the Highway Authority and would be indicated by special permanent surface markers as agreed by the Highway Authority. This reservation may not be incorporated behind a boundary feature – fence, hedge, wall and so on.

Cul-de-sac D – This is the joint use cul-de-sac Type 5. It permits the entry of heavy service vehicles to the houses which it serves. On this type of cul-de-sac the services reservation must be 2 metres wide and down one side only. Its position is always marked by a flat drainage channel and it is always hard surfaced. The main carriageway area would be constructed first, 4.5 metres wide, leaving the pavement of the reservation until last.

Main Cul-de-sac The services reservations are, as traditionally, under the footways.

Reference should also be made to the **Data Sheets** on circulation in this guide and to ‘*Highway Requirements for New Development and Estate Roads*’, published by Leicestershire County Council.

Early liaison with the statutory undertakers is recommended during layout design.

Some Three Dimensional Considerations

Introduction

4.9.1 This section is concerned with the three dimensional interpretation of the example layout representing as accurately as possible the environment that has been created.

Whilst it is not the intention of this guide to deal in matters of architectural style, it is not possible to illustrate three dimensional aspects without some indication of detail. There is obviously some correlation between stylistic detail and style of layout – highly formal house types may not look appropriate scattered in a village style layout such as *Cul-de-sac C*, and very informal house types tend to look out of place disposed formally as *Cul-de-sac A*.

The groups are discussed under their respective cul-de-sac references given on previous pages. Included are groups A, C and D and some aspects of the main cul-de-sac. After discussion of the main application plan, Section 4.7 an alternative layout is presented showing how detail may be varied within the overall appraisal conclusions reached in Section 4.6

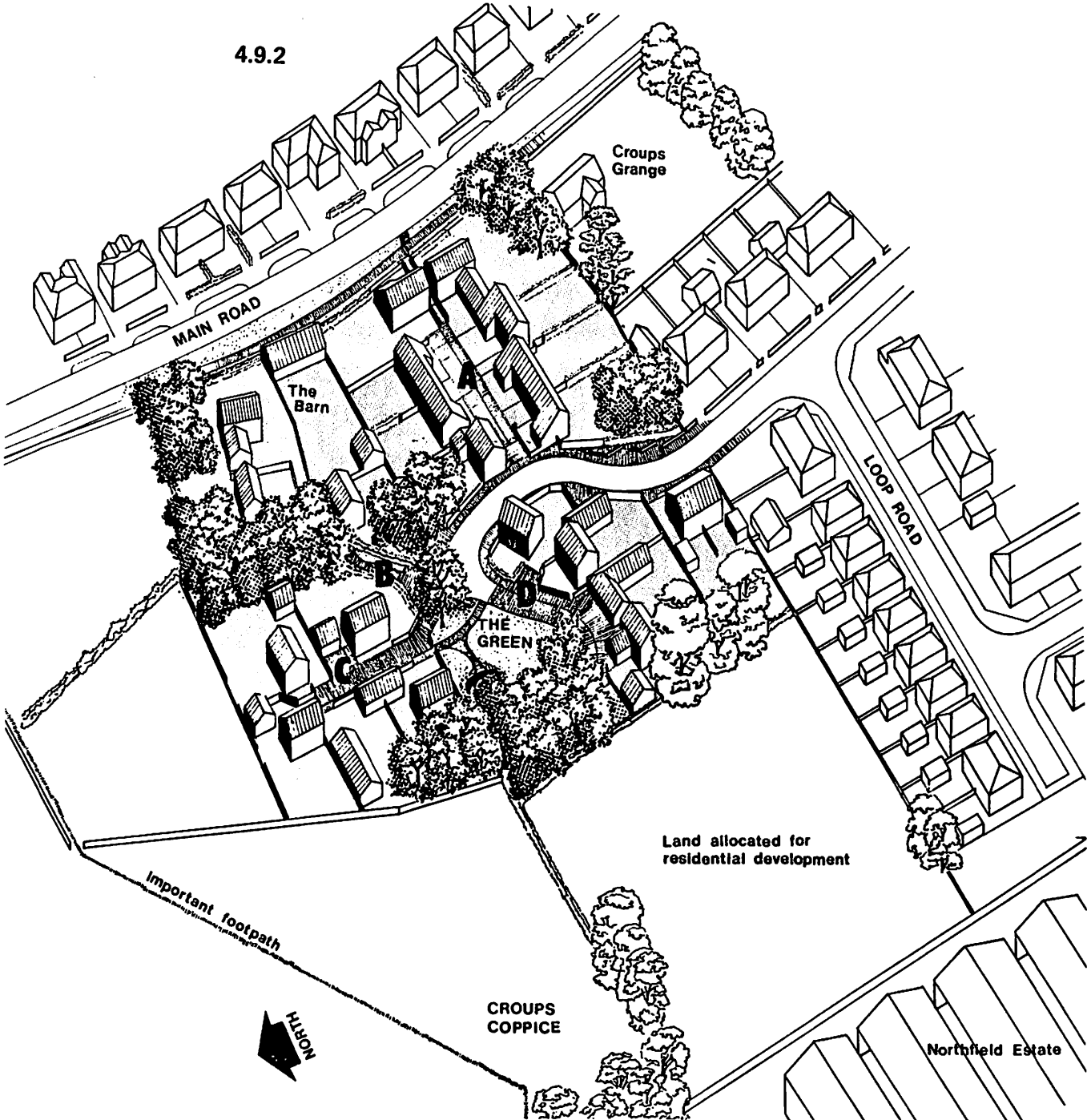


figure 50. This is an axonometric sketch, a simulated aerial view of how the development would look from the North West. Differences in spatial organisation become particularly apparent.

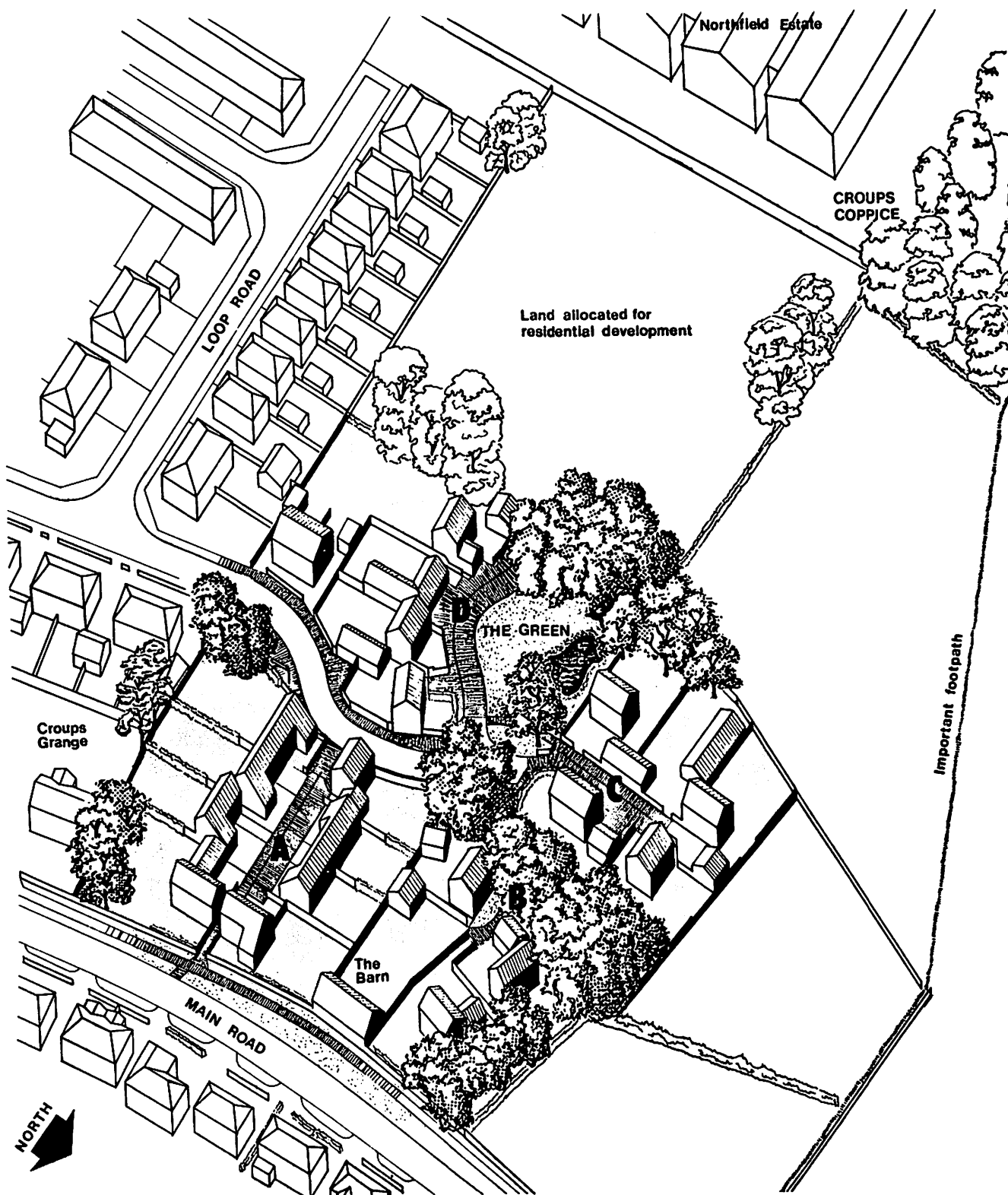


figure 51. This axonometric drawing is from the North East. It shows how features on the edges have been designed to "contain" development rather than screen it.

GROUP A MEDIUM DENSITY

4.9.3 All the houses in this group are basically the same.

'Open front' planning is generally more successful in these small groups than on normal housing roads and this group is designed on that basis.

Existing trees have been retained and new clumps planted in the very large corner plots to provide features on the main road and the new estate road.

Unity of architecture and simplicity of treatment create a neat appearance, but too much repetition in a large area would probably seem very sterile visually. The houses can be grouped close to the access cul-de-sac because there is little potential disturbance and private rooms do not face each other. This enables each dwelling to have a larger garden — Zones 3 & 4 — than would otherwise be possible. All are family homes with three to four bedrooms.

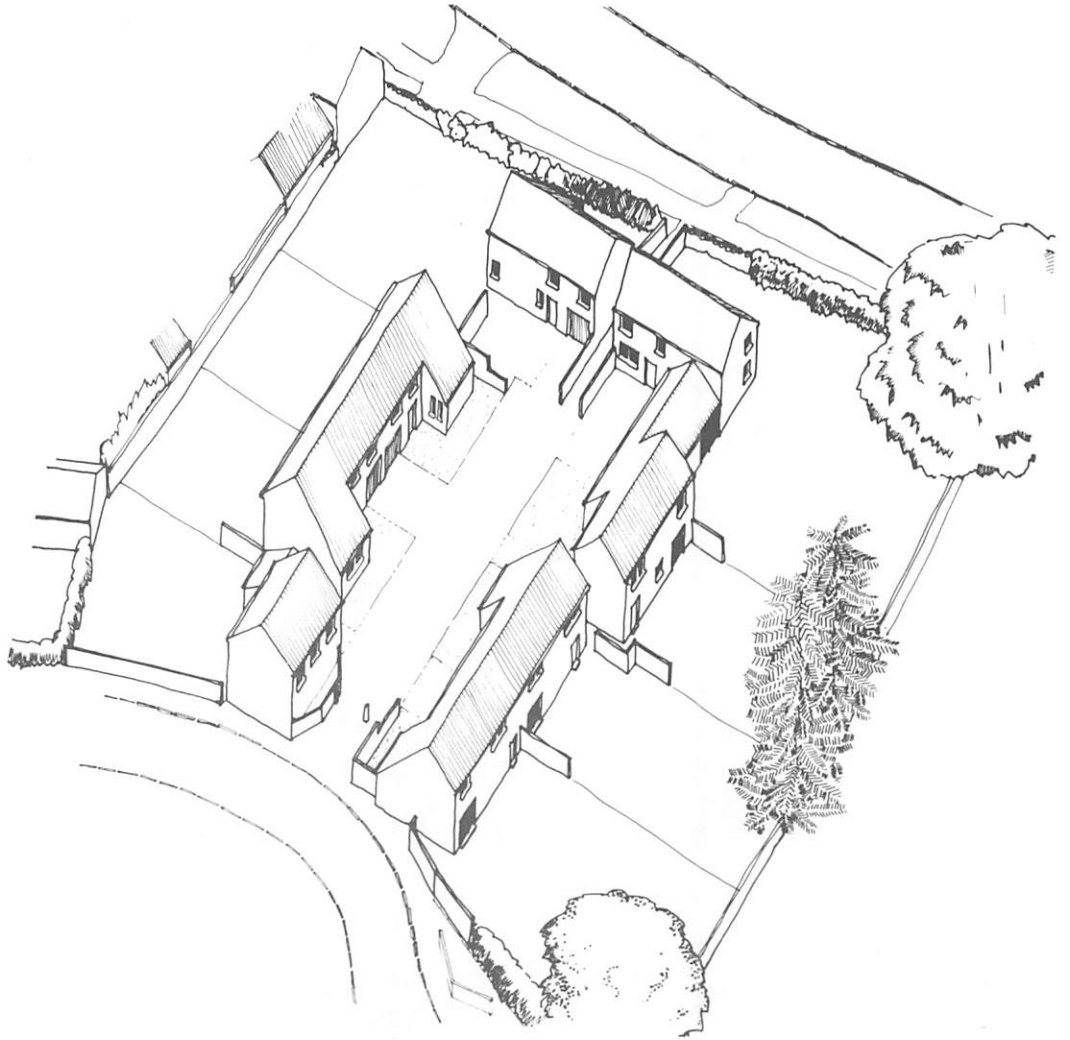


figure 52. Bird's eye view of cul-de-sac A, much simplified.

The sketch shows the more open aspect of this entrance treatment.

Circulation is via the simple 6 metre wide variant of the *Type 4* cul-de-sac. The footpath off the head is not on a major community desire line — it serves only this cul-de-sac — if it were, the cul-de-sac would have to be modified to have in addition a 1.7 metre raised footway down one side. The services reservation is under the overall surface which could be paved or in dressed tarmacadam.

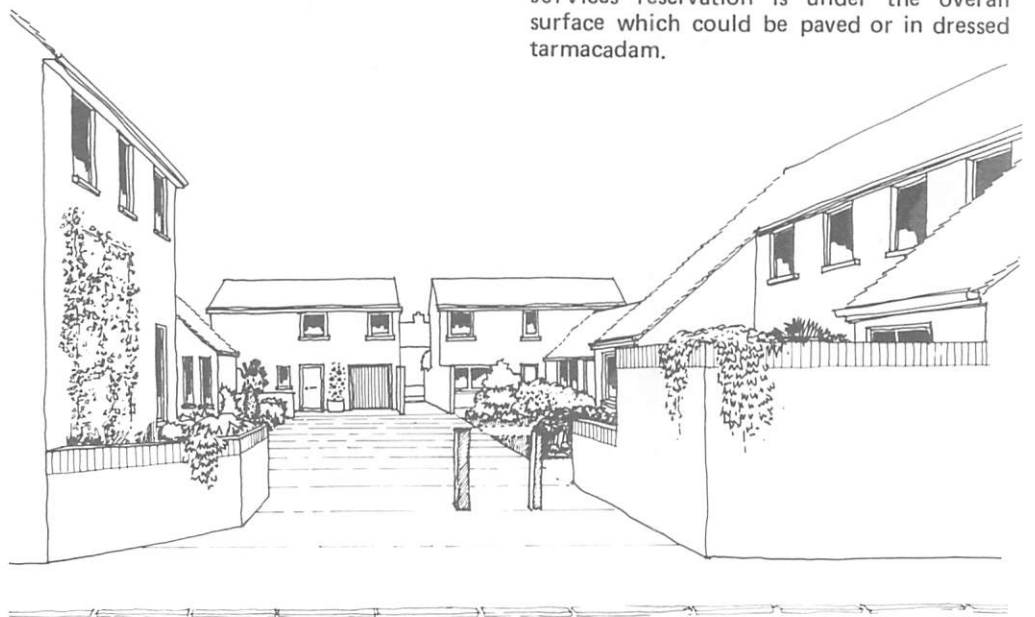


figure 53. Entrance to cul-de-sac A, houses on Main Road through the footpath gap, background.



figure 54. Bird's eye view of cul-de-sac C, landscape in colour.

This bird's eye view shows a low density group of houses on a *Type 4* Cul-de-sac adjacent to 'The Green' on the layout. Black line shows the architectural skeleton; colour shows the landscape clothing at maturity.

The group is adjacent to open countryside traversed by an edge of settlement rural footpath. In this situation gardens need screening, so an edge wall is shown with 'windows' of the lower wall for views out. A low density group creates a village type transition between open countryside and settlement. Careful juxtaposition of walls, roofs and gables interspersed with garden architecture creates this village appearance.

Block planting is away from essential garden areas — see Data Sheets 1 + 2 in the guide. but is in part conveyed as garden to the occupants. It would have a **Tree Preservation Order** in such circumstances. Existing field walls are retained and used.

Circulation is simple — a uniformly 6 metre wide variant of the *Type 4* cul-de-sac, surfaced in chippings, entirely appropriate to the informality of the group. The entrance geometry with its use of angled approach and an existing wall heightens the village type informality. The 2 metre wide services reservation is contained under the road surface.

A standard simple house type is used on four plots. Variations are in window positions and small added details. Garages and garden screen walls modulate the communal space. Variations would be further intensified by mature landscape. Roofs are an important feature.

The sketch is taken at normal eye level overlooking part of 'The Green'. Carefully detailed elements in the approaches and internal walls and roofs, build up the village image.

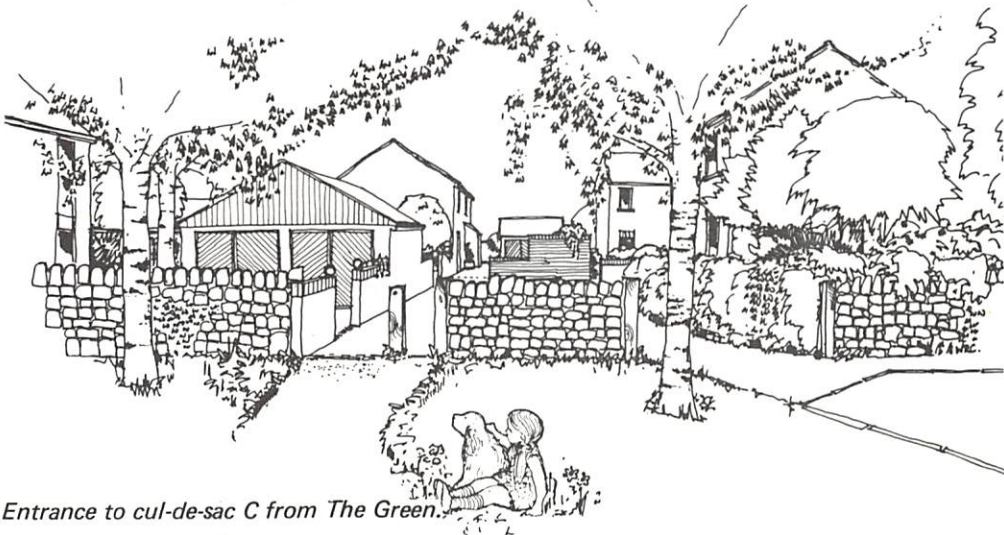


figure 55. Entrance to cul-de-sac C from The Green.

Cul-de-sac D
and 'The Green'

4.9.5 This group has been designed with its central space to create a feature, "The Green", and is part of the overall image of that feature, forming a picturesque enclosing wall on one side. The decision to use a Type 5 joint use cul-de-sac was based partly upon the practicalities of serving future adjacent development and partly upon the potential informalities allowed in its relationship with

the landscaped area. If no extension had been possible, a cul-de-sac like group B would have been better.

The line of houses has also been designed to be read with the walls and planting on and around 'The Green' so that the whole space is contained and has a character of its own.

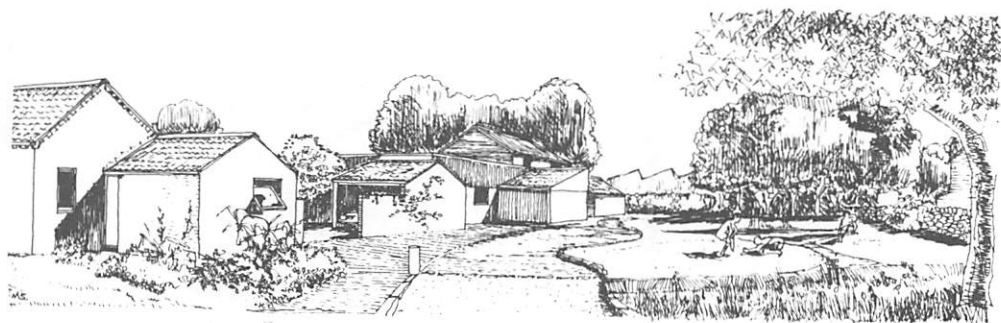


figure 56. The Green is a focal character area.



figure 57. The exit of cul-de-sac B appears quite casual, an effect enhanced by the ancillary features.

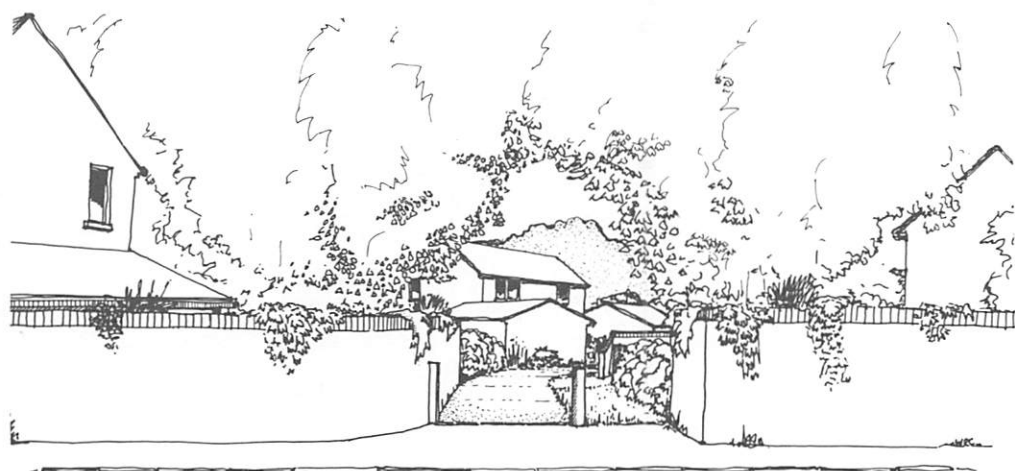


figure 58. A type 4 cul-de-sac can be very small in scale.

The Main Approach 4.9.6
Cul-de-sac

This sketch shows how treatment of the normal housing access road has been varied to create individuality and a sense of place. The same attention should be given to group formation on these roads as on the small culs-de-sac, designing them as a succession of linked events, not as a continuously repeated succession of houses in a row.

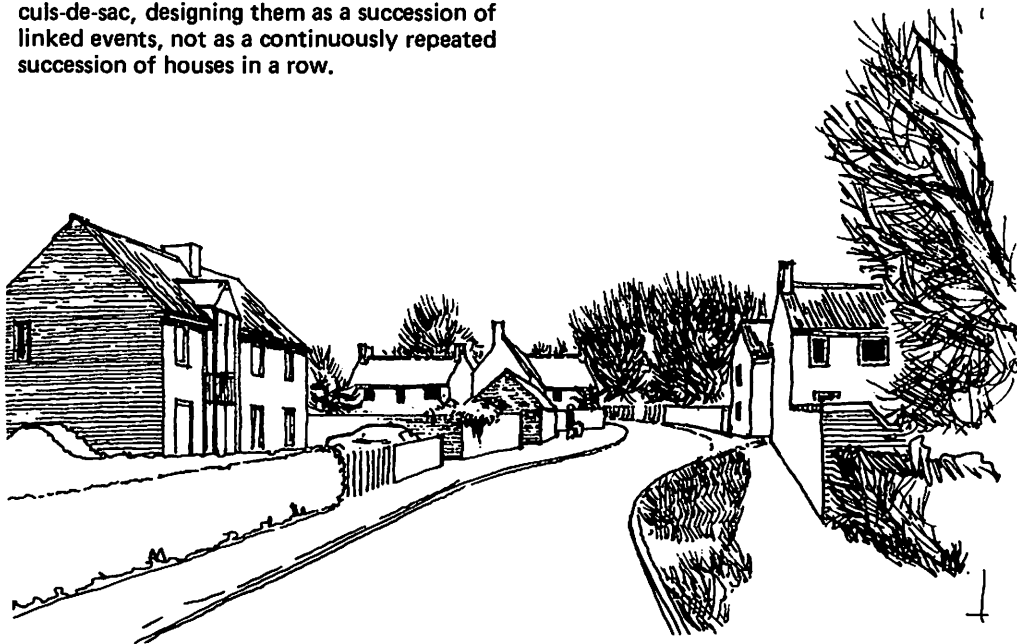


figure 59. A deliberately village effect can be achieved due to the fine adjustments possible at the exit of the new Type 4 streets.

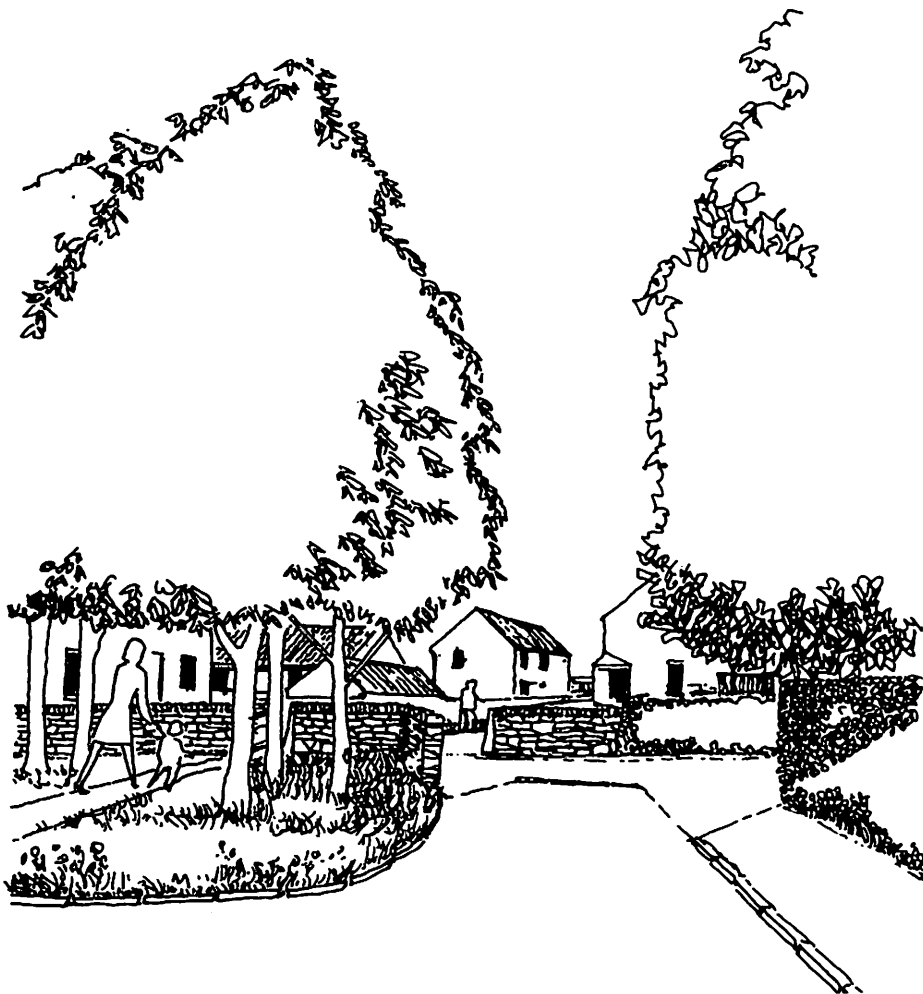


figure 60. This sketch of the head of the main cul-de-sac shows how adaptations have reduced its apparent size without negating its traffic efficiency.

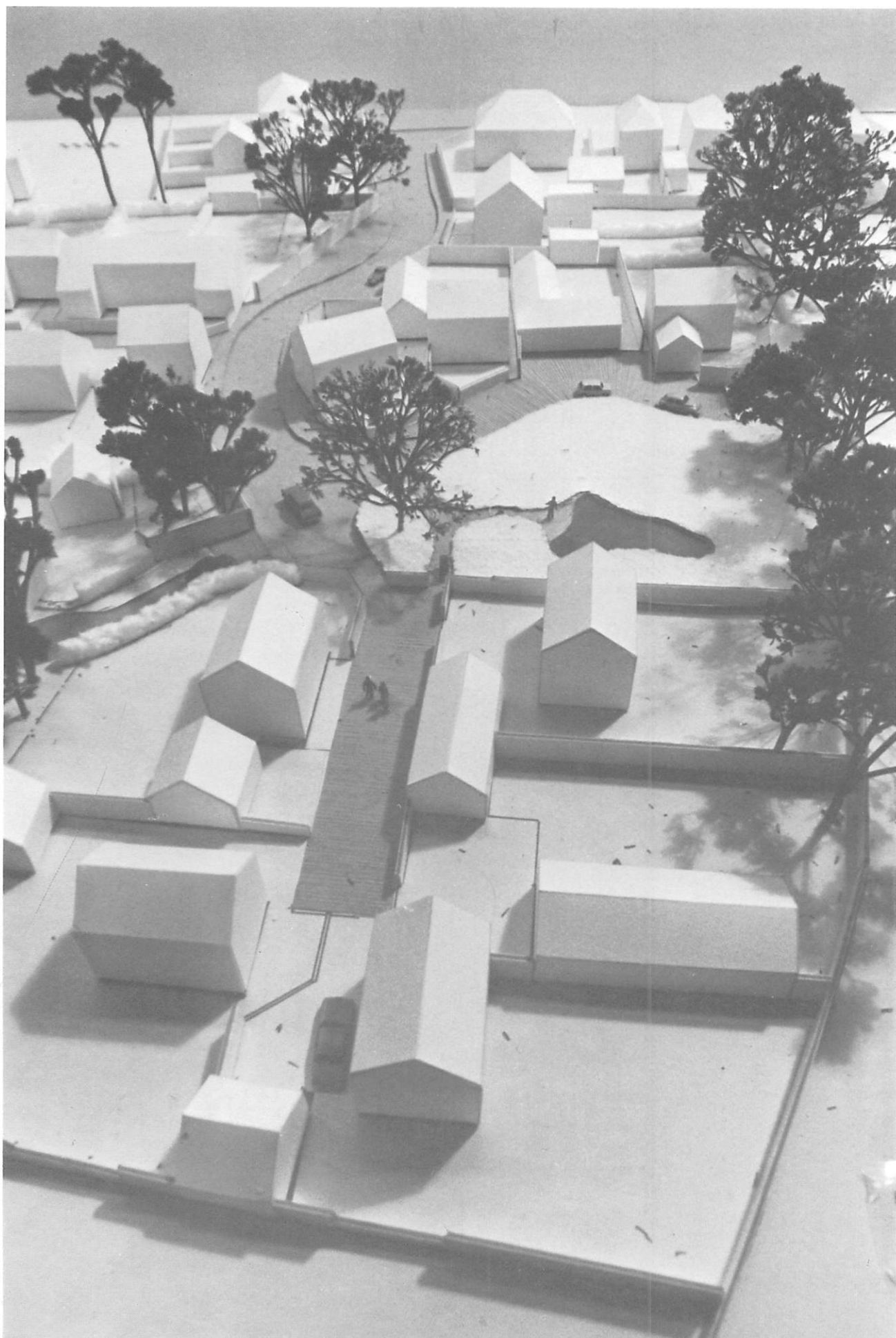
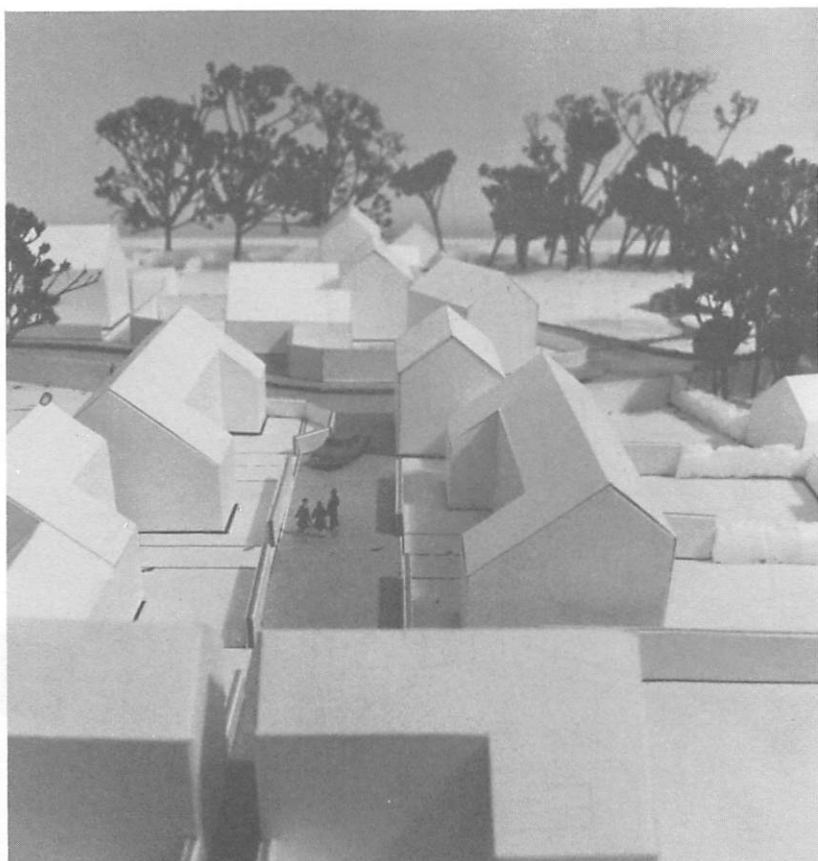


figure 61. A photograph of a model of the development.



Cul de sac A



Cul de sac B



Overview

figure 62. Photographs of a model made of the development.



KEY:

- Existing buildings.
- New house units.
- New house units with incorporated garages.
- New garages.
- New carports.
- The 'Barn' new conversion.
- Formal } paved culs-de-sac surface must differ from normal roads, (see Data Sheets 5 and 6).
- Informal }
- Existing stone wall 1.2m repaired and retained.
- New brick wall.
- Existing hedge retained.
- Existing trees retained.
- New block planting.
- New amenity tree planting.

figure 63.

Plan showing an alternative higher density layout suitable for the same site.

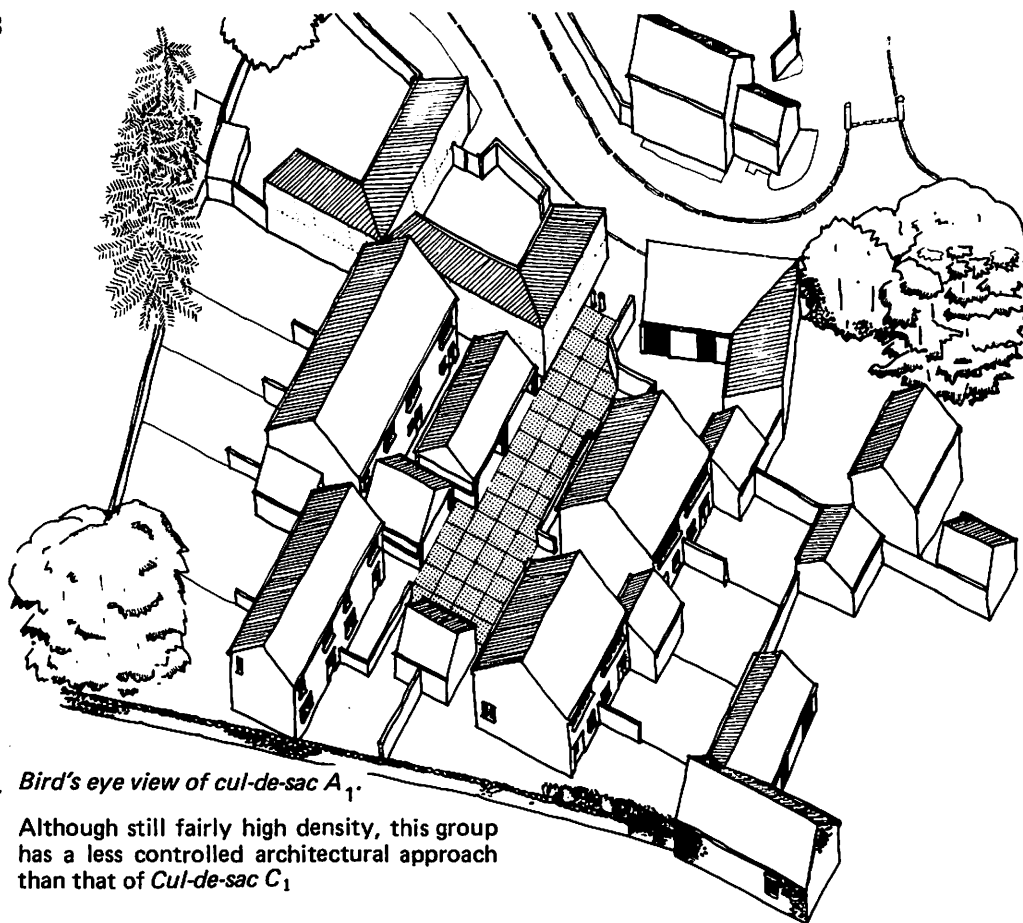


figure 64. Bird's eye view of cul-de-sac A₁.

Although still fairly high density, this group has a less controlled architectural approach than that of Cul-de-sac C₁.

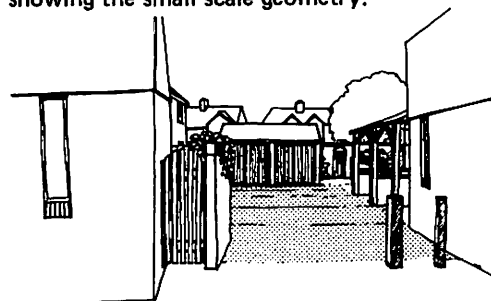
The group has impact on the approach road, in the foreground in the bird's eye view. The house at the top of the view on the other side of the estate road has been considered as part of this group in that it encloses the space visually.

3 house types have been used — one as a terrace and semi-detached, one as a semi-detached and a patio house type. These patio types can be very useful in awkward positions, as well as being intrinsically pleasant for small dwellings. Some of the houses have car ports, others have garages. Existing walls and trees have been retained and used. The barn in the foreground is a conversion and extension.

figure 65.

Type 4 cul-de-sac has been widened at its head because difficulties are otherwise created in manoeuvring private cars in and out of the parking places in this position. It has been narrowed at its entrance because no parking areas disgorge at this point and it helps enclosure.

Figure 65 is a sketch of the entrance, showing the small scale geometry.



The entrance to cul-de-sac A₁.

Figure 66 is an internal view. The surface of such an area would benefit from being treated with paving. It shows the impact of existing trees as backdrop and the use of the house mentioned in the second paragraph of this page.

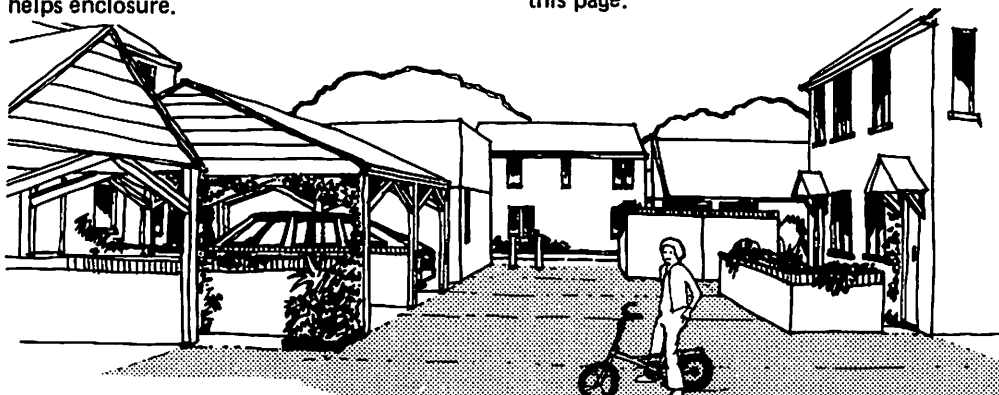


figure 66. Inside cul-de-sac A₁ small subsidiary structures give scale while the house opposite the exit on the estate road closes the view.

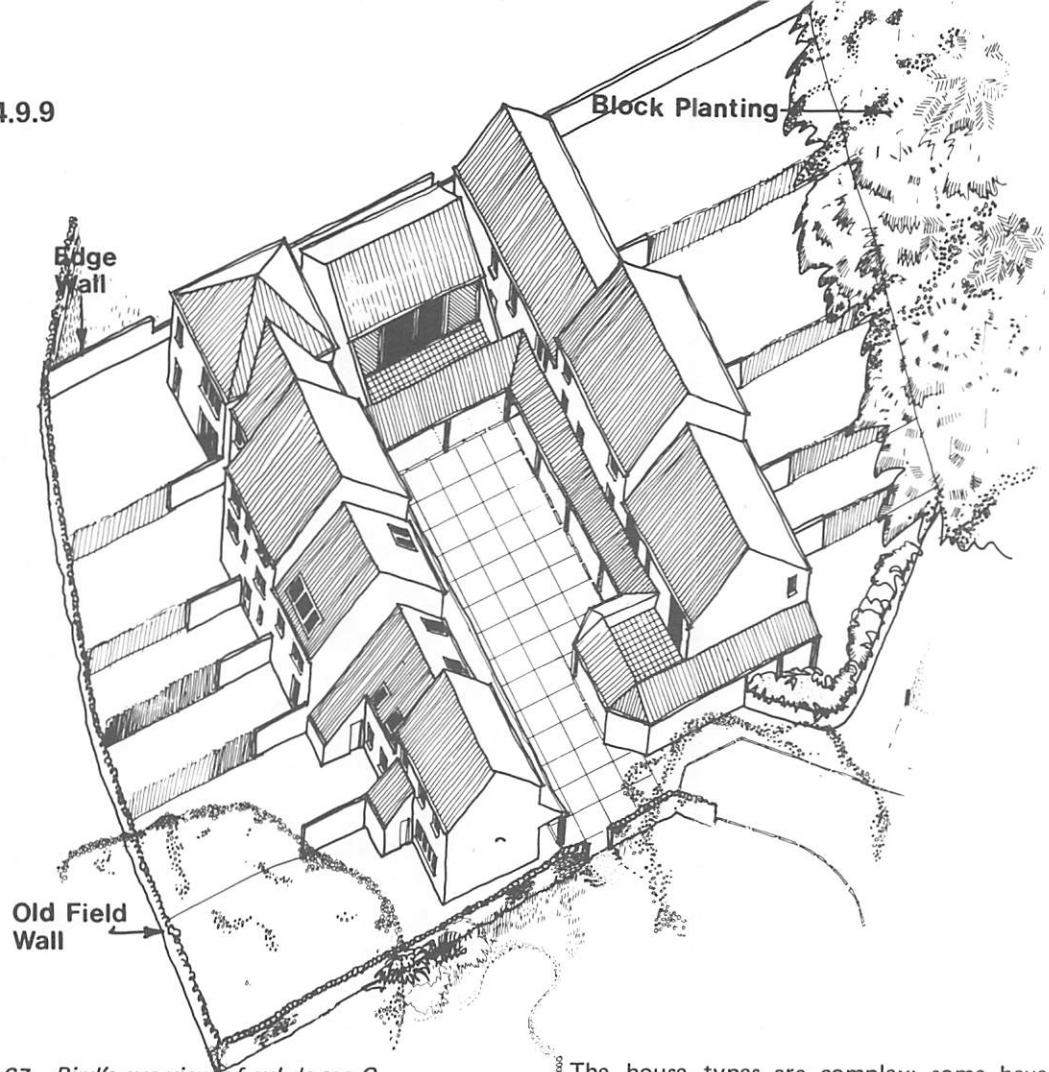


figure 67. Bird's eye view of cul-de-sac C₁.

This is an alternative solution but many of the factors applied to the low density group are also important here — screening of gardens and the need to present a facade to accessible countryside. This time the approach is very formal, rather like a group of farmbuildings around a courtyard. The change from countryside to settlement is abrupt and contrasting. The edge wall is still used.

The adjacent block planting enables this design approach to be used. Without the complementary massing of trees it would be unsuitable in this situation. The planting could still be conveyed in private gardens with a Tree Preservation Order, but it is imperative here that the tree canopy cannot infringe the basic Zones 3 and 4 allocations.

The house types are complex; some have terraces over the car ports, where planting would soften the architecture. Houses are close to the court yard to allow the maximum garden space in Zones 3 & 4.

Each unit has either a double car port or a car port and garage in tandem. The car ports need to be simple frame construction, to prevent hindrance to visibility, in being on the boundary between adoptable Zone 0 and private Zone 1. This is a very formal arrangement and needs formal surface treatment — for example paving slabs, blocks or bricks.

Circulation is via a modulated width Type 4 cul-de-sac. The maximum width for such modulations is 11 metres.

The sketch shows the view into the courtyard from 'The Green'. Architectural detail is far more important in these circumstances.

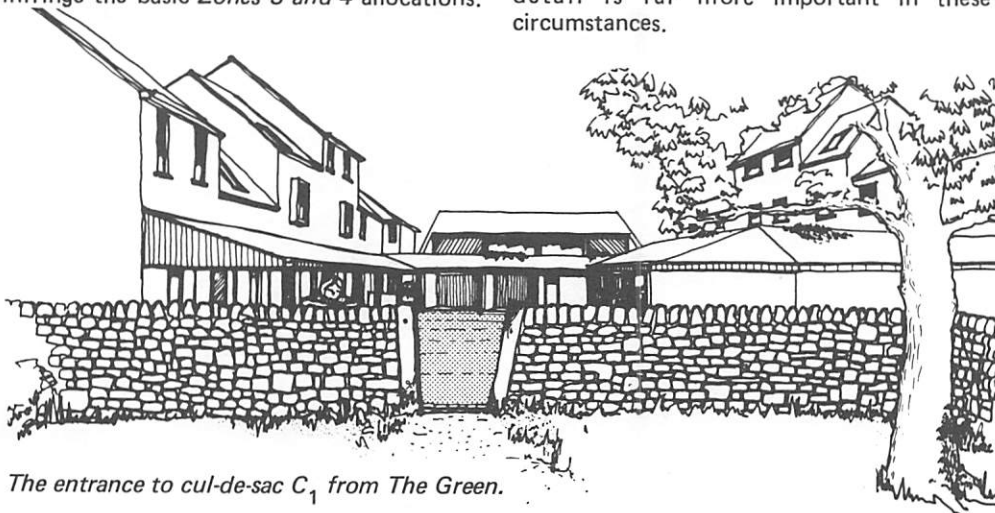


figure 68. The entrance to cul-de-sac C₁ from The Green.

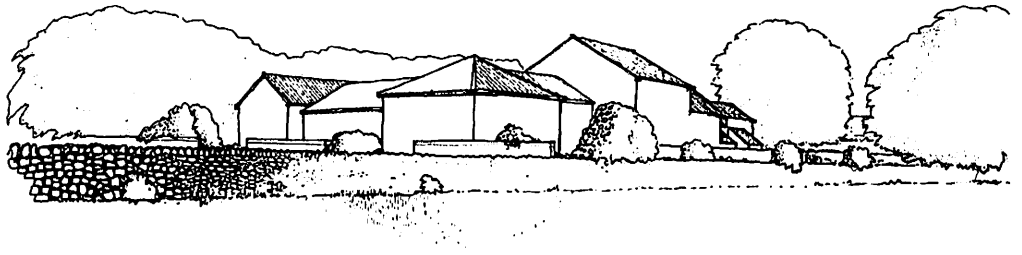


figure 69. The appearance of cul-de-sac C_1 from the countryside could be like that of a group of traditional farm buildings.

5 The larger estate

This section is intended primarily for those developing large areas of land for housing, some of which may approach the border line with Local Plan developments and begin to be subject to the opportunities and constraints attendant upon that scale. This can mean development containing between about 100 and 500 houses. The main problems from the point of view of environmental planning are stated firstly, followed by a discussion of some of the broad technical means of resolving them. Most of the factors which related to Section 4 apply also to larger developments.

The section is divided as follows:

5.1

Main Problems and Basic Techniques
Towards Improvement

The Edges of Development

Circulation Systems

Circulation and Privacy

Large Scale Housing Landscape

Land Allocation

The Main Problems

5.2

- (a) Probably the greatest of the environmental problems is that of uniformity in layout with styleless building, as stated in the introduction to this guide. This becomes a disproportionate problem if steps are not taken in the early stages to establish design variables.
- (b) Large areas of housing frequently occur on the edges of settlements adjacent to main approach roads. In this situation they have considerable impact. If uniformity of layout and house style is used without variation and without regard to regional differences, this leads to subjugation of settlement character.
- (c) Traditionally settlements, particularly the smaller market towns, have a transitional zone between "countryside" and "town", brought about by small increments of development over a long period. Large size developments built without consideration for this aspect, destroy any prospect of harmonious relationship between the settlement and its surrounding rural areas.
- (d) The variables in use tend to be small scale, repeated and unrelated to the size of development.
- (e) The techniques useful for producing variation in layouts are frequently squandered by expedient approach rather than used effectively by careful design from the outset.
- (f) In large scale development the boundary with rural areas is frequently very extensive. The back garden aspect, acceptable in a small group of houses, can become very intrusive and in certain circumstances, objectionable to a large number of people.
- (g) Where the internal circulation of larger estate meets its rural edges, problems of trespass may occur if care is not taken to ensure that footpaths in particular are linked to those existing in surrounding areas. This creates tensions between farming and recreational interests which are to the detriment of both.
- (h) The use of field boundaries as boundaries of development often leads to an arbitrary and disruptive edge, frequently unrelated to other more significant aspects of topography.

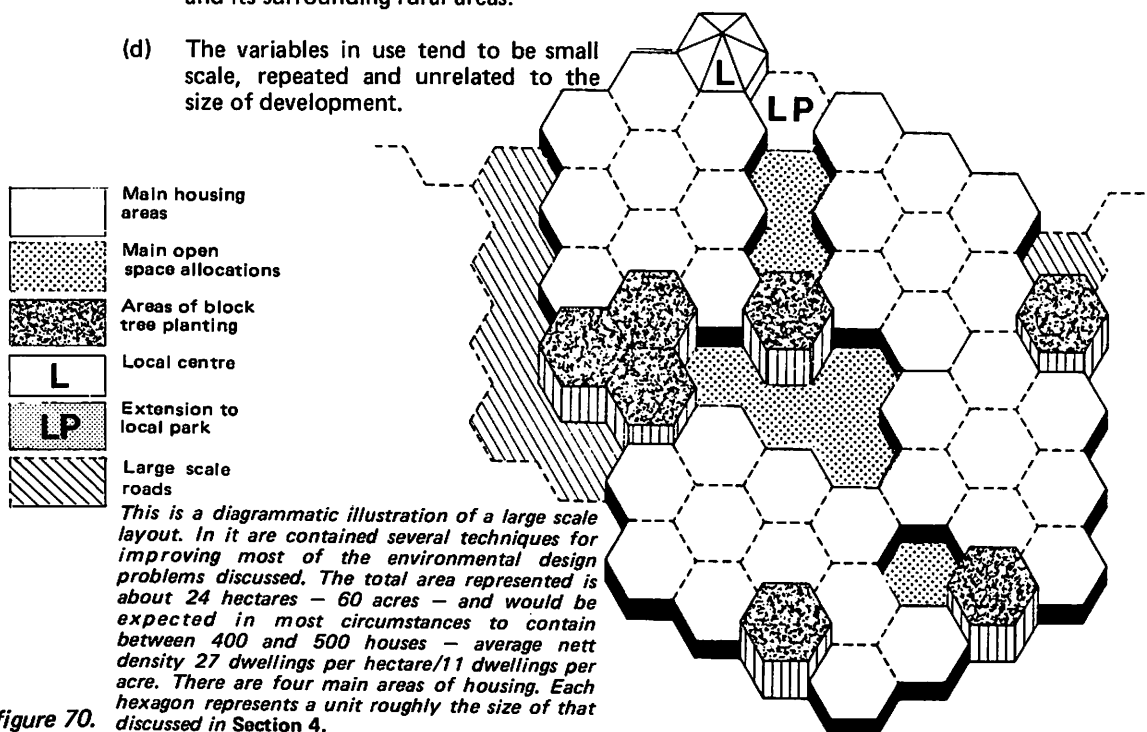


figure 70.

The following techniques may be found useful in introducing variables into a layout:

- I **Subdivision** — the development is divided into four smaller areas. It is better if each subdivision differs perceptibly in size and overall shape, but this is secondary to the basic need for subdivision. Large areas of unrelieved high or mid density housing — see below — can lead to an overall monotony. There should be large differences in design between the subdivisions marked A, B, C and D in the figure.

Each large subdivision should then be broken down into smaller groups represented by the basic hexagons in the diagram. Smaller scale differences in design approach between each of the smaller groups is desirable.

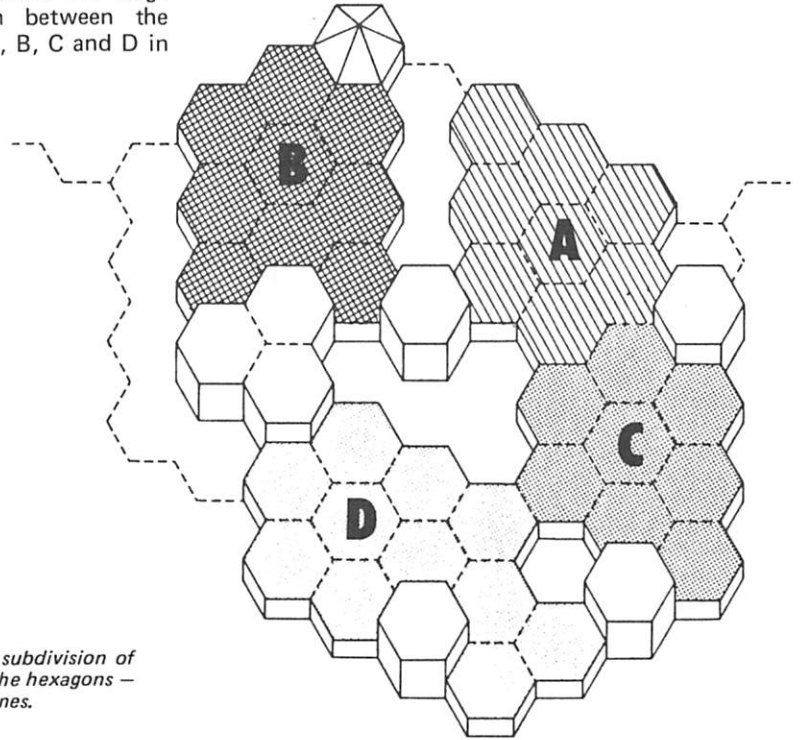


figure 71. This diagram shows basic subdivision of the housing into groups — the hexagons — and character areas, the tones.

- II **Density variations** — if the large subdivisions are of differing housing densities this will give a primary basis for large scale variation, within which further minor fluctuations may be introduced, for example:

- A — could be a low density block at say 17 dwellings per hectare overall, possibly with smaller groups at medium density within it.
- B — could be a high density block at say 40 dwellings per hectare, conveniently sited adjacent to Local Centre and Local Park facilities and fringed by a feeder/distributor road — see Data Sheets "circulation".
- C — could be a medium density block at say 27 dwellings per hectare overall with only small fluctuations.
- D — could be a medium density block at 27 dwellings per hectare overall with some contrasting variations between high and low density within the sub-groups.

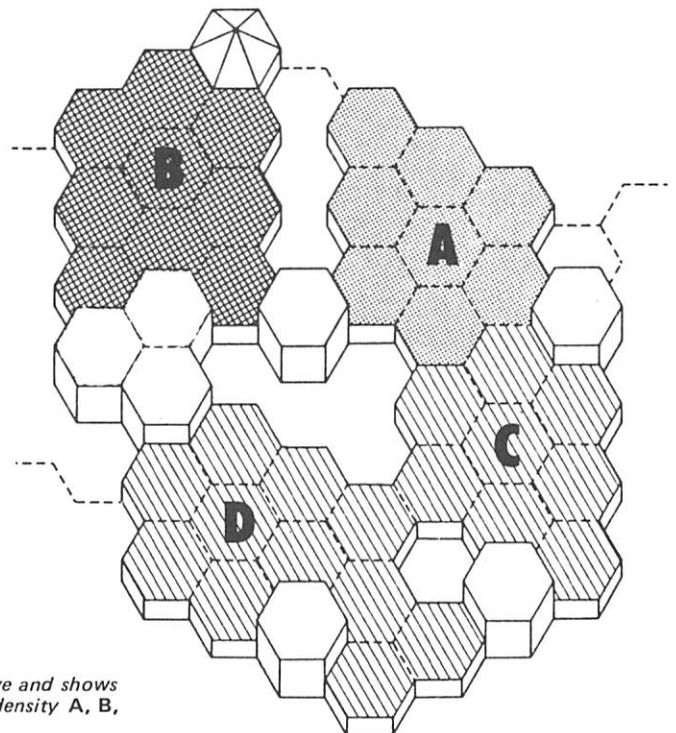
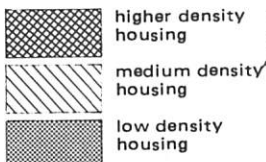


figure 72. This is a variation of the figure above and shows the subdivision into areas of varying density A, B, C, D.

- III Amenity zones allocations — see Data Sheets “Public Space Allocations” and “Incidental and Play Places” — can be accumulated rather than dispersed, at the same time separating the large housing subdivisions, and are capable of being designed to form features linking and unifying the whole development. To perform the latter function they need to be designed with the same skill and imagination as a town centre area and cannot be left as grass spaces; they must be “places”.

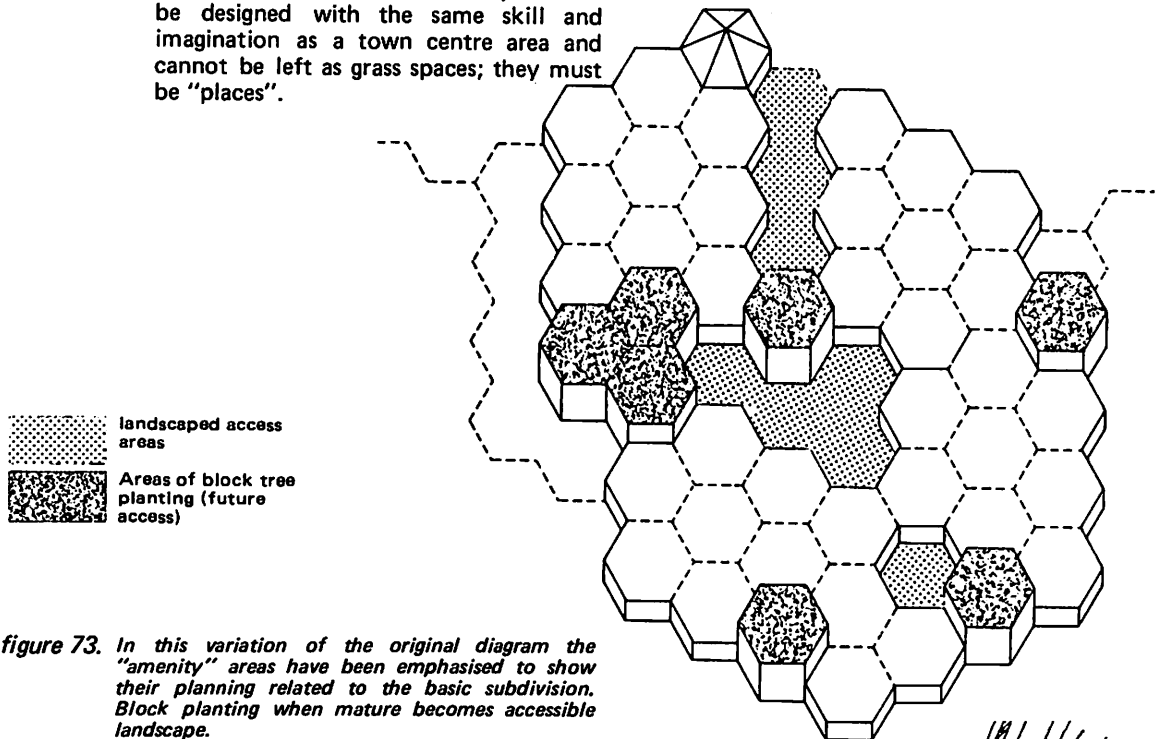
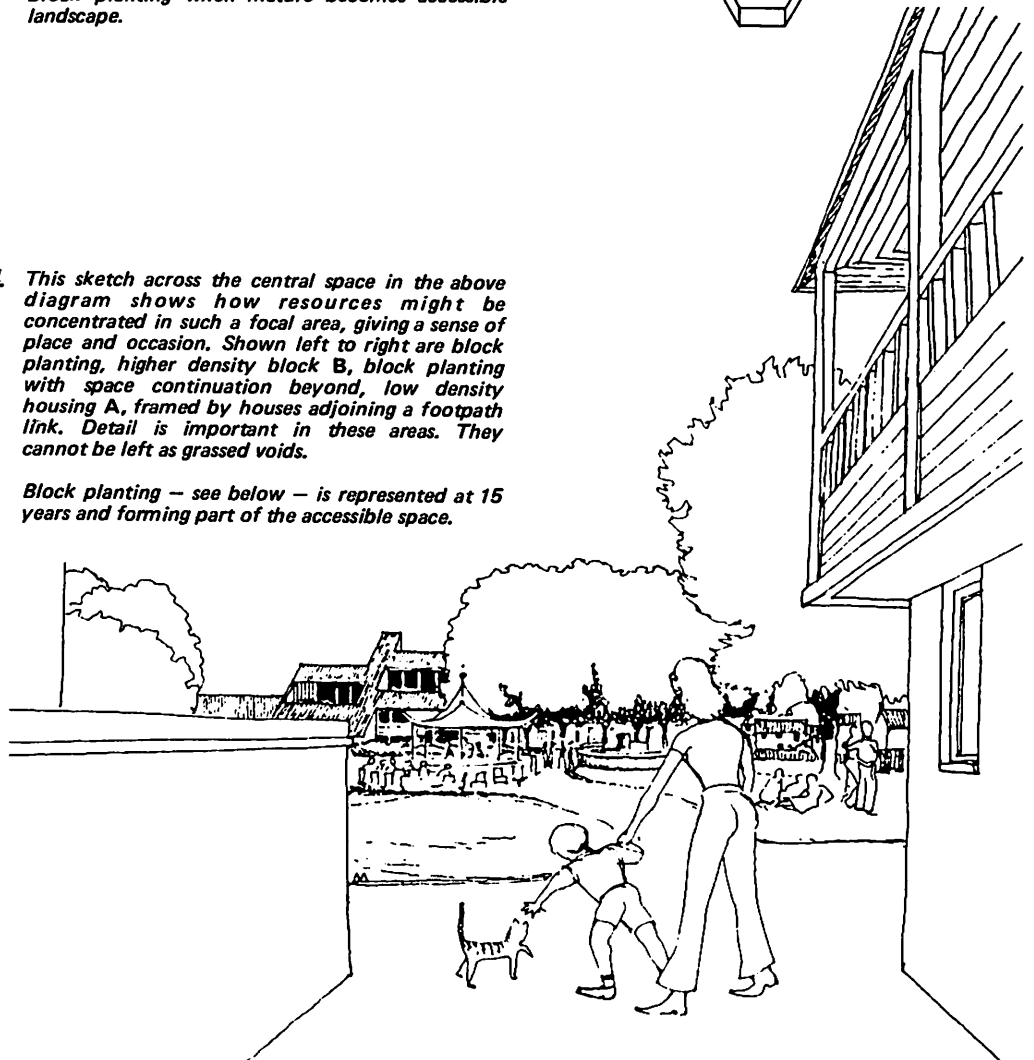


figure 73. In this variation of the original diagram the “amenity” areas have been emphasised to show their planning related to the basic subdivision. Block planting when mature becomes accessible landscape.

figure 74. This sketch across the central space in the above diagram shows how resources might be concentrated in such a focal area, giving a sense of place and occasion. Shown left to right are block planting, higher density block B, block planting with space continuation beyond, low density housing A, framed by houses adjoining a footpath link. Detail is important in these areas. They cannot be left as grassed voids.

Block planting — see below — is represented at 15 years and forming part of the accessible space.



IV Block Planting Allocations — see Data Sheet "Public Space Allocations" — can be as important within a development as on the boundaries with surrounding countryside. Eventually larger in scale than houses, such plantings form completely contrasting environment within a housing area more quickly than small clumps of trees would. They are capable of creating large scale subdivision by forming a feature visible widely within the overall development as one moves around — back drop, horizon, woodland to walk through.

Their use need not of course coincide with density variation boundaries, but their usefulness is enhanced where they meet Amenity Zones and settlement edge.

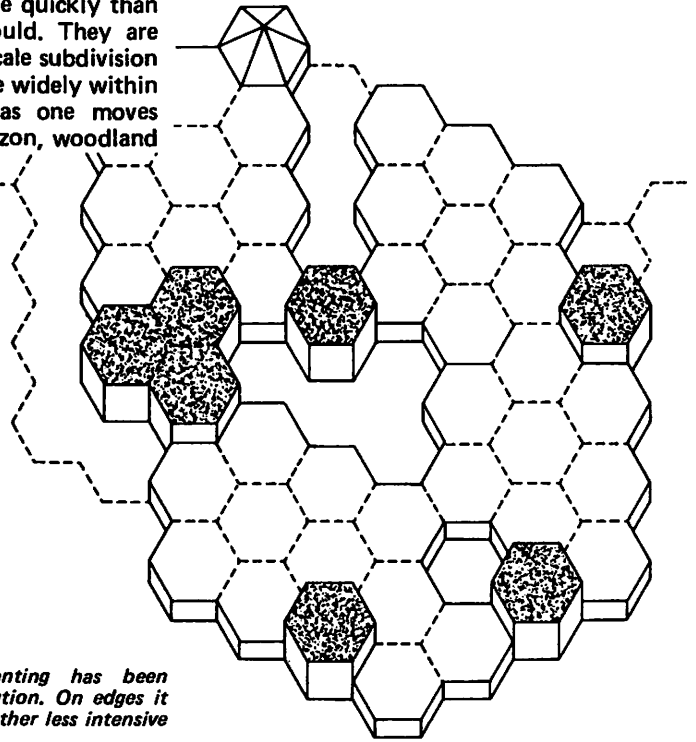


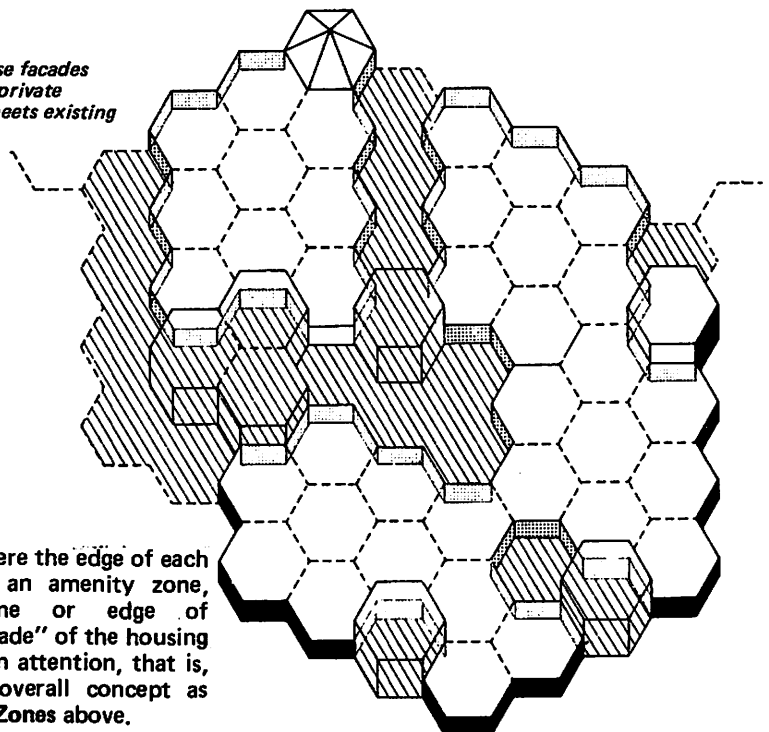
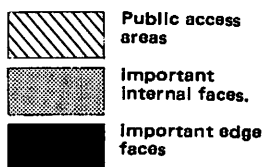
figure 75. On this diagram, Block Planting has been emphasised to show its distribution. On edges it would need supplementing by other less intensive tree groups.



figure 76. Block planting on the edges of development helps to relax the rhythms into the surroundings but is no substitute for skilful grouping of buildings. It is not possible to rely entirely on hedgerow trees

which find survival difficult with more intensive farming methods, are frequently old anyway, and easily affected by adverse physical changes.

figure 77. This diagram emphasizes those facades and spaces where public and private zones meet and where new meets existing (See DATA SHEET 1A).



V Interface Zones — where the edge of each large division meets an amenity zone, block planting zone or edge of development, the "facade" of the housing needs conscious design attention, that is, it needs to fit an overall concept as discussed in Amenity Zones above.

VI Architectural variation (this means basically the use of different "house types") scattered in a random fashion throughout a layout without large scale subdivision, does not (on its own) contribute much to large scale variations. Where such variation is applied to the design of house types for any given set of conditions, for example, high density, medium density and low density, its usefulness in this respect is improved. If this is then taken further and variations in layout suited to the house types

applied to sub-groups — the hexagons in this diagram — then the permutations become more extensive without necessarily incurring additional building costs, though possibly more intensive design thought. It is therefore desirable to have available, "families" of house types which can be assembled in a variety of ways in their relationship to each other and to circulation access, each reflecting a variation in its architectural approach.

The Edges of Development

5.3 Section 4 contains comment relevant to this under "Major Landscape and Planting", "Public Visual Penetration", and "Space Around the Home". Data Sheet 1A also contains relevant material.

The edge of development is the face presented to open countryside, main roads and footpaths, during and after incremental growth or planned expansion. The main problems are outlined in 5.2.

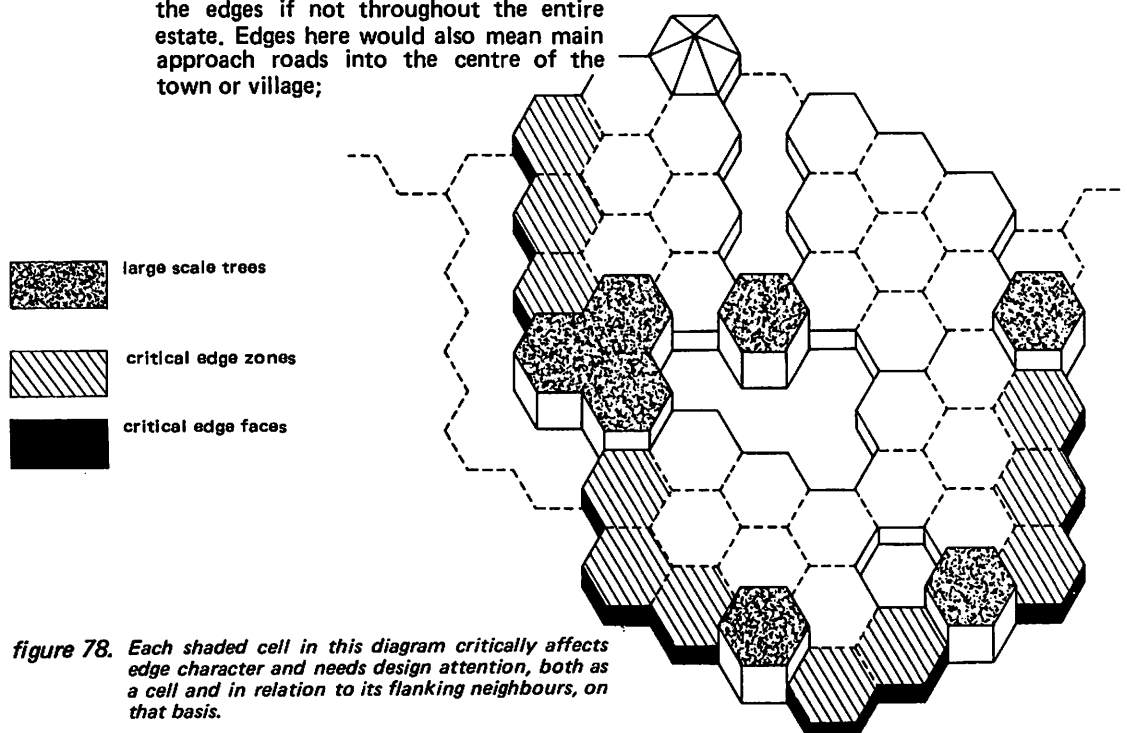
Character

Historical character is formed by small scale incremental growth related to topography, materials, regional variations in architectural style and the ability to see these from outside the settlement. The settlement "core" is also of the utmost importance in establishing individual character. Core usually means the group of buildings at the historical centre of a settlement whose style and spatial disposition cause that settlement to differ significantly from any other. Character may also be the result of careful design and stylistic approach, such as the "estate" village or a modern new town.

Large scale estates of "anywhere" houses using "anywhere" materials in a universal layout will obscure any sense of such character from the edges. This should be avoided by:

(a) Studying the traditional patterns of layout and using them to group houses on the edges if not throughout the entire estate. Edges here would also mean main approach roads into the centre of the town or village;

- (b) Using an architectural style related in form to that of the historic settlement, or devising one unique to that settlement, though possibly related in some way such as colour or materials;
- (c) Using materials which closely match those of the traditional buildings in colour and overall texture, particularly if the house forms are basically traditional. Technologically unique solutions may well be better using new colours and new textures;
- (d) Avoiding layout patterns which present massive arrays of gable ends with painted barge boards towards the countryside;
- (e) Ensuring compatibility between colour and pattern where modern substitutes mimic traditional materials — for example, pantiles are better if related in colour to traditional pantiles not to slate or some nondescript brown.
- (f) Sub-dividing an extensive edge by the use of large scale landscape elements like block tree planting. The use of "open space" in the sense of playing fields or other large grass areas on an edge does not contribute significantly to such sub-division.



Transition

Edges of development need careful design to effect satisfactory relationships between settlement and countryside. This could take the form of an abrupt "wall" having a facade specifically styled to face outwards and related to topography, or an inter-locking of countryside and settlement, again related to topography but containing much large scale landscape, in particular large groups of trees.

The design of a "wall" type facade needs considerably more resources and skill than the interlocking approach. It is essential that landscape design incorporated into such interlocking should not be merely peripheral tree belts but should penetrate into the housing itself. Incorporating existing countryside elements is probably of even greater importance.

Back Gardens

As discussed in Data Sheets 1 and 1A, exposed back garden areas are not compatible with public zones. On a settlement edge small groups of back gardens facing out over open countryside are acceptable, but long rows, particularly

unscreened and visible from important approaches or footpaths should always be avoided. Screening needs to be far more effectual than post and wire or fragile panel fencing.

Trespass

This is most likely to be serious where public open space within a development is inadequate either in size or appearance, or terminates abruptly at the edge of that development where it meets open countryside. It is important that such space within a development is either linked to

existing public footpaths, bridleways or attractive roads. If a link with footpaths is made, then modifications may be necessary to the surrounding network, particularly within a mile or so of the link, such as proper defining of routes, well marked gates or stiles and signposting.

Arbitrary Shape

The outline shape of the settlement is as important a consideration in the design process as any other. Frequently it is decided in an entirely arbitrary manner by the conveyancing of field boundaries. This leads to many unsatisfactory developments in villages and on the edges of towns, where frequently an adjustment of group shape related more closely to other aspects of topography would be more pleasing.

Good grouping patterns as advocated in "Character" above do most to avoid this problem, particularly if associated with properly planned tree planting. In addition tree planting associated with larger road types can help this process of assimilation into the landscape.

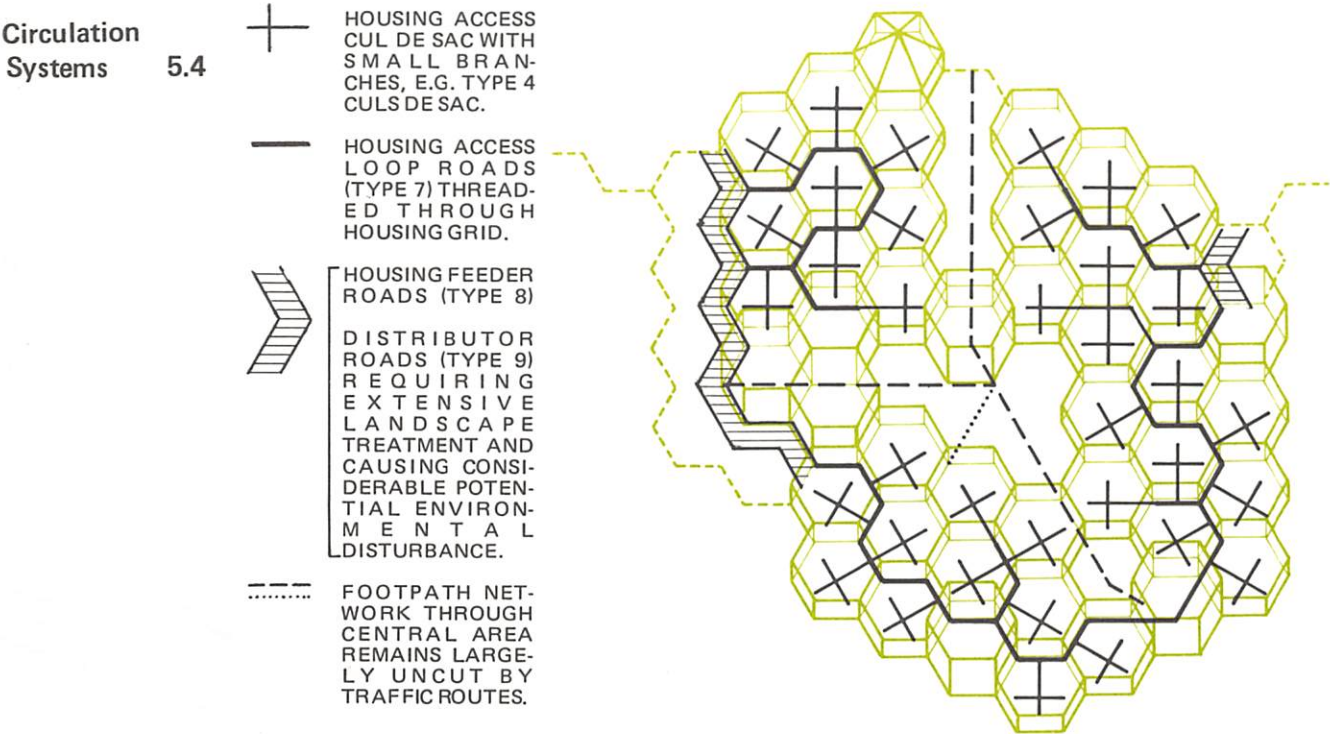


figure 79. This diagram shows how a network of routes might be devised for the notional layout. Large scale roads are kept areas where environmental disturbance would be least and where the space required might serve a useful purpose. The smallest streets are formed within the cells where privacy conflicts should be least. Adjustments to a regular grid would occur during the design process. A central feature is formed out of essential public space allocations threaded by a footpath network on considered desire lines.

Data Sheets 5 and 6 deal with most aspects of circulation. This is a very brief summary of some of the townscape aspects involved with the use of systematic circulation.


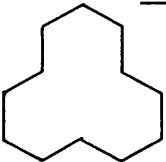
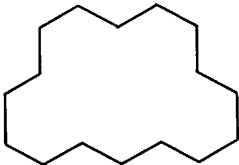
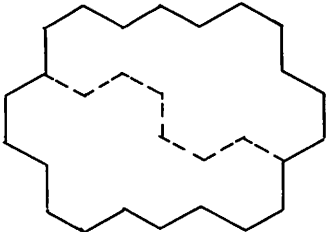
Circulation systems are a means of providing access to a housing area, and whilst an important element of the design process, are not necessarily the best starting point for a good housing development. There is now available in Leicestershire a gradation of

circulation types capable of sensitive manipulation to serve almost any grouping.

Some indication of available circulation options to create different group sizes are indicated below. This uses the basic hexagon symbol as previously, each hexagon representing a group of houses numbering between 5 and 15, that is, approximately 4,000 sq. m. of land (1 acre).

Table of Circulation Options

The options in this table are based upon capacity of the street, carry distances and maximum dimensions.

	Number of Houses	Internal Circulation Options	Peripheral Circulation Options
	5	a) 2 private drives b) 1 type 4 small cul-de-sac	1 type 6 or 7 road
	6 - 15	a) 1 type 4 small cul-de-sac b) 1 type 5 small cul-de-sac c) 1 type 6 cul-de-sac	
	15 - 45	a) 3 type 4 small culs-de-sac b) 1 type 5 small cul-de-sac c) 1 type 4 small cul-de-sac 1 type 6 cul-de-sac	2 type 6 or 7 roads
			1 type 6, 7 or 8 road
	25 - 75	a) 5 type 4 small culs-de-sac b) 2 type 5 small culs-de-sac c) 1 type 6 cul-de-sac d) 2 type 5 and 1 type 4 small culs-de-sac e) 1 type 6 cul-de-sac and 4 type 4 small culs-de-sac	3 type 6 or 7 roads
			2 type 6, 7 or 8 roads 1 type 7 or 8 road
	50 - 150	a) 8 type 4 small culs-de-sac and 2 type 5 small culs-de-sac b) 4 type 4 small culs-de-sac 3 type 5 small culs-de-sac c) 4 type 5 small culs-de-sac and 2 type 6 culs-de-sac d) 2 type 6 culs-de-sac 4 type 5 and 2 type 4 culs-de-sac	2 type 6 or 7 roads
			2 type 6, 7 or 8 roads

See Data Sheets 5 and 6 and "Highway Requirements for New Developments and Estate Roads", published by Leicestershire County Council for details of road types.

As the circulation designation number increases so the visual impact of that circulation element within the housing environment increases. The Data Sheets "Systematic Circulation" give a range of circulation types from 1 to 9, all of which are adoptable highway, together with the multiple private drive which is not adoptable. On that basis the Type 4 small cul-de-sac, which is the smallest adoptable street to take vehicular traffic, should allow the details of housing to be environmentally dominant, whereas with the Type 9 estate distributor the route itself with its attendant essential spaces will inevitably dominate normal two or three storey houses.

This should be taken into account in the design of the layouts. The scale of movement within small culs-de-sac is very limited. The same group of people use them for most of the time. The type of environment therefore demands careful attention to details of design.

figure 80. The very small scale of the new housing culs-de-sac.



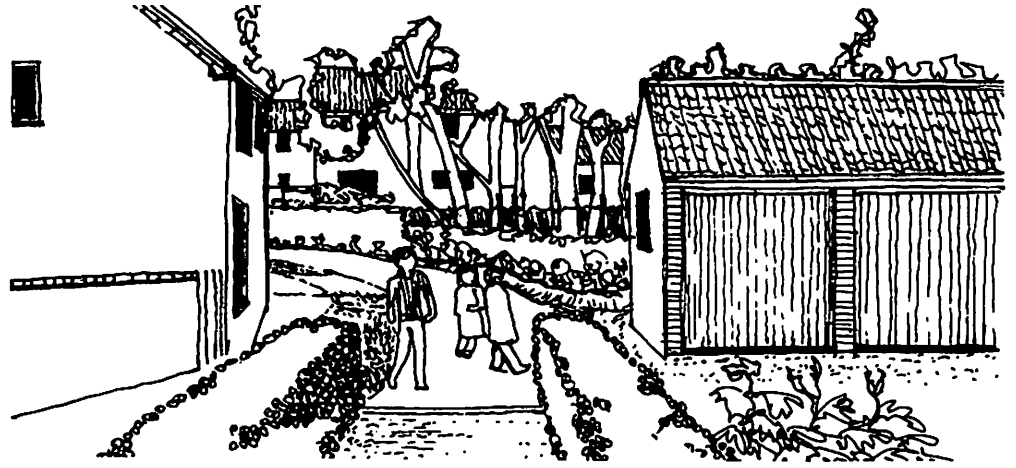


figure 81. The new housing culs-de-sac are capable of very fine adjustment to varying conditions. This sketch, taken from the example in Section 4, shows the smallest form where the hard surface is only 2½ metres wide.

By contrast the scale of movement within estate distributors is considerable. Many people use them, mostly in vehicles at high speeds, 50 to 65 kilometres per hour or thereabouts — travelling between work and home, between home and main centres. Frequently too they form part of the main network of urban roads. The type of

environment therefore needs to differ considerably from that of the housing access roads, to give broad changes — what is recognisable at this scale are large clumps of trees, large groups of houses, and the differences between one housing area and another in designing for this type of change.

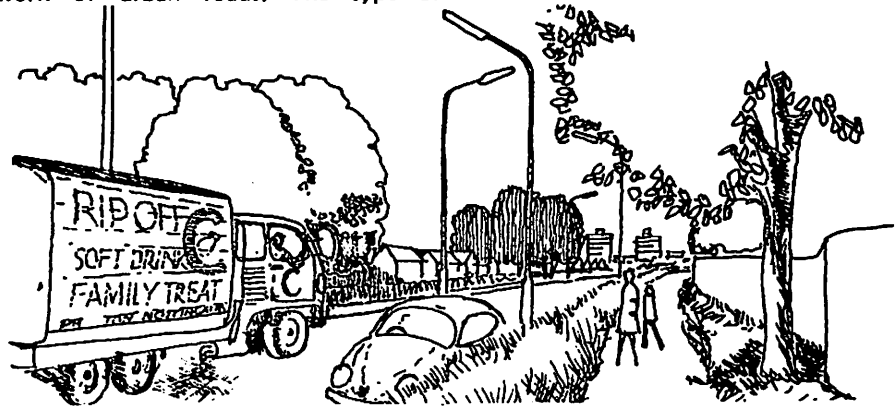


figure 82. Distributor roads need a very different treatment from the smaller housing access roads.



figure 83. Bends, studied relationships of houses one to another and variations in walls and outbuildings reduce the repetitiveness of housing whilst retaining rhythm.

The traditional housing access roads, *Types 6 and 7* are ambivalent in this relationship, a fact which has led to many of the environmental problems identified in the beginning of this Guide. Although designed in theory for pedestrian precedence, they are also designed to permit motoring speeds of 50 kilometres per hour, and the dimensions — width, bend radii, splays and footways,

kerbs, gutters and turning heads — all tend to militate against attractive small scale housing environments. However, sensitive design can overcome these problems.

Another consideration is that of child safety. The child is usually much safer in a well-designed cul-de-sac, where vehicle speeds are low, than on a housing loop road.

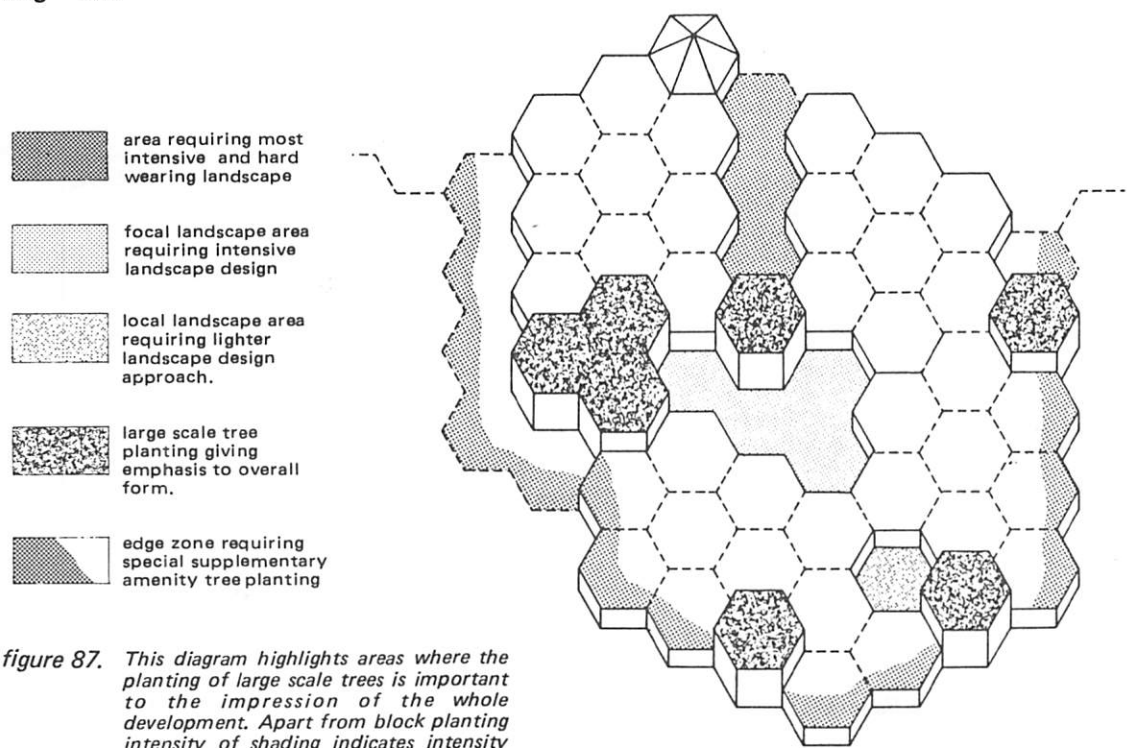


figure 87. This diagram highlights areas where the planting of large scale trees is important to the impression of the whole development. Apart from block planting intensity of shading indicates intensity of anticipated planting.

In Leicestershire, it is considered important to have tree planting associated with housing areas. It is better if a specific allocation is made for these early in the design and that some of the allocation is for block planting — that is closely planted indigenous large species that will mature quickly. Obviously it is better that such allocations be associated with other open space needs. This diagram shows such distribution. This may not always be possible but the lack of such opportunity should not be taken to preclude a need for tree planting. Block planting matures more quickly; is more easily protected during early growth; requires minimal maintenance once established and can be planted in advance of housing being built, to ensure early establishment. It is frequently particularly important on edges — (see 5.2).

Data Sheets 3 and 4 “Public Space Allocations” and “Incidental and Play Places” show the space allocations considered desirable for housing developments. Figure 87 shows this applied to our schematic layout. It is essential that these allocations are not left as windy open spaces, merely grassed over or treated to a tarmacadam surface. They need skilled design attention both in their shaping and detail.

They may be treated as urban spaces, that is predominantly hard surfaced. If this is done, then the same attention to detail of surfacing and planting is needed as is given to the pedestrianisation schemes now in vogue for urban conservation areas.

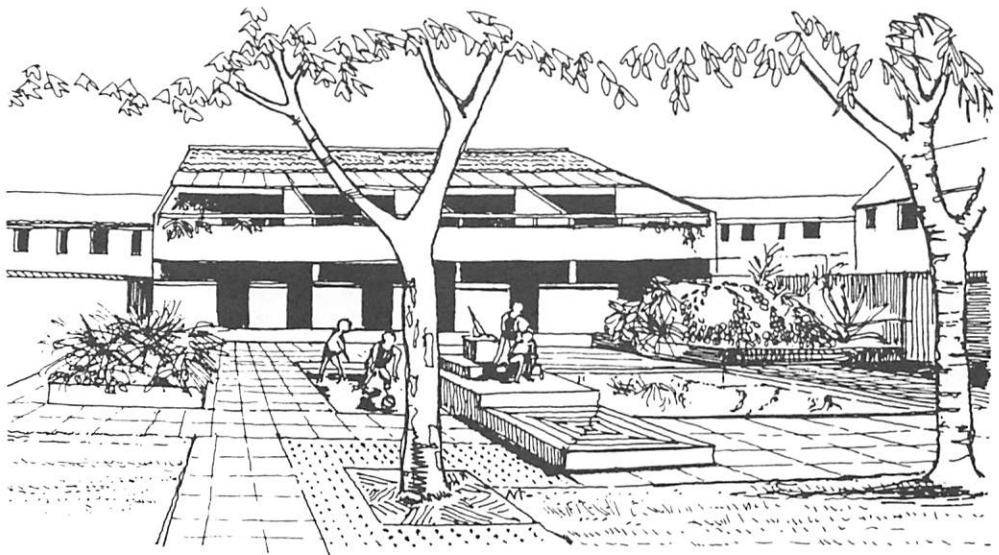


figure 88. An urban treatment of a small amenity space in a higher density scheme requires interest and careful detailing.

Alternatively they may be treated as a contrasting environment, that is in the manner of many Georgian squares or Victorian town parks – representative of open countryside. In this situation the planting needs to be intensive.

Land Allocations

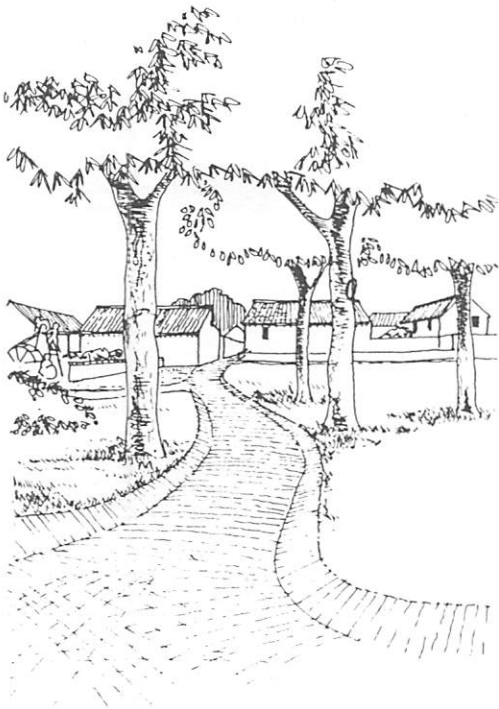
5.7 Land is usually allocated for housing in a Local Plan. However, this may not mean that all of that land can be allocated in detail to house plots. There are several demands on the land which vary slightly depending upon the specific site.

Data Sheet 1 “Space around the Home” shows how each house plot relates to the size of dwelling.

Data Sheet 3 “Public Space Allocations” shows the basic need for space outside the home.

Space is needed for roads; for a large development there may be a considerable proportion additional to housing access roads if the site is not already served by a main distribution network.

figure 89.



A more ‘rural’ treatment of a small amenity area.

On this schematic layout each hexagon represents approximately 4,000 square metres (1 acre) proportioned approximately on an average for large developments as follows:

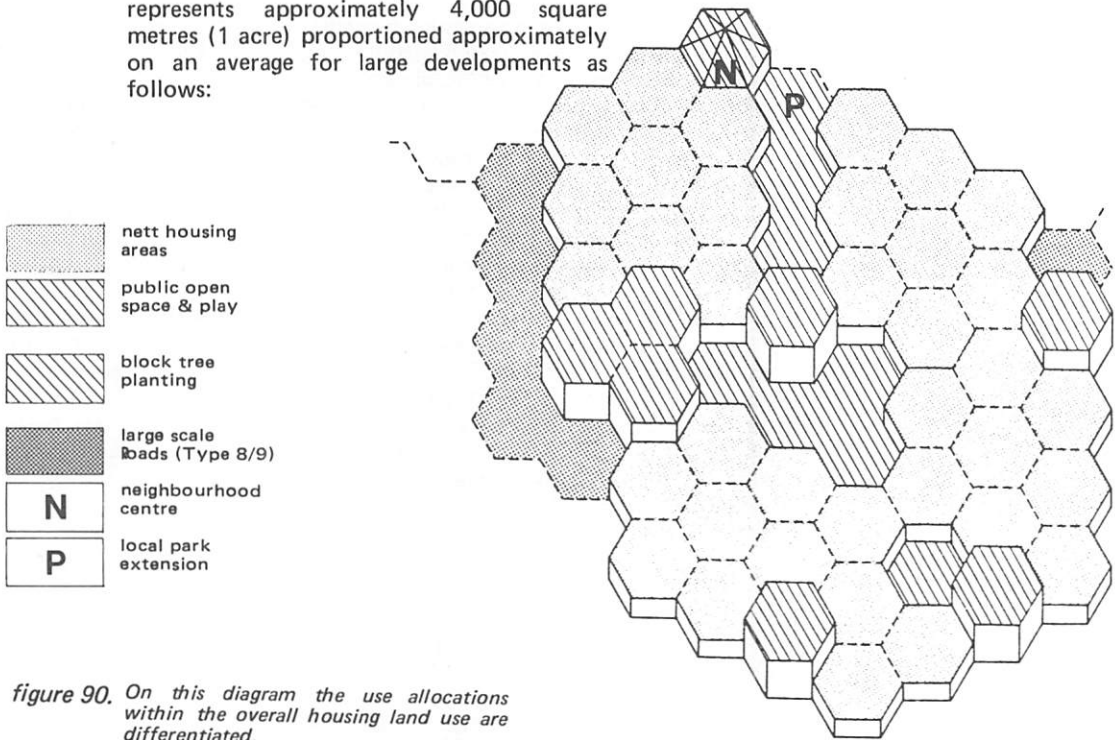


figure 90. On this diagram the use allocations within the overall housing land use are differentiated.

1.	Housing including access roads	36 Units	62%
2.	Amenity and play places	7 Units	12% +
3.	Block planting — future amenity space	7 Units	12%+
4.	Corridor or distributor routes	6 Units	10% +
5.	Extension to local park and local centre	2 Units	3% +
Total		58 Units	100%

* See Data Sheet 3 “Public Space Allocations” for range. This percentage is site specific. Elements below the broken line are unlikely to occur frequently.

INDEX OF DIAGRAMS

<i>Fig.</i>	<i>Title</i>	<i>Page</i>	<i>Fig.</i>	<i>Title</i>	<i>Page</i>
Section 1			43.	Circulation use types – plan.	39
1.	Volume of permitted development.	2	44.	The main cul-de-sac sketch.	39
2.	Height of permitted development.	2	45.	Cul-de-sac D – sketch.	40
3.	Porches as permitted development.	3	46.	Cul-de-sac B – sketch.	40
4.	Example of Planning Application – premises as existing.	5	47.	Cul-de-sac C – sketch.	41
5.	Example of Planning Application – proposed alterations.	6	48.	Adoptable areas – plan.	42
Section 2			49.	Statutory undertakers provision – plan.	43
6.	Using an extension to screen from noise.	12	50.	Aerial view of layout from North-west – sketch.	44
7.	Shading by extensions.	12	51.	Aerial view of layout from North-east – sketch.	45
8.	Street character – paving.	13	52.	Aerial view detail – cul-de-sac A – sketch.	46
9.A.	Street character – buildings and trees.	13	53.	Entrance to cul-de-sac A – sketch.	46
B.	Street character – removal of trees.		54.	Aerial view of cul-de-sac C – sketch.	47
10.A.	Street character – heavily landscaped.	14	55.	Entrance to cul-de-sac C – sketch.	47
B.	Street character – removal of trees.		56.	Cul-de-sac D and The Green – sketch.	48
11.	Basic house.	15	57.	Cul-de-sac B appears casual – sketch.	48
12.	Small front extensions to 11.	15	58.	Cul-de-sac B, very small in scale – sketch.	48
13.	Large front extensions to 11.	15	59.	The main cul-de-sac – sketch.	49
14.	Large side extensions to 11.	15	60.	The head of the main cul-de-sac – sketch.	49
15.	Garage and porch combined front extension to 11.	15	61.	Photograph of model.	50
16.	Garages as side extensions to 11.	16	62.	Photographs of model.	51
17.	Garage placed to form courtyard.	16	63.	An alternative approach to layout – plan.	52
18.	Two storey rear extensions to 11.	16	64.	Cul-de-sac A ₁ – birds eye view.	53
19.	Ways of lighting roof extensions.	17	65.	Cul-de-sac A ₁ – entrance – sketch.	53
20.	Dormer windows to 11.	17	66.	Cul-de-sac A ₁ – internal sketch.	53
21.	Traditional Leicestershire dormers.	17	67.	Cul-de-sac C ₁ – birds eye view.	54
22.	Interesting variations.	17	68.	Cul-de-sac C ₁ – from "The Green" – sketch.	54
Section 3			69.	Cul-de-sac C ₁ – from the field path – sketch.	55
23.	Privacy from the street.	18	Section 5		
24.	An extensible house.	19	70.	A large scale layout – diagram.	56
25.A.	Infill plot example 1, plan.	20	71.	Sub-division of a large housing area – diagram.	57
B.	Infill plot example 1, perspective.		72.	Areas of varying density – diagram.	57
26.A.	Infill plot example 2, plan.	21	73.	Amenity zone allocations diagram.	58
B.	Infill plot example 2, perspective.		74.	Treatment of amenity areas – sketch.	58
Section 4			75.	Block planting – diagram.	59
27.	Location plan.	23	76.	Block planting on edges – sketch.	59
28.	Site survey.	24	77.	'Interfaces' – diagram.	59
29.	Site appraisal.	27	78.	Edges of development – diagram.	60
30.	Intermediate layout scheme.	28	79.	Access network – diagram.	61
31.	Selected scheme, planning application plan.	29	80.	Housing access road, keeping appropriate scale – sketch.	62
32.	Plan Photograph of model.	30	81.	New housing cul-de-sac.	63
33.	Features of existing landscape retained – plan	31	82.	Typical distributor road – sketch.	63
34.	Major landscaping and planting – plan	32	83.	Typical housing access road – sketch.	63
35.	Block structure planting from the edge – sketch.	33	84.	Traditional cul-de-sac with bends	64
36.	Large scale amenity planting – sketch.	33	85.	Footpaths need spatial and detailed interest – sketch.	64
37.	Embellishments – sketch.	34	86.	Footpaths unbroken by roads	64
38.	Private planting as street landscape – sketch	34		Traffic free central space – sketch.	
39.	The Green – sketch.	34	87.	Large scale housing landscape – diagram.	65
40.	Public visual penetration – plan.	35	88.	'Urban' treatment of housing landscape – sketch.	65
41.	Space around the home – plan.	36	89.	'Rural' treatment of housing landscape – sketch.	66
42.	Parking, manoeuvring, service vehicle access – plan.	38	90.	Detailed land use in a housing area – diagram.	66
Data Sheets					

Data Sheet 1

Space around the Home

This data sheet is concerned with external space surrounding the house and with the related aspects of privacy. It commences by explaining how this external area of gardens and other spaces may be zoned according to traditional use and location, then recommends minimum areas of private zones related to the size of house.

Manipulation of plan forms with this as a basis could provide a more sympathetic environment than by using the raw back-to-back or side-to-back distances quoted in Section 2 Paragraph 3 "Privacy".

The system is based upon the assumption that the most useful external space is that which can be used with the least unwanted disturbance from neighbours but at the same time permits desirable contact.

Some variations are discussed at the end:—

KEY

- contact zones
- restricted contact zones
- ◀▶ conflict zones - effectual screening essential
- ◁▷ disturbance zones - some screening essential
- ■ ■ screening influenced by intervening zone
- ◀ one way contact
- ? what use ?
- solid permanent screen 1.8 metres high min
- screening needed in most situations
- some visual separation desirable

- 0 — the small street, a neutral public zone which "belongs" to a small group of people occupying a maximum of about 50 houses.
- 1 — the "front garden" or "forecourt".
- 2 — "yard" or "drive"
- 3 — "garden"
- 4 — "sitting out area"
- 5 — "the house"

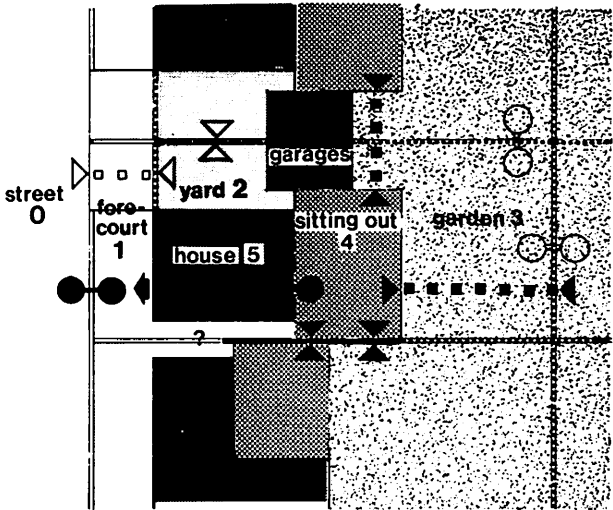


figure 1.

Table 1.

Traditional Name	Zone Ref:	Typical Uses	Criteria & Functions
"Road" "Street"	0	Public Access to Houses; meeting place for residents; informal play for children where safe.	Low level of general community involvement (see also Data Sheets 1A, 5 low traffic levels; low traffic speeds; pedestrian precedence; low noise levels; needs continuity of design but also variations if larger street. Type 5 and above — see Data Sheets on circulation.
"Front Garden" "Forecourt" "Front Drive"	1	Display gardening; talking to passers-by; parking the car; receiving casual visitors (at threshold); territorial demarcation; separates front door from highway.	Contact with zone 0 essential, also contact with entrance hall of house; visual contact from some internal rooms desirable; transition between house and street; fully visible from zone 0, therefore part of street design. If open plan should be planned and designed fully as part of the street; otherwise effective enclosure but not screening needs to be given, to ensure minimum conflict between street and needs for self expression.
"Yard" "Side Drive"	2	Parking the car, mending the car; manoeuvring the car; access to back door; not suitable for caravan etc. storage.	Partial screening necessary from the zone 0 (street) otherwise classified as zone 1; some privacy from neighbours; not an essential space, contact with zone 1 and either kitchen or entrance desirable.
"Garden"	3	Gardening; sheds; greenhouses; workshops; play; voluntary neighbourly contact; storing boats, caravans, trailers etc. creating ones' own personal environment; entertaining familiar visitors.	Full screening from zone 0 essential by walls or solid fences, minimal 1.8 metres high, house, or outbuildings. Reasonably free from traffic noise; minimum need for planning constraint or involvement; contact with neighbours' zone 3 desirable; contact with kitchen area of house may also be desirable; minimum area dependent upon house size and layout type — see Table 2 of this Data Sheet.

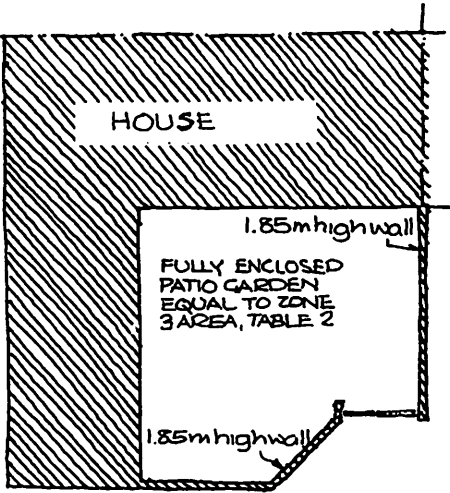
Table 2. recommended minimum garden areas for family houses.

	House size	Zone 4 area	Zone 3 area
A	1 bed 1/2 person	20 (215)	50 (540)
B	2 bed 3/4 person	20 (215)	60 (650)
C	3 bed 4/5 person	25 (270)	75 (810)
D	4 bed 5/6 person	25 (270)	90 (970)
E	Larger	30 (325)	120 (1290)

First figure square metres, figure in brackets square feet.

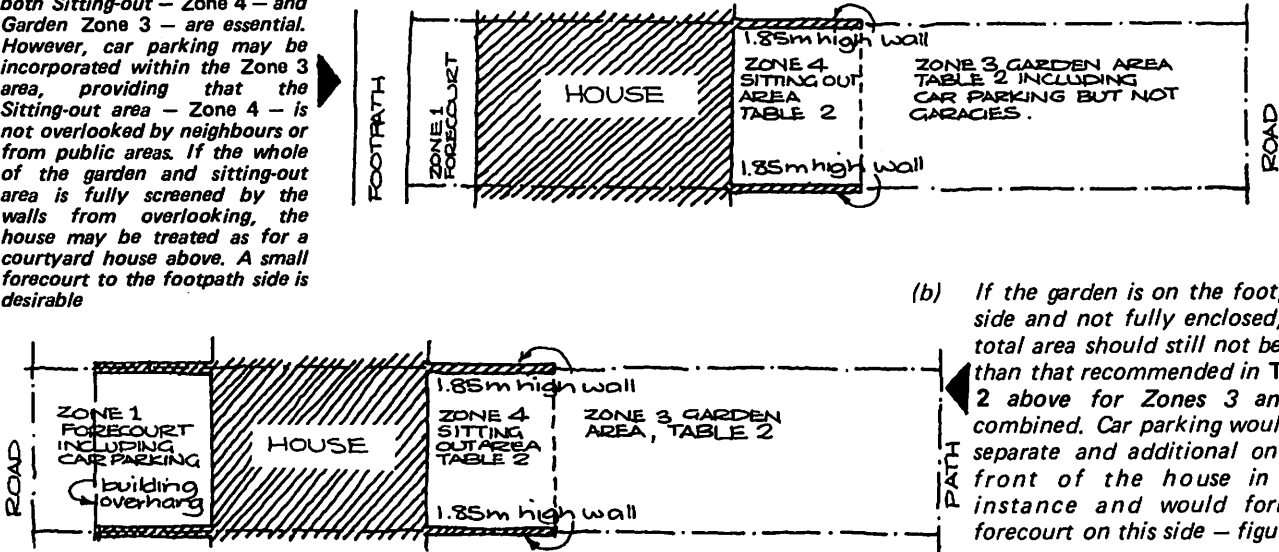
Tables 1 and 2 assume the average kind of plan shown in the key diagram – figure 1. There are other quite different ways of planning a house and its surroundings. On this page a few of these are discussed to show how the basic recommendations may be applied. Other ingenious plans would obviously be considered on their merits.

figure 2. 1. A patio or courtyard house – figure 2. This is a plan where effectively all the garden is private and not overlooked. The enclosed external area in such instances should be the equivalent of the Zone 3 recommendation in Table 2 above but it may contain car parking within that minimum area. The garden should be so enclosed that casual looking in from Zone 0 – street, footpath or any public area – is not possible. Gates should also form a visual barrier at least 1.8 metres high. If more than one such courtyard is incorporated in the house plan, then the total usable garden area should not be less than the minimum Zone 3 recommendation.



If the garden is on the vehicular access side and is neither fully screened from public areas nor overlooking, the minimum areas recommended in Table 2 for both Sitting-out – Zone 4 – and Garden Zone 3 – are essential. However, car parking may be incorporated within the Zone 3 area, providing that the Sitting-out area – Zone 4 – is not overlooked by neighbours or from public areas. If the whole of the garden and sitting-out area is fully screened by the walls from overlooking, the house may be treated as for a courtyard house above. A small forecourt to the footpath side is desirable

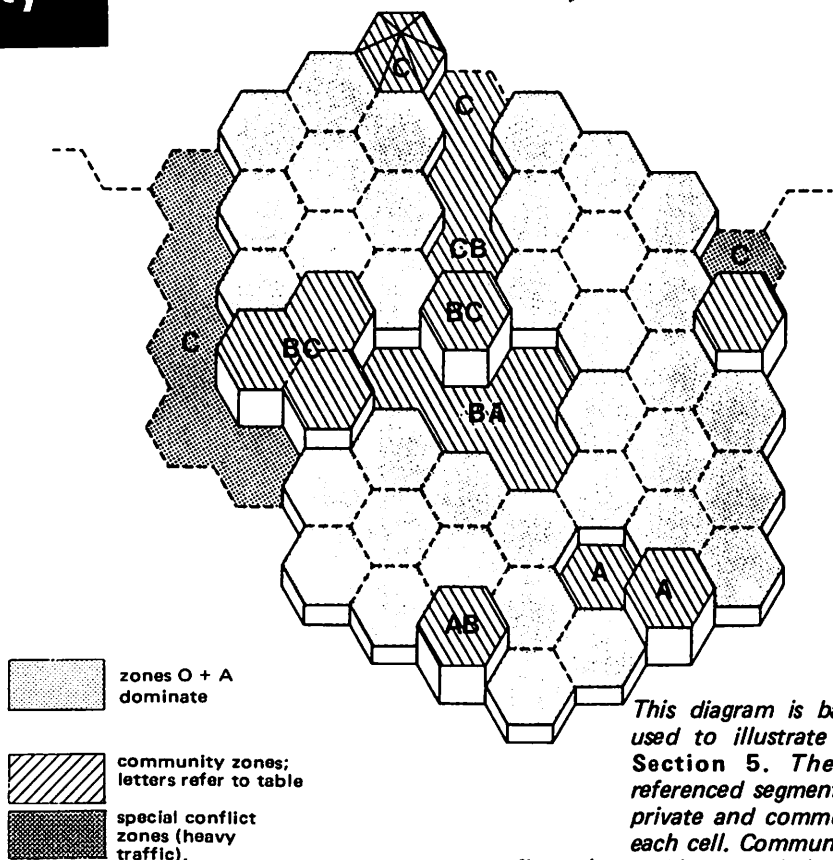
2. Segregated road and footpath systems



(b) If the garden is on the footpath side and not fully enclosed, the total area should still not be less than that recommended in Table 2 above for Zones 3 and 4 combined. Car parking would be separate and additional on the front of the house in this instance and would form a forecourt on this side – figure 4.

Data Sheet 1A Community and Privacy

Data Sheet 1 discusses aspects of privacy and community which affect the individual householder or the small group. In it, garden zones are identified according to their use relative to the traditional Leicestershire home. The highest level of community involvement on that scale is *Zone 0*. This is identified as a public zone. 0 is used because it is neutral – either the letter 0 or the number 0 – and forms the pivot for extension into this Data Sheet.



This diagram is basically the same as that used to illustrate 'The Larger Estates' – Section 5. The different shaded and referenced segments represent the degree of private and community involvement within each cell. Community access starts at Zone 0 and increases in intensity up to Zone C.



figure 1.

These zones all represent “Adoptable” space, highways, public parks, open space allocations, local centres, town squares.

counters such conflicts as may be inevitable. Obviously minimal conflict between Privacy and Community occurs where adjoining uses are not widely separate on this broad scale.

The concept is intended to be helpful to the layout designer in identifying and avoiding potential conflicts at an early stage, or ensuring that detailed design adequately

It is helpful to relate this to “*Systematic Circulation*” discussed on Data Sheet 5.

Zone	Identification	Comment
4 to 1	The private house curtilage.	Graded as on Data Sheet 1.
0	<p>The neutral zone – the small group of houses numbering not more than around 50 served by small culs-de-sac or small footpaths.</p>  	<p>Because the numbers are small, there is a greater sense of ownership of these spaces by the individual household, therefore greater involvement. Because of this the risk of vandalism is reduced, providing other aspects of the design are right and residents' groups may accept responsibility for maintenance of special features. The environmental disturbance of traffic noise is more easily avoided.</p> <p>The need for Community Image – the civic element – is least and a greater degree of person-isation possible.</p>

A

Still a housing zone — groups of houses numbering between 50 and 200 served by larger culs-de-sac or loop roads, or giving access to groups of smaller culs-de-sac.

These public spaces are used by residents from a wider area. The privacy intrusion between numbered zones and lettered zones is therefore increased.



Diminishing sense of ownership by the individual household, therefore probably less involvement outside their own curtilage.

Risk of vandalism increases slightly.

Less willingness to maintain special features; more risk of trespass and therefore greater need to provide some enclosure to individual curtilage.

Degree of potential personalisation still good but less than 0.

Overspill of private clutter less acceptable; community image a little more important.

B

Still within a housing district, but spaces serving between 200 and 500 homes containing a complexity of *Public Space Provision* — see Data Sheet 3.

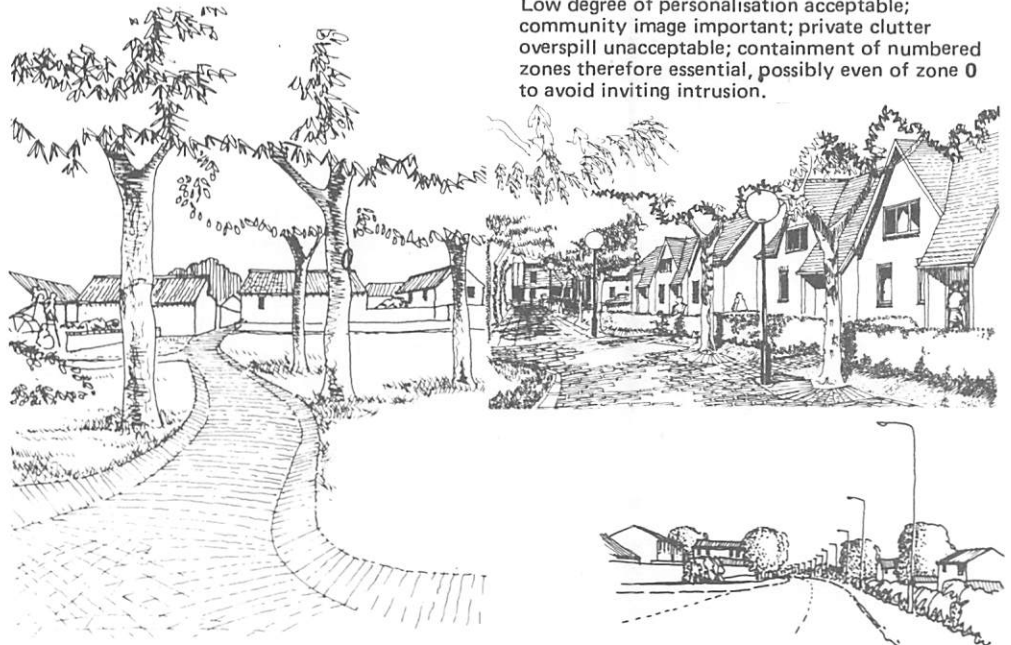
These spaces may be used by people from other housing districts.

The potential privacy intrusion is therefore further increased.

Probably very little sense of ownership by the adjoining individual household therefore little involvement, other than grumbling when things go wrong, outside their own curtilage.

Risk of vandalism quite high, therefore delegated authority involvement more essential.

Low degree of personalisation acceptable; community image important; private clutter overspill unacceptable; containment of numbered zones therefore essential, possibly even of zone 0 to avoid inviting intrusion.



C

Spaces serving a total settlement such as major approach roads, distributor roads, town parks, important peripheral footpaths, civic areas — where it might be said that the image the community as a whole wishes to project of itself is dominant.

These will not primarily served housing areas, but new housing may well border upon them during expansion or redevelopment.

Potential conflict between zones 4 to 0 and these public zones is at its maximum. Extent of conflict will depend upon size of settlement and quality of adjoining townscape.

The private individual has little influence on these other than through the Public Authority representing him. It is therefore paramount in such a situation that any housing has a public face and that the design of this respects that of the existing settlement.

Community image — in most settlements there is a quality of environment that is collectively generated. It is important in differentiating between one settlement and another. This is identified and assessed during appraisal (see Section 4) and should be reflected in any new development, particularly where it impinges upon zone C.

No private area should be unscreened. Private clutter is unacceptable in this situation. The degree of disturbance to people in their private garden zones and house is likely to be unacceptable in terms of noise, fumes and privacy. There should always be some means of shutting it off.

Data Sheet 2

Planning for access

This Data Sheet contains information about means of access to and from individual homes for private vehicles and essential services, such as fire fighting and refuse collections.

Private Vehicle Access

Parking spaces are required for all housing. The number of spaces varies according to the type of accommodation and its configuration. Each parking space must have access to the highway — that is, to Highway Authority adopted streets.

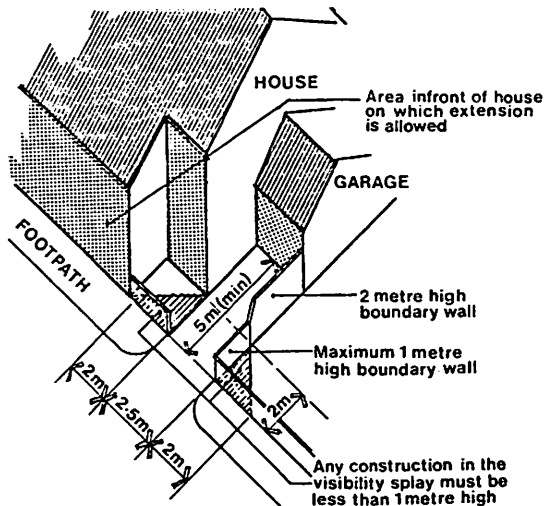
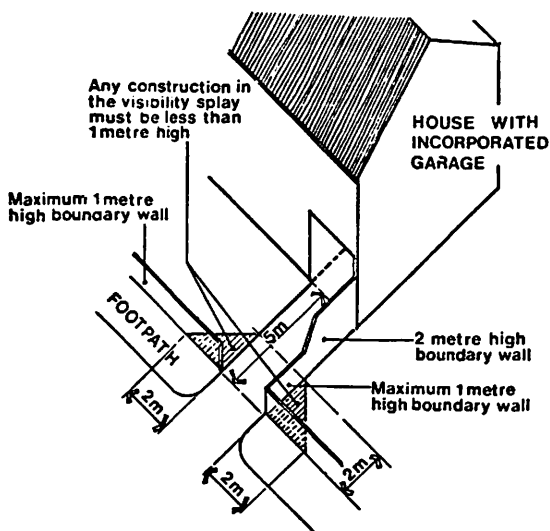
(i.e. 5 metres), may not double as a parking space because access is restricted.

Access to this drive must be safe. Visibility plays are therefore set out in the Leicestershire County Council's Publication 1979 *"Highway Requirements for New Development and Estate Roads"*.

These mean that restrictions are placed upon boundary features – walls, fences, hedges and so on around the drive exit.

Private Drives

Individual private drives of adequate dimensions may double as parking spaces as well as giving access to a parking space. A shared driveway, unless it is double width



A – shows the drive between footway and integral garage at the front of a house. The house set back is largely governed by the minimum parking set back of 5 metres. Front boundaries are restricted in height to 1 metre over the shaded area.

B — shows a side of house drive where the garage is towards the rear. The house set back from the rear of footway here is governed by the drive to footway visibility splays. Front boundaries are again restricted to a height of 1 metre in the shaded area.

C – shows the configuration and dimensions required when it is necessary for a vehicle to be able to enter and leave a house plot in a forward direction. A large area is necessary, but this type of drive is essential for plots on some types of small road and on roads whose main function is to facilitate rapid transport movement.

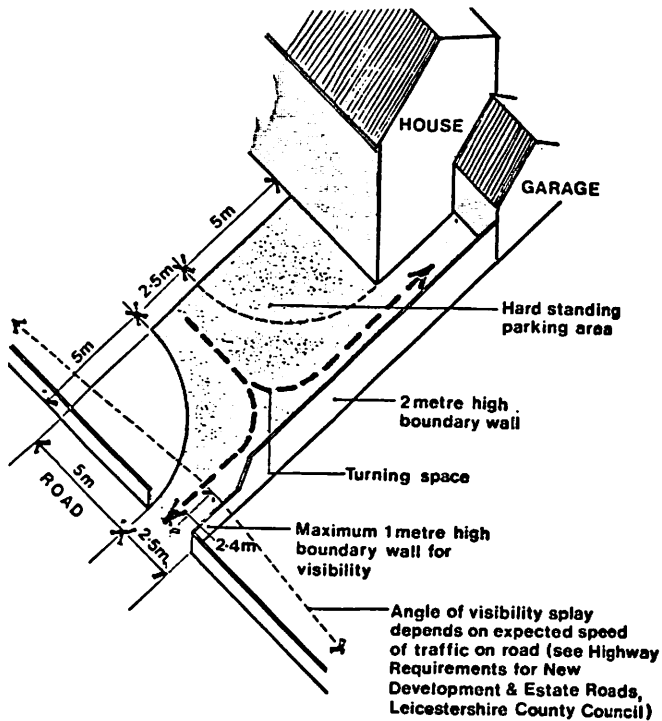


figure 1. This diagram shows some common drive to parking space relationships.

Car Parking Within the House Plot.

- A – basic parking space dimensions
- B – single carriageway with direct entry and frontage parking
- C – double garage with direct entry and frontage parking
- D – single garage with parking space alongside it
- E – two garages with one parking space
- F – forecourt entry to garage with in-site turning

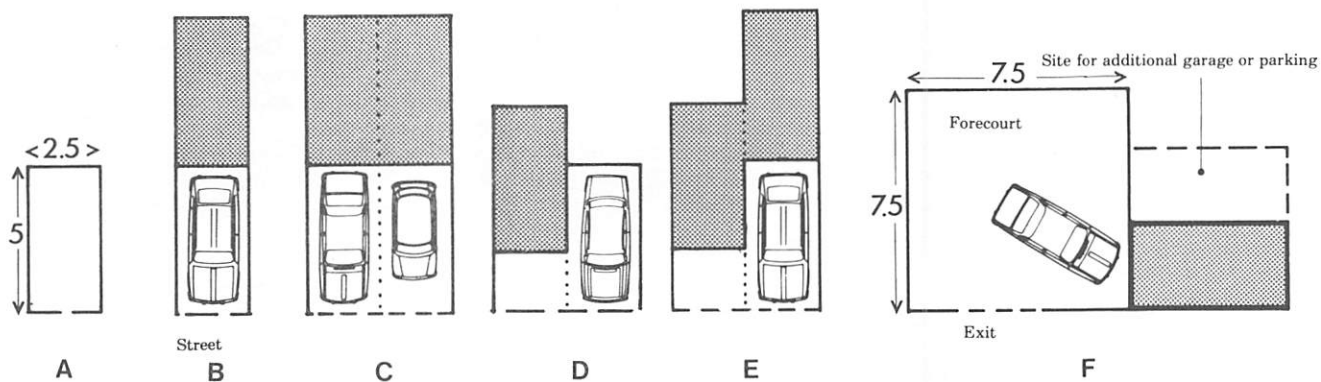
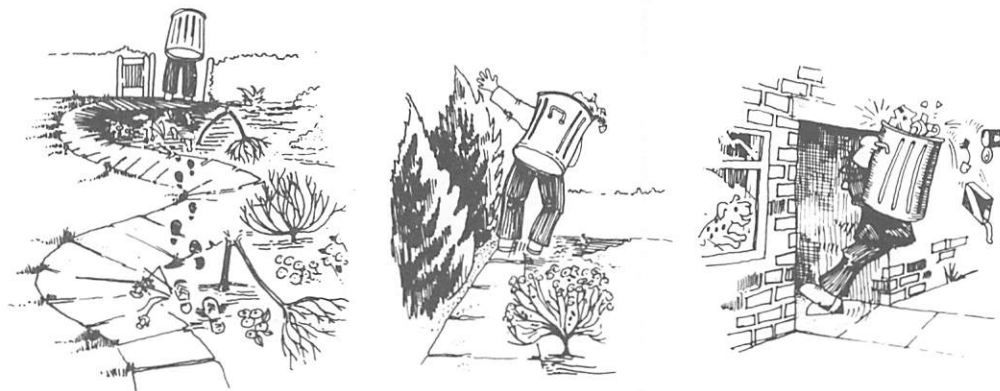


figure 2. This diagram shows most minimum acceptable configurations of parking space and/or garages within the individual house curtilage.

Service Access



Access to dustbins, meters etc. needs to be easy and efficient. It may not be permissible for a dustman to pass through a garage or habitable part of a house to gain access to household refuse. Refuse points may therefore be either at the front of the house in a properly designed enclosure or directly accessible via an external pathway, preferably not less than 1.2 metres wide and 2 metres headroom

External emergency access to the rear of a house for fire fighting is essential and in the interests of personal safety.

Data Sheet 3

Public Space Allocation

Apart from the basic needs of the private dwelling — see Data Sheet 1 “*Space Around the Home*” — and adopted highway, it is necessary to allocate space for other functions when assessing residential land for nett density. This is as follows:

1. Amenity space — such as squares, “greens”
2. Children’s Play Places
3. Essential tree planting

All should be adopted and maintained by a responsible representative authority for example, Housing Association or Local Authority. This excludes recreational provision at a major community level which is not covered by this guide, but allocated in Local Plans.

Table 1.

<i>Designation</i>	<i>Minimum Size Square Metres</i>	<i>Frequency</i>	<i>Comment</i>
1. Amenity Space	200	1.4 Sq.m. per bed space	Should be efficient shape; allocated and planned initially in the layout; properly planted. Small grass strips, verges etc. do not form part of this allocation; will vary with density of housing — see Table 2 below.
2. Children’s Play Places (a)	100	1 per 100 family dwellings	Todlers’ play places; family dwellings means dwellings with more than one bedroom; need varies according to density — see Table 2 below; should be closely associated with houses, near footpaths and small culs-de-sac.
(b)	500	1 per 100 family dwellings	Older children’s play places, ages 8 - 15; need varies according to density — see Table 2; should be sited related to amenity space; not close to houses, though within housing areas.
3. Essential Tree Planting	100	5% - 12% of gross site area	This means block planting of trees — that is closely spaced plantings for quick growth; thinning occurs at intervals; not clump planting in amenity areas; related to overall landscape; amount depends upon the location within the settlement, existing trees in the vicinity. May be indicated in a Local Plan.

Table 2.

The following factors should be applied to 1 and 2 in Table 1 for Density Variations.

Density: Dwellings per Hectare	Factor
— 20	x 0.5
21 — 30	x 1.0
31 — 45	x 3

Amenity Open Space

This is a general purpose place for community use providing a variety of spatial character and visual content within a residential area. It may be urban in character, designed in ‘hard’ surfaces but containing significant planting elements or ‘soft’ dominated by large scale shrubs and trees. They may be ‘squares’ in the traditional urban sense, or informal extensions of circulation space, but always accessible and attractive for informal use. They may contain play places but the areas should then be aggregated.

Places of adequate size permit the planting of groups of medium to large sized tree species which cannot be accommodated within the normal private garden but which add considerably to the pleasure of the residential environment.



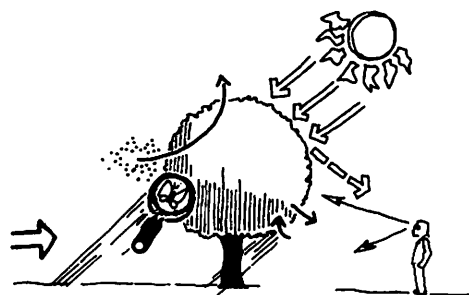
Man’s relationship with his environment is an intricate one. The housing environment should reflect this by allocating adequate space for planting.

Trees Well Planned in Housing Layout are an Enjoyable Resource

This allocation is to fulfil a specific need. The following uses should not encroach on basic amenity open space provision:

1. Retention of existing natural features – tree groups, hedgerows, ponds, water courses.
2. Block structure planting.
3. Technical Needs – balancing reservoirs, transmission lines, major public utility easements.

Any publicly maintained land created by these uses should be regarded as supplementary to the open space and aggregated with it. The allowances in the table derive from the National Playing Field Association recommendation for passive recreation.

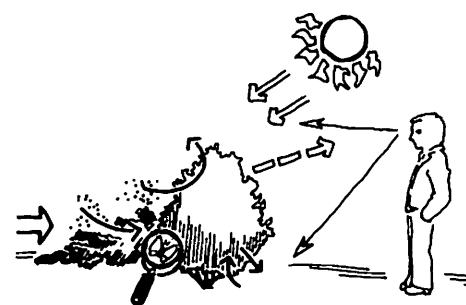


Large trees produce oxygen and shade, act as air filters and perform many other functions.

Block Structural Planting

It is important to have groups of large trees within and on the edges of housing areas. Careful siting is important to avoid nuisance. Such planting may adjoin or form part of Amenity Open Space but if it does so, the two recommended areas should be aggregated.

Trees grow more quickly and have more visual impact when they are planted in fairly large groups. The minimum number in a group defined as block planting is approximately 7 depending upon species, planted on a 3 metre grid. Less would be considered Amenity Space planting.



Shrubs also perform these functions at a different scale.

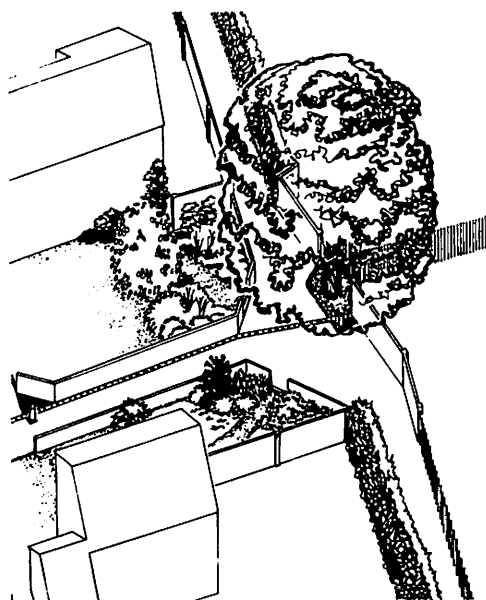
Adoption

It is important that procedures for adoption of landscape and places discussed in **Data Sheets 3 and 4** are agreed for the whole county. Provision of such areas is important to the proper functioning of housing development and its neglect may increase pressures on neighbouring agricultural land. Proper long term maintenance is also important in this respect.

The following is a possible gradation of maintenance bodies;

1. Small local community groups
2. Parish Councils
3. District Councils
4. County Council

Junctions on footpaths can, by careful detail design, be made into pleasant and attractive events. This is important in creating interesting recognition places.



Data Sheet 4

Incidental and Play Places

Children spend their early life near the home. As their abilities increase they can safely venture further from close parental supervision for longer periods, and seek more space for play activities, important to their physical and social development. There is a need for social contact across different age groups.

It is essential that these needs are planned for in housing developments from the earliest stages in design. The table below indicates a range of play places associated with housing. This allocation is not rigid, but subject to a range of variables.

The table categorises 4 types of 'play place'. They are in ascending order of specialisation and complexity. The categories are separated for clarity of use; it may be possible to combine uses provided that they are compatible with other needs in their combined form. One could not for example combine a Type 3 and Type 4 play place on a local-Type 1* - footpath because this would conflict with the privacy needs for people adjacent to that footpath, but Type 1 and 3 can be grouped in this situation. Type 2, 3 and 4 could be grouped on a Type 2 circulation route*.

All recommendations are based upon average housing densities and full provision of the recommendations in **Data Sheet 1 'Space About The Home'**. Variation in these will affect the frequency of provision for 'play places'.

Carefully planned use of circulation will have a beneficial effect in planning for play. The lower categories of route 1,2 and 4, can form reasonably safe play areas. However it must be emphasised that both layout and detail must be carefully designed.

Recommendations are calculated on the assumption that adequate large scale facilities will be available locally to the community outside the immediate residential area — parks, large playgrounds, adventure play — where boisterous activities can be accommodated without disturbance to residential quiet and privacy.

All types are necessary to the proper functioning of a housing area; the need is more pressing as the size of development increases. Adoption procedures need settling over the County area to ensure maintenance.

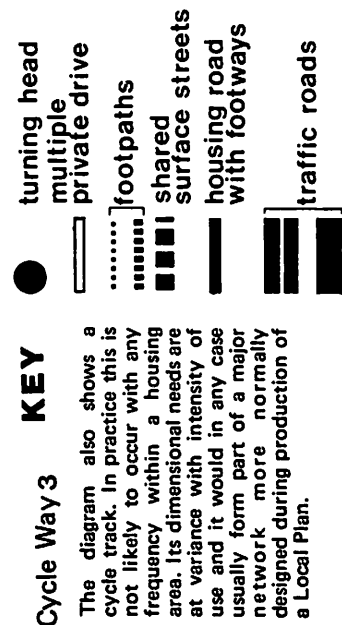
Locational Aspects of Play Places

Type of place	Age groups	Catchment radius	Median space allocation	Location types		Major design considerations
				Positive	Negative	
1. Footpath Type 1*	ALL	LOCAL attraction radius circa 100 metres	25-30 sq. metres 1/20 dwellings	widened footpath; footpath junctions near other amenity places	backlands; domestic zones ² 3, + 4 busy vehicular routes or type 3* circulation (cycle); direct contact with houses.	non-specialised place; all sections of LOCAL community about 60 households; informal use - daytime by young children, mothers, elderly, mid afternoon to evening by other children and elderly, evening probably mainly adolescents; needs interesting surfaces, walls and other features; landscape - mounding, trees and robust but non-aggressive shrubs, ¹ must be attractive but limited in range to avoid conflict with group privacy needs at this scale.
2. Footpath Type 2	8 Upwards	Circa 400 metre attraction radius	25-30 sq. metres 1 per 100 dwellings	widened footpath; footpath junctions; near other amenity places;	backlands; domestic zones ² 3, + 4 busy vehicular routes or cycleways (types 3 or 8).*	major community route location — unsuitable for unsupervised young children (under 7); place for all sections of a neighbourhood community slightly wider range than 1; non-specialised place.
3. Play Places	Up to 8	100-150m. (200m max) designed radius	3sq.m./ child bed space	Central to radius; supervised by households; relate to buildings and natural shelter; other amenity places; sunny position but provide shade elements; route type 1*.	backlands; domestic zones 3, 4; busy vehicular routes; direct contact with houses; frost hollows cold or draughty areas.	Specialised place; aimed at specific age group ⁴ ; meeting place for children and parents or older siblings within sight of home; use circulation features wherever possible ² ; make appearance as attractive as possible for the age group; good quality surface treatment and low enclosure; robust but non-aggressive ¹ planting; place must be an 'event'; a community building where possible would allow for group activity, shelter and indoor play; equipment appropriate to the age group; provide containment but avoid 'prison' enclosure ⁵ .

4. Play Places	8 to 15	400 metres designed radius	500sq.m. per 100 family dwellings min. adoptable size 500sq.m.	Central to radius; local park or local centre; sunny position but provide shade element; playgrounds outside housing areas.	backlands; domestic zones 0 - 4 bus vehicular routes; frost hollows; cold draughty areas.	specialised place; aimed at specific age group ⁴ ; otherwise much as 3 with equipment appropriate to this age group; incorporate facilities for younger age groups and for ball games ⁶ ; provide containment but avoid 'prison' enclosure ⁵ .
				* See data sheet 5 " <i>Systematic Circulation</i> ".		with privacy, which this guide seeks to attain. It is generally better to provide suitable non-specialist places for the youngest age groups, to provide type of place no. 3.
				1 Not thorny or prickly shrubs		
				2 See Data Sheet 1		
				3 Footpaths, footpath junctions without direct contact with houses.		
				4 It is inevitable that places will be used by other age groups, particularly outside hours of use by youngest. This should not be discouraged providing the places are carefully sited and planned to avoid conflict	5 For example, high chain link fencing enclosure particularly when obvious.	
					6 Areas for ball games need to be separately enclosed to prevent their spilling out into other reserved spaces.	

Data Sheet 5

Systematic Circulation



This is one of a group of Data Sheets dealing with various aspects of roads and footpaths. A systematic approach to the use of circulation elements is necessary to ensure design efficiency. As in all Data Sheets in this Guide, figures and tables are separately numbered for each sheet.

This diagram shows the gradation of elements in a hypothetical circulation system. The following factors form the basis for the gradation:

- Degree of use — the number of people involved and attendant privacy intrusion.
- Degree of use by wheeled traffic.
- Degree of environmental disturbance.
- Need for directness — design priority layout.

Thus route No. 1 is a footpath; it serves only a limited number of houses; wheeled traffic — other than by small children — is excepted; there is minimal environmental disturbance — noise and fumes; it needs to follow as closely as possible within reason any desire line between the household served and a major objective such as a main footpath link, shops, schools, bus services.

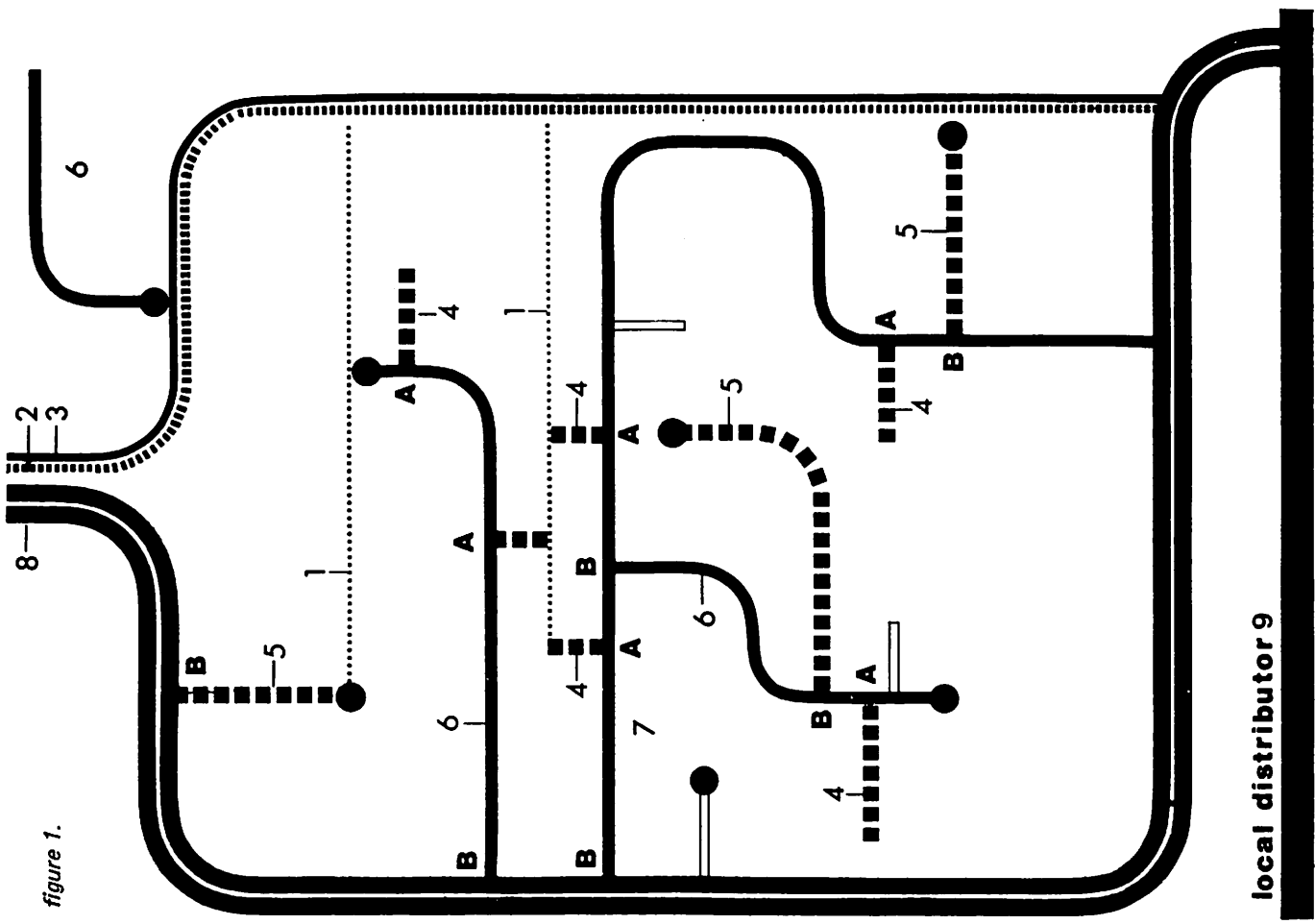
No. 8 is a Feeder Road; it serves a large number of houses; it is dominated by motor vehicles; there is considerable potential environmental disturbance; due to ease of travel, directness is less important than for 1, but is probably more important than for Types 6 and 7.

Constraints are applied to each element. A layout designed in accordance with the principles demonstrated should:

- Ensure that houses are grouped around roads having the least possible vehicular traffic.
- Avoid unnecessary use of land for traffic engineering.
- Give the greatest possible flexibility for the designer of a layout to place houses in a pleasing setting.
- Permit higher housing densities without reduction in space about the home.
- Reduce the road construction cost per unit dwelling.

It is believed that the system generally meets the recommendations of Design Bulletin 32*.

figure 1.



local distributor 9

Route Type	Name	Dimensions of Adoptable Surface	Design Speed	Junction Type	
1	Small Footpath	W – 1.75m			Serving a maximum of 50 dwellings; giving access only to that group of houses; not a through route passing through houses away from the road; it is important that there is no major infringement of privacy (See Data Sheet 1A 'Community and Privacy').
2	Main Footpath	W – 2.00m			Serving more than 50 dwellings; passing through one housing group to give access to another; away from roads; potential erosion of privacy See Data Sheet 1A 'Community and Privacy'.
3	Cycle Ways Link Route	W – 1.8m W – 6m W (2 way) – 3.75m (1 way) – 2.75m R – 6m	25 Km/hr (15 mph)		Part of main desire lines to schools, shops, parks, countryside foot-network; should be efficiently routed and attractively detailed. Equivalent to small footpath 1 above; slight splay needed at junctions
4	Small cul-de-sac (Joint use surface)	W – 2.75m W ₁ – 1.1m L – 30m R – 6m S – 1 x 2m 2 x 1m	25 Km/hr (15 mph)		Equivalent to main footpath 2 above.
5	Small cul-de-sac (Joint Use Surface)	W – 4.5m L – 100m R – 7.5m S – 2m O – ½m	25 Km/hr (15 mph)	A	The smallest street type; access to 20 dwellings maximum; no multiple private drives; minimum of 2 car parking spaces per dwelling within the curtilage; no heavy vehicles permitted; special entrance details (See Data Sheet 6 'Circulation Geometry') services reservation essential.
6	Housing cul-de-sac	W – 5.5m F – 1.75m L – 200m R – 7.5m O – ½m	30 – 50 Km/hr (20 – 30 mph)	B	May not form part of a main footpath or main cycle route without major modifications including 2m raised footway or cycle way on one side.
7	Housing Loop Road	W – 5.5m F – 2 x 1.75m R – 7.5m	30 – 50 Km/hr (20 – 30 mph)	B	Intermediate street type; access to 40 dwellings maximum; no multiple private drives; minimum of 2 car parking spaces per dwelling within the curtilage; services reservation on one side only; special entrance details See Data Sheet 6 'Circulation Geometry'; heavy vehicles permitted entry, turning head essential. May not form part of a main footpath or main cycle route without major modifications as for 4 above.
8	Residential Collector and Feeder Roads	W – (6.0m 6.75m) F – 2 x 1.75m	50 Km/hr (30 mph)	C	Traditional cul-de-sac; turning head essential: 100 houses maximum; multiple private drives permitted (see below); grouped parking permitted; services under footways.
9	Local Distributor Road	W – 6.0m F – 2 x 1.75m L – 30m	50 Km/hr (30 mph)	–	May form parts of a major footpath or cycle route without major modification; design for pedestrian precedence – that is, low vehicle speeds and maximum safety.
	Grouped private drives				300 dwellings maximum; otherwise as for 6 above
					400 dwellings maximum; verges needed between carriageway and footway; larger width used when planned as a bus route
					Major community route – See Data Sheet 1A 'Community and Privacy'. No individual access where more than 300 dwellings served. More than 400 dwellings, no direct access, but otherwise as type 8.
					Normally maximum of 2 dwellings; exceptionally 3 dwellings; NOT ADOPTABLE.

See Data Sheet 6 "Circulation Geometry" for special treatment of Type 5 small cul-de-sac.

Junction Types:

A – Special entry without kerb radii and with barriers for exclusion of heavy goods vehicles.

B – Normal housing access road junctions.

Special junctions for traffic dominated roads. See "Highway Requirements for New Development and Estate Roads" published by Leicestershire County Council.

Note: This Data Sheet is for convenient reference. It should be used in conjunction with the above document published by the highway authority.

Data Sheet 6

Circulation Geometry

This Data Sheet deals with the basic geometry of two housing access culs-de-sac new to Leicestershire. They are designated *Type 4* and *Type 5* on **Data Sheet 5 'Systematic Circulation'**. Both are 'shared surface' culs-de-sac in the terms of Design Bulletin 32 '*Residential Roads and Footpaths*'. *Their geometry parameters reflect the safety aspects of this situation and at the same time have been devised to enable the designer to create varied and interesting house groups.

Data Sheet 5 Systematic Circulation deals with the constraints applied to each.

Type 4 cul-de-sac

This is the smallest route to which motor vehicles are permitted access. It may be used only by private cars and small delivery or service vehicles such as milk floats or small sweepers. To this end a width restriction of 2.3m is placed at the entrance, that is, the inside of the 6m notional radius quadrant. These approach radii do not need to be set out in the entrance geometry, but the entrance geometry needs designing so that they could be accommodated.

All dimensions are based on those needed for the private car and for a maximum road speed of 25 Km/h (15 m.p.h.) and calculations of visibility splays across bends should be made on this basis.

Appearance must differ from that of a road. Surface finish must therefore be different, either by the use of a surface dressing or by using a block material to which the use of this road is well suited.

The basic dimensions are capable of considerable variation. There is a minimum hard surface width of 2.75m, a maximum of

11m. If the minimum hard surface is selected, a 2m services reservation is additional. In most circumstances this will lead to a minimum hard surface width of 4.75m. Exceptionally where the cul-de-sac serves only a few houses at very low density, the services reservation may be soft surfaced and gardening — mowing grass for example — undertaken by the adjoining householder. Where the total hard surface width is less than 6m, it will be necessary to provide turning heads within each private access off it, to enable vehicles to enter and leave in a forward direction, with the drive exit angled towards the cul-de-sac entrance.

The maximum length of the cul-de-sac from the entrance bollards to the head is 30m. This is based upon reasonable carry distances and fire hose lengths.

The services reservation should be marked and may not be enclosed from the street by any wall, fence, hedge or other barrier.

when carriageway width is less than 6 metres each dwelling must have car turning space within its own site.

services may be in one 2 metre wide reservation as shown or two 1 metre wide reservations on each side.

services reservation may be incorporated into 'open front' gardens in exceptional circumstances: any form of enclosure must be on the garden side of the reservation

when the reservation is incorporated into gardens changes in direction must be clearly indicated with permanent markers

cul-de-sac surface must be distinct from all Type 6, 7 or 8 surfaces

minimum bend radius is 6 metres; visibility splays are needed on all bends as for 15 m.p.h.

width restriction at A-A may be by means of bollards or walls

entrance radii are notional only and need no surface demarcation: these are a constraint on constructional features and form the minimum edge of adoptable area between A and C.

visibility splays are needed

entrance is footway crossing and should be surfaced as footway if the latter differs from the main carriageway; if the footway surface is as the carriageway, then the crossing must be surfaced as the cul-de-sac.

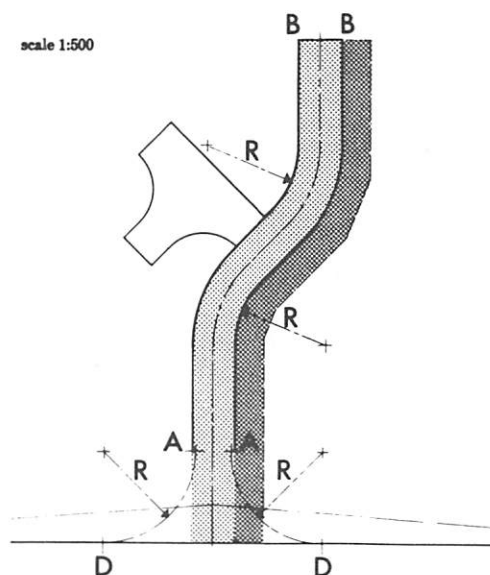


figure 1 Basic Geometry of Type 4 Cul-de-sac

D-D marks the extent of dropped kerbs at the front edge of footpaths on the existing road
R - minimum radius 6 metres, notional at entrance
A-A - entrance width restriction 2.3 metres
B-B - minimum carriageway width 2.75 metres
A-A - B-B max 30 metres

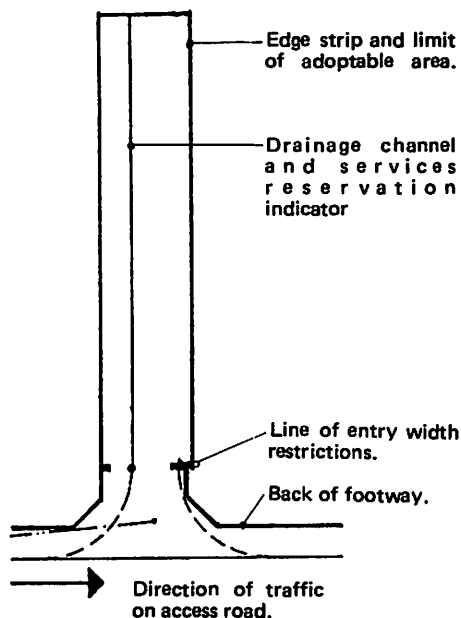


Figure 2. Variability of Type 4 cul-de-sac; "normal" configuration of 6m wide surface.

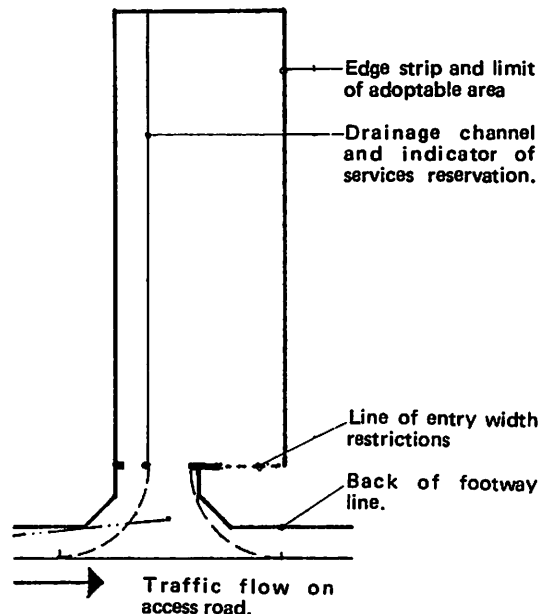
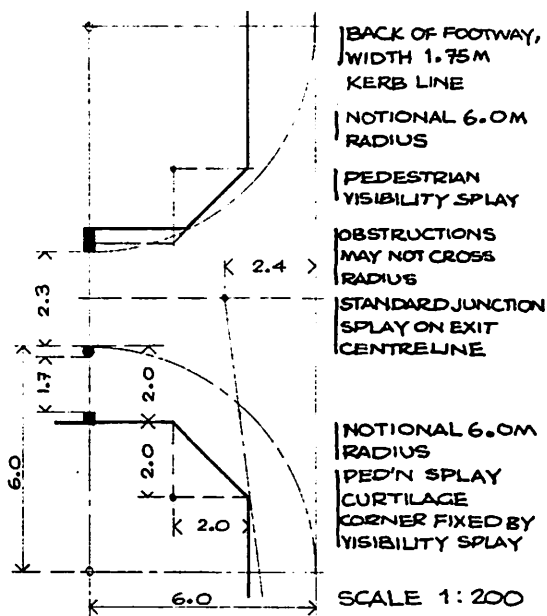


Figure 3. Variability of Type 4 cul-de-sac; "maximum" configuration showing 11m wide court type surface.



The vehicle exit may be positioned anywhere within the hard surfaced width, providing that the services reservation is taken through to link with the footway, and that the line of constriction is placed at the tangent of the 6m notional radius quadrant. The 6m radius is taken from the kerb line of the normal housing access road – Type 6 or 7. The vehicular exit has a maximum width between obstructions of 2.3m, the position of the bollard(s) being determined by the services reservation. The services reservation width is constricted to prevent vehicular use. On the diagram the circular obstruction is a bollard; side restrictors may be walls, bollards or posts against walls, or wall buttresses. It will be found in practice that on the "normal" configuration (figure 2) the notional radius determines curtilage on one side; on the other side it is determined either by the junction visibility splay or back of footway, whichever gives most set back from the kerb line. A dropped kerb will extend between the tangent points of the notional radii on the kerb line.

Figure 4. Setting up the entrance geometry for a Type 4 cul-de-sac.

Type 5 cul-de-sac.

This cul-de-sac is intermediate in scale between *Type 4* and the normal housing access road, *Type 6 or 7*. Normal service vehicles are permitted access and dimensional constraints are established on this basis. The entrance geometry has to be set out as for a normal road up to the inner end of the radius quadrant (*Point A*) on the figure. From that point on, the surface has pedestrian precedence and needs to be differentiated from the normal housing road. Construction, however, must be designed for heavy vehicles. All dimensions are based on a design speed of 25 Km/h (15 m.p.h.) as for *Type 4*.

The maximum length of 100m is based upon a reasonable distance related to the maximum number of dwellings permitted. The latter is based on traffic flow related to road widths and vehicle speeds.

The services reservation must be surfaced as for the 4.5m hard area. An overhang strip of 0.5m is necessary on the side opposite the reservation for *Type 5*.

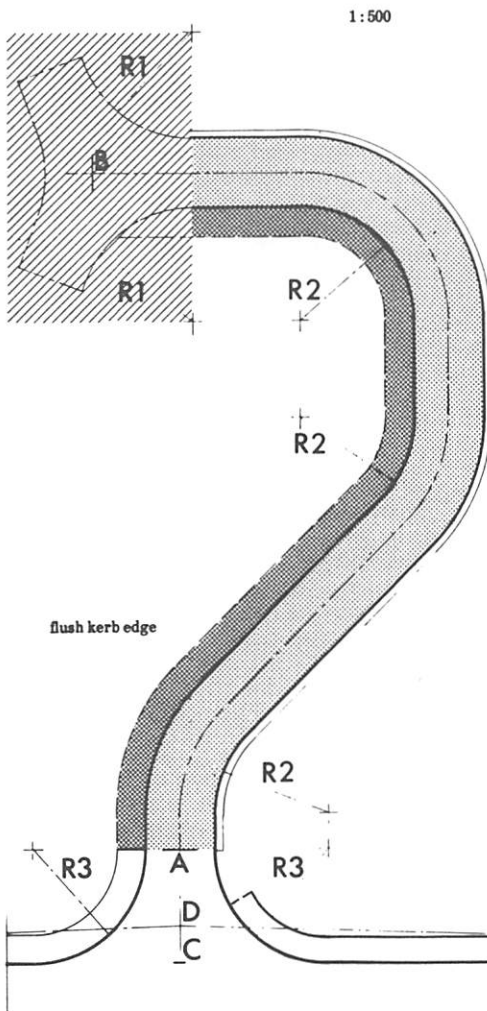


Figure 5

turning head as for *Type 6* is essential

nominal joint use surface 4½ metres wide

services reservation. 2 metres wide surfaced as for joint use surface

drainage channel

½ metre overhang on side opposite services reservation with splayed kerb edge to main surface; surface should differ from that of main surface and

reservation

length of road measured along centre line from end of entrance radii to centre of turning head

visibility splay 2.4 metres set back from kerb on centre line of cul-de-sac; splay distance along main route depends upon approach speeds calculated in accordance with data sheet - circulation, traffic speed and visibility

footway on *Type 6,7 or 8* route

R1 - minimum turning head radius 7½ metres
R2 - minimum bend radius 7½ metres variable with road speed of approaching vehicles

R3 - entrance radii 7½ metres

A-B - maximum length of centre line 100 metres

C-D - visibility splay set back 2.4 metres

Basic geometry of Type 5 cul-de-sac. Note that unlike the Type 4 (figure 1) the services reservation is always 2m wide and always on the left hand side on entry. This is to prevent vehicles using the footway on exit. It avoids confusion. Entrance radii are kerbed as for any housing access road junction. Design speed is 25 KMPH (15 MPH).

Data Sheet 7
Materials and
Local Character

The aim of this Data Sheet is to indicate the broad characteristics of the traditional building styles in Leicestershire. These styles should not be copied, but the information may be found useful in formulating house types, particularly for infill developments, and selecting materials which will harmonize. It will be seen for example that a standard red brick will not readily fit in all areas broadly referred to as 'red brick' and standard 'dark brown' pantiles rarely fit in well anywhere in quantity. If a characteristic traditional material like a roll or pantile is used it is generally better to use it in a range of colours that occur in older buildings. Likewise when matching colours to traditional materials, it is more convincing to match the textures also.

This diagram is a map of Leicestershire. The shaded areas represent surface geology. Numbers indicate vernacular types as discussed in the table below. In some instances geology and architecture coincide, in others they overlap where a geological formation does not provide a readily available durable building material. The numbers are deliberately vague in their boundaries for this reason and detailed appraisal would be necessary to pick up precise boundaries or detailed local variations.

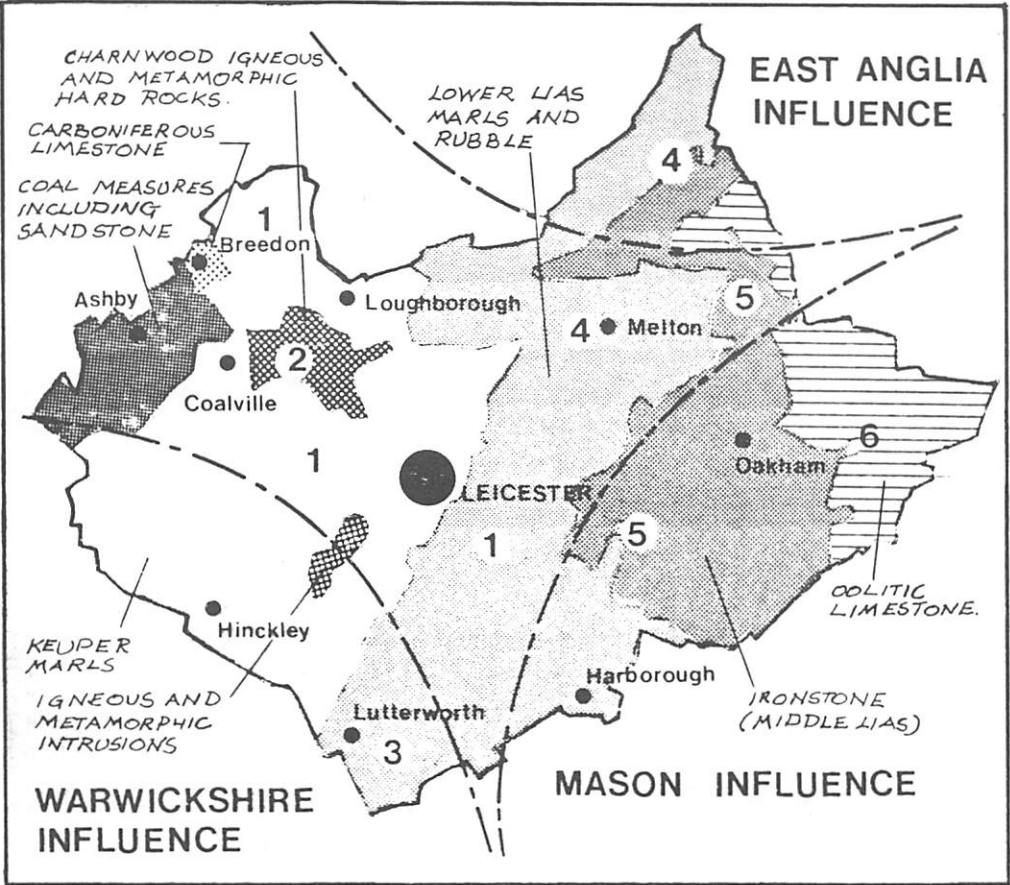


figure 1.

Area Ref.		Characteristics	Equivalents
1	Walls	Brick dominates; colour red orange to red brown. Frequent sandstone buildings in older settlements from coal measure outcrops. Frequent timber frame. Smallish windows, square or near square in proportion; shallow arched openings unelaborated; wall dominant. Details: Patterned vents, not much brickwork elaboration.	Red-orange to red brown bricks; selected commons or facings; grey to buff plain concrete facing blocks treated as ashlar. None. Readily available standard components.
	Roofs	Welsh slate dominates, pitched 30° to 45°. Staffordshire plain tile frequent, pitched 45° to 60°, colours blue, brown, dark red. Occasional Swithland slate and thatch. Gabled rather than hipped roofs dominate; corbelled eaves and verges, sometimes dentil courses; rarely bargeboards; plain angle ridge tiles.	Welsh slate; slate coloured asbestos cement slates. Small concrete plain tiles in colour match. Traditional Staffordshire clay tile readily available. None
	Form	General avoidance of complex building junctions; simple rectilinear cottage styles predominate; simple use of materials; horizontal elevations in overall proportions with more wall than openings.	
2	Walls	Stone dominates; multi-coloured purple, green to grey. Sometimes lime or colour washed, rarely rendered. Some local brick red-orange in colour. Smallish windows, square or near square in proportion, frequently elaborated in sub-division due to Victorian stylistic influence. Simple openings, sometimes brick quoins.	None — apart from fringe villages this is an area where natural materials should be used. Standard 'red' brick is not generally suitable in this location. Render tends to look out of place.

	Roofs	Swithland slate and Welsh slate probably equally represented, pitched 45°.	None. Slate coloured asbestos cement slates sometimes acceptable in some locations. Natural materials should be used. Avoid dun or plain brown tiles.
		Simple eaves details, usually with overhang, and bracketed gutters. Frequent elaborate Victorian bargeboards.	
	Form	Variable. General avoidance of complex building shapes and junctions due to nature of material, apart from Victorian stylistic exercises. Buildings generally grouped without joins.	
3	Walls	Generally brick: colours dark red to red-brown reflecting Warwickshire influence. Larger windows generally than Area 1 but still allowing wall solid to dominate. More elaboration of details than 1 but lacks the enrichment of the main Warwickshire areas. Some timber frame.	Range of suitable bricks available. Range of equivalent components available. None
	Roofs	Traditional plain tile dominates: colours dark red, red brown, purple, pitched 45° to 60°. Some Welsh slate. Some thatch. Elaborate multiple corbelled eaves and gables frequent; some use of upstanding gables with ornamental brick cappings, corbels and brick-on-edge. Traditional use of gabled roof dormers and gabled windows above eaves line. Hipped roofs occur more frequently than in other brick areas. Round and angle ridges.	Traditional clay tile readily available; some good modern concrete equivalents if right colour selected. Coloured asbestos cement slates. None. Brown and grey interlocking concrete tiles look particularly out of place.
	Form	Complex building forms and junctions fairly frequent, with detail enrichment and exploratory details. Fringe of Warwickshire influence.	



Figure 2.

This sketch shows a selection of traditional Leicestershire ways of detailing the junctions of roof and wall on a gable end. The ornate barge board however, was a Victorian stylistic invention derived from canal and Romany traditions.

- Traditional limestone capped upstand gable with drip mouldings linked to chimney stack (Rutland/Harborough).*
- Simple brick corbel and dentil courses provide a low maintenance overhang (widespread).*
- Characteristic form given by offset chimney stack and brick on edge upstand capping with corbelled drip course. Sometimes heavily ornamented in south west of county. Usually simple in Melton and North East.*
- Half round engineering brick capping upstand on Charnwood granite (Charnwood Forest and surrounds).*
- Traditional thatch end boards seal the joint between thatch overhang and gable wall. This obviates cut bricks (most thatched areas). Upstand gables are also often used.*
- Victorian 'Gothic' style barge boards are not so insistent as the modern straight board and are usually at a much steeper angle. (Throughout county area, but not numerous compared with other details).*

4	Walls	Brick dominates: colour orange-red reflecting East Anglian influence. Stone: rough soft ironstones frequently used with imported oolitic stone or brick quoins. Small windows, square or near square proportion. Plain simple serviceable details with a distinctive style. Lime wash on brick not uncommon.	Not many matching bricks now available. Universal 'red' looks out of place. Coloured plain concrete blocks used as ashlar. Occasional use of riven concrete blocks with careful colour choice, but normally they are not dark enough. Range of equivalent components available but new 'Georgian' windows very discordant may be due to proportions.
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Roofs

Pantile dominates: 35° to 45° pitch, two styles, bold roll and Anglian. Colour orange-red with some buff mixes and blue black.

Stone: occurs with ironstone imported from Rutland and Lincolnshire, 45° pitch.

Welsh slate: universal material less frequent here perhaps.

Swithland slate: less frequent here perhaps.

Rarely thatch.

Simple gable and eaves details, rarely elaborated but dentil courses used.

Small square roof dormers traditional in pantiles with vertical cheeks and roof extended over usually back to ridge. In stone, hipped and gabled roof dormers, lower than ridge and either behind eaves or gable off main wall.

Upstand verges infrequently with stone or brick cappings, particularly in older buildings where tile has replaced thatch.

Traditional clay tiles readily available. Modern concrete equivalents with careful choice and colour.

Riven concrete and pressed concrete imitations, but care needed with colour choice.

Welsh slate and asbestos cement tiles.

None.

None.

Forms

Simple forms, long rectangular plans; complex groups usually of detached buildings rather than joined; contrasting scales of building frequent and marked because of similarity of detail between domestic and ancillary buildings. More wall than openings.

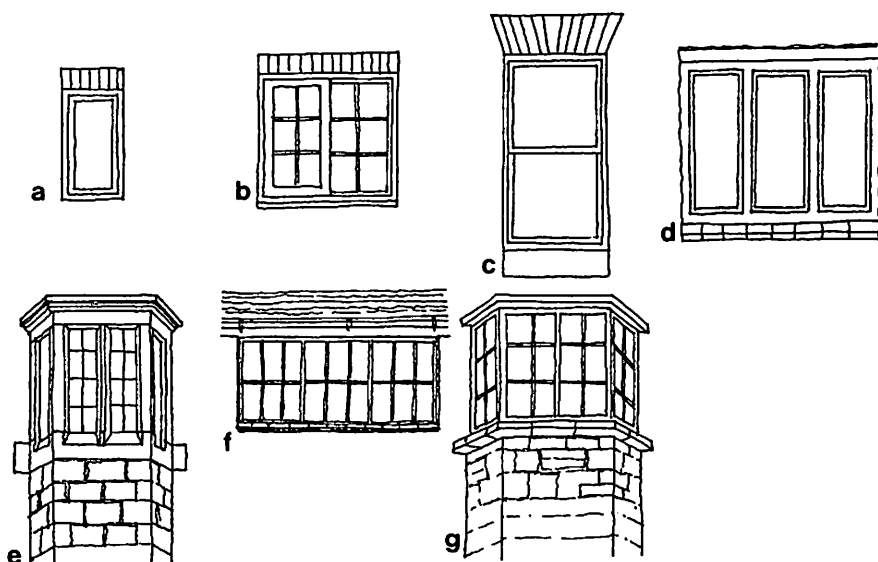


Figure 3

This sketch shows a selection of traditional window types. Windows were much standardised at an early date and regional variations are therefore probably less marked.

- a. Small windows such as used in gables; requires no lintel. Can give definition to a gable form (see 2c). Large gable windows are rare in traditional building unless formally arranged as a facade with other ornamentation. (Most brick areas).
- b. Standard window used since early glazing times; proportions nearly always square or near square (widespread).
- c. Victorian sash window, development of Georgian, simplified to take larger available glass panes. An elegant solution in practical and aesthetic terms — good light penetration, efficient ventilation control, weather proof, minimal frame and nicely proportioned. (widespread).
- d. Traditional window, particularly in stone areas, load bearing, may have carved stone or stout wood mullions and jambs. (frequent).
- e. g. Traditional 'Rutland' bays. e. Occurs variously detailed throughout the lias belt from Dorset to Lincoln, is constructed of stone; g. is timber with lead roof on a stone base. Not efficient for lighting but more characteristic as a model for modern variants in East Leicestershire than the pseudo Georgian shop window 'bow'.
- f. 19th century frame-knitters cottage window, usually under the eaves, a practical solution to unusual lighting needs.

5

Walls

Ironstones dominate, usually rough masonry, sometimes oolitic stone or brick quoins.

Brick frequent: colour orange-red as for 4.

Small windows, square or near square, frequently vertical proportions.

Some rich masonry in ironstones, occasional banded.

Appropriately coloured plain concrete blocks used as ashlar. Sometimes riven coloured concrete blocks in areas of lighter stone.

Difficult brick colour to match. Modern bricks tend to be too red.

Standard components available to match; (no equivalent for banded masonry).

Roofs

Pantiles probably dominate: orange-red bold roll or Anglian type pitched 35° to 45°.

Traditional Collyweston stone frequent, pitch 45° to 60°.

Welsh slate less frequent.

Some thatch.

Dormers etc. as in 4 above.

Frequent upstand gables in stone, sometimes in brick indicative of early thatch tradition.

Modern clay pantiles readily available. Concrete substitutes need careful choice of colour to avoid clash (as for bricks).

Riven or pressed concrete imitations available.

Slate or asbestos cement slates.

None.

Form

Generally simple but of greater complexity than 4 above, increasingly so towards Zone 6. Some beautiful elaborate groups at times.

Zone Ref.		Characteristics	Equivalents
6	Walls	<p>Mainly stone: oolitic and lias of good quality, wide range of colours from deep chocolate to white, frequently used decoratively together either for textural or colour contrast. Frequent ashlar work; strong masonry tradition, beautifully detailed.</p> <p>Brick occurs, colours orange-red to orange-brown.</p> <p>Many stylistic influences due to journeyman mason tradition over a very long period of time. Notable feature is the bay window. Gabled windows off front elevation projecting into roof frequent.</p>	<p>Riven concrete blocks with careful colour choice. Coloured plain concrete blocks used as ashlar. Great care needed in choice of bricks to be inserted in this environment.</p> <p>Difficult to match.</p>
	Roofs	<p>Mainly stone</p> <p>Thatch</p> <p>Some pantile</p> <p>Welsh slate</p> <p>Dormer window tradition, small inset windows with hipped roofs and gabled windows projecting into roof off main walls.</p>	<p>Riven or pressed concrete imitations available</p> <p>None</p> <p>Careful choice of colour for concrete pantiles; better to use modern clay pantiles.</p> <p>Coloured asbestos cement tiles (sometimes).</p>
	Form	Many variations of form, complex groupings, considerable enrichment of detail and form.	



Figure 4.

Some traditional dormer windows. Others in thatch are more specialised. a, b and e are part of the original design of the building. The others are later additions.

- Continuation of the wall, styled as part of the facade (18th century).
- Continuation of the wall, styled as part of the overall form in the 19th century 'cottage' style.
- Undateable East Anglian pantile tradition, may have replaced thatch, later insertion into simple single storey cottage farm. Possible because of the lower pitches available with interlocking tiles.
- 19th century insertion into an earlier timber frame cottage; enabled raising of ground floor ceilings and use of roof space. Simple and subservient to main building.
- 19th century stylised roof dormer part of original design; this one is on a modest cottage terrace; more typical of grander 17th or 18th century houses.
- Undateable Rutland dormer built off the wall using Collyweston slates and cappings on a hipped roof. Merges into main roof. Minimal detailing.
- Undateable Rutland dormer built off-roof members, gabled, all faced in stone slates, blends into main roof. Minimal detailing.

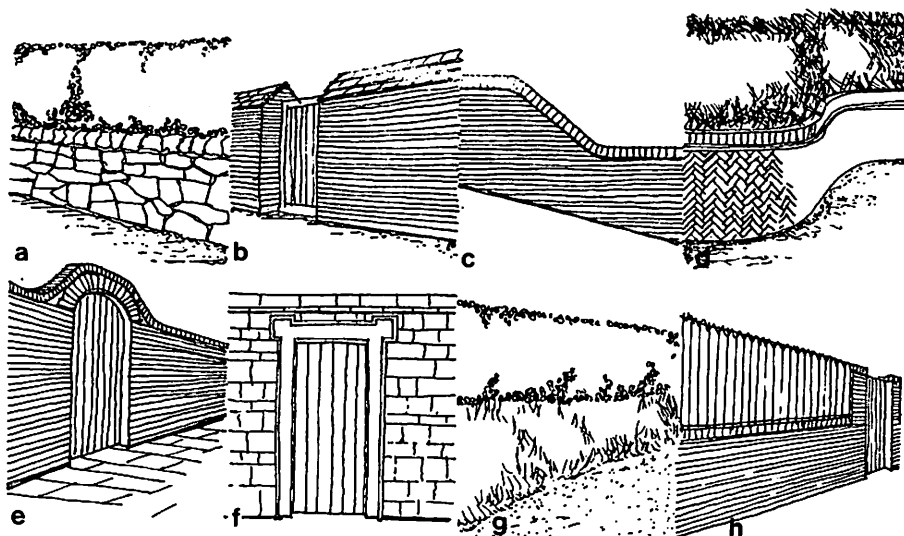


Figure 5

Traditional front boundaries

- Low stone wall with hedge grown for increased privacy.
- Heavy brick wall with tile capping — durable and expensive.
- Traditional brick wall with engineering or terra-cotta capping; changes of level in most walls are better accommodated by transitional slopes than by stepping, which is visually disturbing.
- Herringbone brick work without mortar — stable, cheap and easily repaired; brick-on-edge capping has mortar joints to prevent water penetration.
- Arched gateways make interesting features in high walls.
- A garden gate as elegant as a house doorway (Rutland).
- An informal bank and hedge as pleasant enclosure from a footpath.
- Brick wall and fence, close boarded or white palings, a more urban solution.