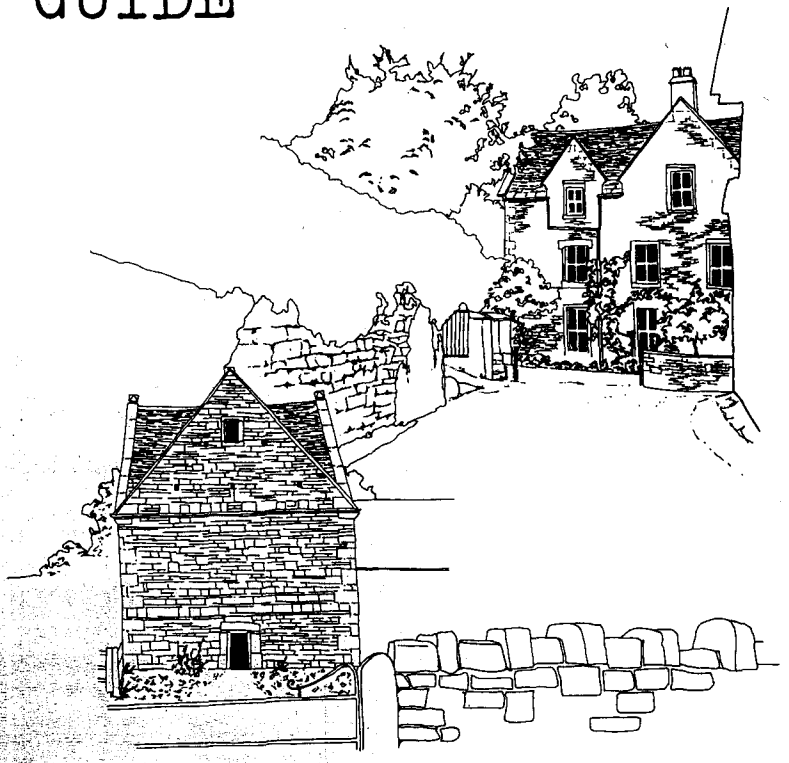
# LOCAL DESIGN GUIDE



# EXTERNAL BUILDING MATERIALS

Wansdyke District Council

# INDEX



# EXTERNAL BUILDING MATERIALS

## INTRODUCTION

The character of a building is not only derived from its intrinsic design: it is strongly influenced by setting, siting and of course the materials used in its construction. Too often modern developments appear harshly unsympathetic when seen alongside old buildings made from traditional local materials.

The first short design guide issued by Wansdyke District Council examined the problems of extensions and alterations to buildings. The purpose of this guide is to examine the traditional natural and man-made materials used in Wansdyke's buildings and to offer advice on how to renew or replace those materials and to suggest others which will help new development to blend successfully with the old.

# TRADITIONAL EXTERNAL BUILDING MATERIALS

## WALLS

Most of the traditionally constructed buildings of Wansdyke have sandstone or limestone walls and thatched, clay or stone-tiled roofs. Thatch is now very rare, the old Toll House near Stanton Drew being one of the few examples left. Clay tiles still exist, mostly having come from Bridgwater in Somerset. Slate was imported mainly from Wales. With the arrival of the railways these traditional materials were swamped by brick and later by concrete tiles as well.

Where traditional materials have survived their presence gives a distinctive and pleasing character, worthy of preservation. Where they cannot be employed in new structures it is better to complement them by sympathetic materials rather that overpower them with harsh and contrasting ones.

### Sandstone

Two kinds of sandstones occurring in Wansdyke have been traditionally employed in building work. In the west, in the villages of Ubley, Compton Martin, "The Harptrees" and "The Chews", locally extracted red sandstones (Dolomitic Conglomerates) were used, though not extensively. In the centre of the district the harder brown Pennant Sandstones were employed, and can be seen in the older buildings of Farrington Gurney, Clutton, Pensford and Publow. Sandstones generally do not make particularly good building material, especially where mouldings and intricate details are required. Once used they cannot readily be reclaimed, wastage is high and in practice they are only of use for the construction of small outbuildings, extensions or garden walls.

### Limestone

Limestone is composed mainly of particles of lime derived from living organisms, e.g. coral, shellfish and other marine life. These can be seen by the naked eye, particularly in the oolitic limestone which is found around Bath and in the east of the district. The colour when first quarried is a soft white to cream darkening to a warmer richer colour when exposed to the weather. The exact colour changes vary due to the presence of impurities such as iron in the quarried stone.

Towards the centre of Wansdyke the oolitic limestone gives way to the lias which is much smoother and whiter. Lias limestone also exhibits blue tinges and this is especially evident around Keynsham.

The distribution of these materials is shown on page 7.

Small limestone workings were once very common but extraction is now confined to the quarry at Stowey where fairly hard, fine-grained cream to bluish-grey calcite mudstones of the white and blue lias occur. Oolitic limestone of a soft cream coloured ferruginous character is won from stockpiles at Hancock's Quarry (Combe Down, Monkton Combe).

## Roofing Materials

### Thatch and Clay

As previously mentioned, except for larger houses, which were roofed in limestone tiles, thatch was probably the most common roof material in Wansdyke. Clay tiles imported from Bridgwater became common from the late 18th Century to the late 19th Century.

### Slate

Slate became widely available when the canal and railway systems evolved. Most of the slate found in Wansdyke came from Wales. Welsh slate is smoother, thinner and more regular than Cornish and Devonshire slate and hence can be more easily cut to a variety of shapes.

### Limestone and Sandstone Slates

Limestone roofing 'slates' or tiles are more usual than sandstone, though parts of roofs are still covered with brown Pennant Sandstone around the Pensford area. These 'slates' or tiles are identified by their brown colour and the thickness, which is usually greater than the'slates' composed of limestone. Limestone roofs are more common in the east of the district around the city of Bath, e.g. Freshford, Hinton Charterhouse and Wellow and in adjoining Wiltshire.



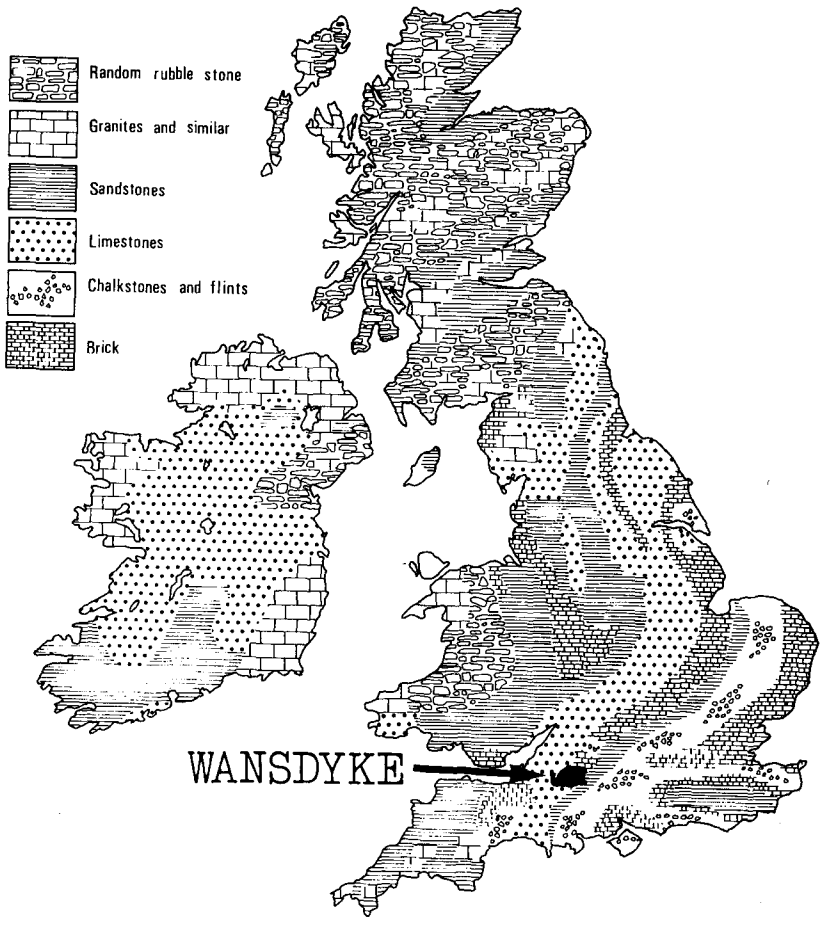



Fig: 1. General distribution of walling materials throughout the British Isles.

# SIMPLIFIED GEOLOGICAL MAP OF WANSDYKE

| | | | |
|---|---|---|---|
| Area of landslip and foundered Jurassic strata | | | |
| Great Oolite Limestone including Forest Marble (limestone) | Great Oolite Series | Jurassic | |
| Fuller's Earth limestone | Great Oolite Series | Jurassic | |
| (limestone) | Inferior Oolite | Jurassic | |
| (clay/silt/sands) | Lias | Jurassic | |
| White and Blue Lias (limestone/clays) | Lias | Jurassic | |
| Keuper Marl including Tea Green Marl and Dolomitic Conglomerate (marls/clays/sandstones) | Keuper | | Triassic |
| Upper Coal Series and Pennant Series (sandstones/shales) | Coal Measures including Millstone Grit Series | | Carboniferous |
| (limestones) | Carboniferous | | Carboniferous |

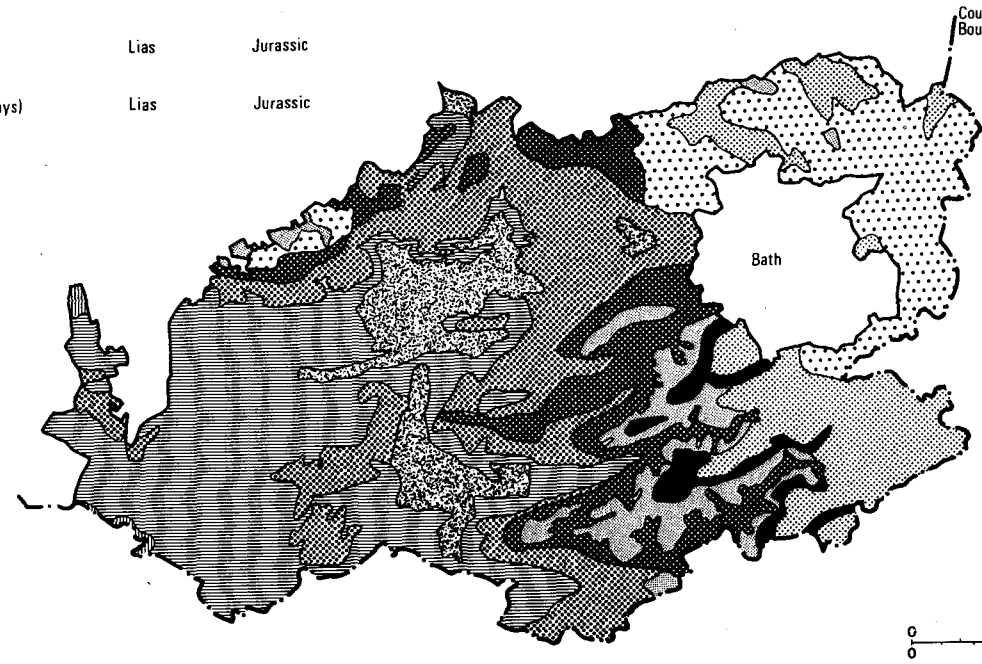



Fig 2

AVON COUNTY COUNCIL
Minerals Subject Plan
Part One - Report of Survey 1978

# DISTRIBUTION OF INDIGENOUS BUILDING MATERIALS

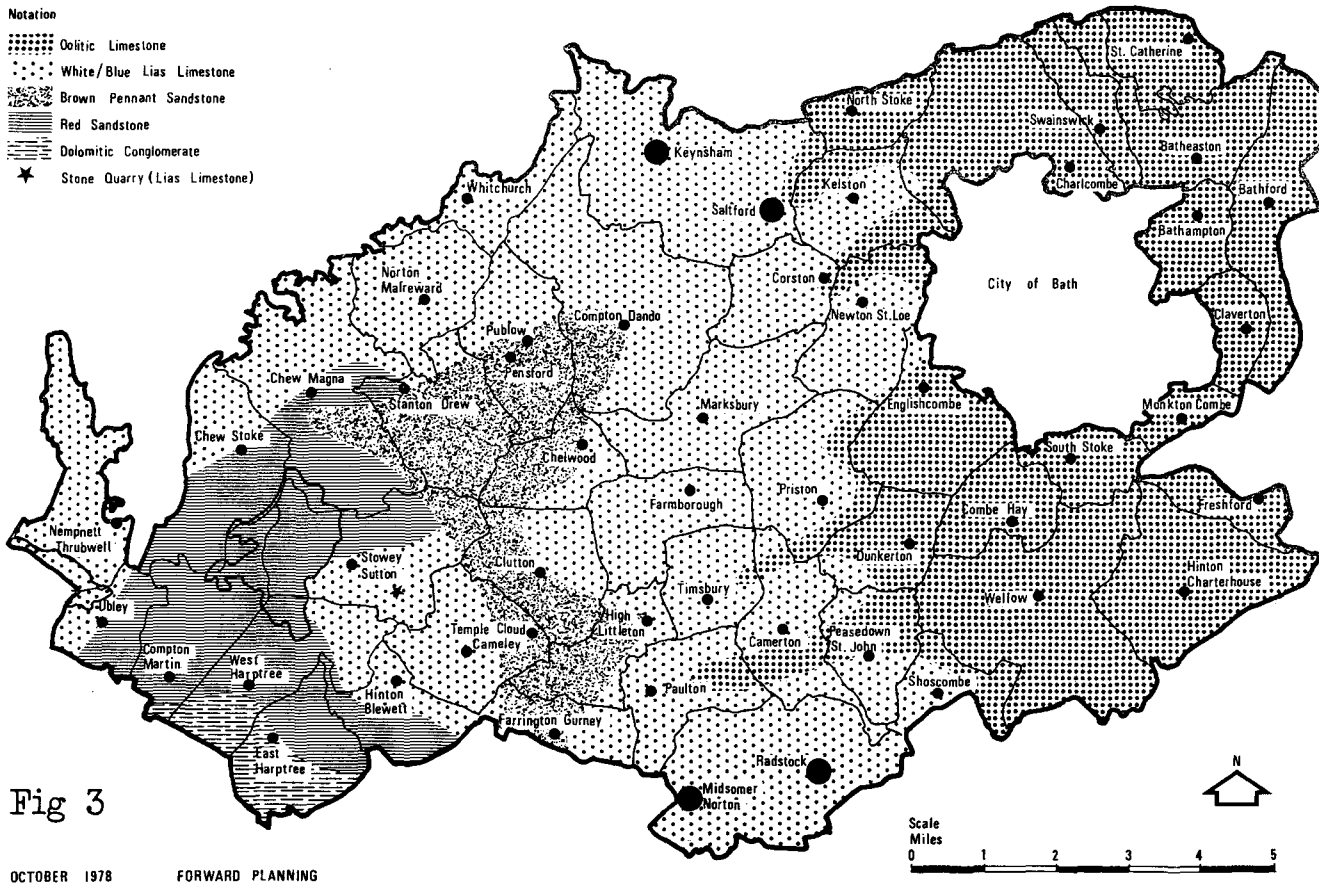



Fig 3

OCTOBER 1978 FORWARD PLANNING

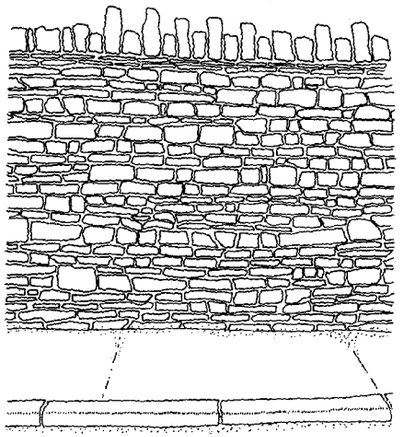
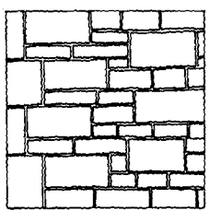
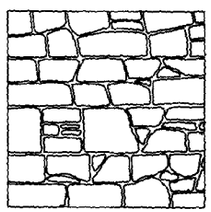


Fig: 3. A roughly coursed, roughly squared random rubble stone wall constructed of white lias limestone at Corston.

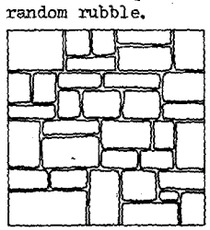
Note how coping stones are regularly and tightly spaced.



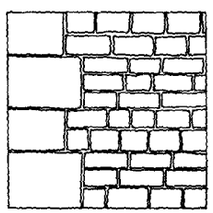
Irregular coursed, snecked or squared random rubble.



Random rubble built to course.



Random rubble built in courses with beds horizontal and joints vertical.



Coursed rubble.



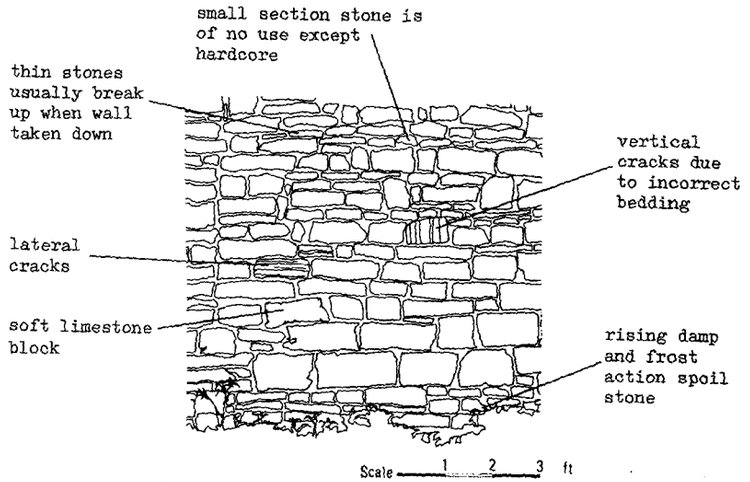



Fig: 4. Reclaimed stone can be re-used - but wastage is high.

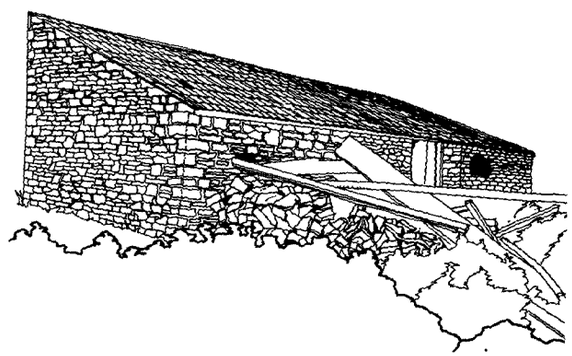


Fig: 5. Buildings incapable of restoration may yield good building materials.

Fig: 6. This local authority housing at Corston shows a skilful blend of old and new materials.

Fig: 7. Reconstructed stone of the correct colour and texture can be successfully mixed with cement and sand render. Local authority housing at Welton).



Fig:8. Buildings sited near the highway need frequent maintenance - a dark colour would appear less dirty (Hallatrow)

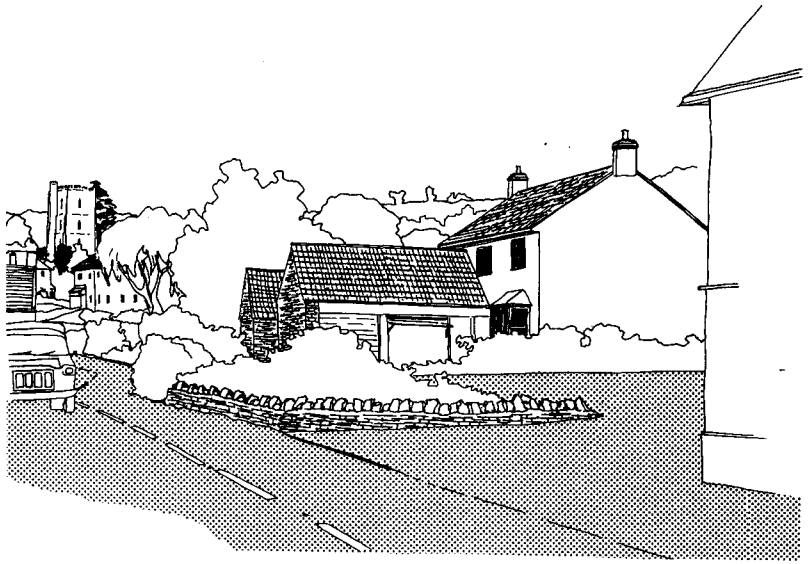


Fig: 9. A mixture of natural stone and hand float rendering may be acceptable in a new building of traditional proportions

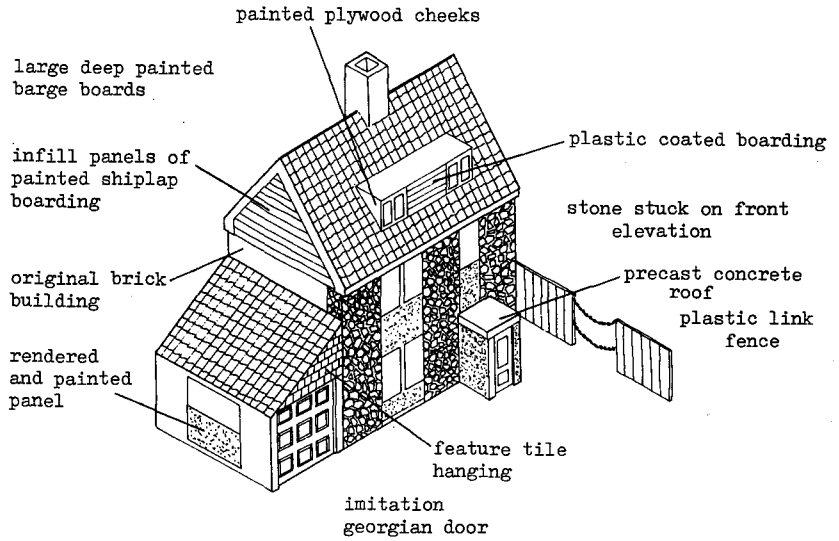



Fig: 10. A variety of materials looks fussy and cluttered, painted boarding and rendering are expensive to maintain.

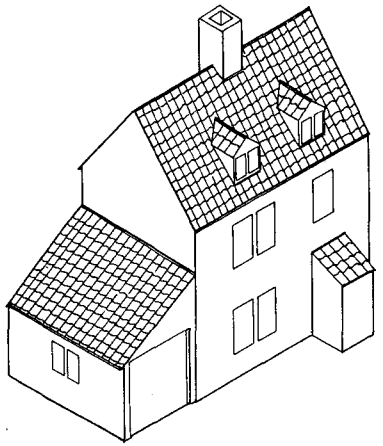


Fig: 11. Keep materials to a minimum: pressure impregnated preservative, suitably stained, needs less maintenance than paintwork.



Fig: 12. Carter Road, Paulton - west side.

19th Century

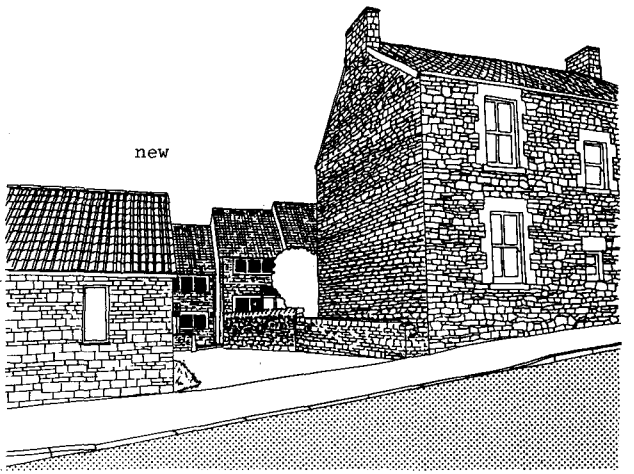



Fig: 13. Carter Road, Paulton - east side - much better material compatibility.

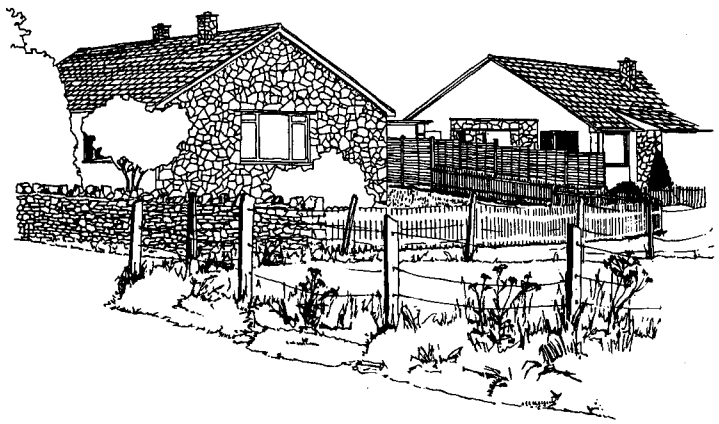


Fig: 14. "Vertical crazy paving", incongruous anywhere, more so if the stone is imported. (Reclaimed limestone used in a red sandstone area).

Fig: 14. Reconstruction of cottage using reclaimed oolitic limestone - an example of good craftsmanship with stone correctly "laid on bed".



# SUGGESTED MATERIALS

New or reclaimed, traditional building stone is difficult to find. White lias limestone can still be obtained in small quantities from the open cast quarry at Stowey. Oolitic limestone can be reclaimed from old farm buildings and walls in small quantities. Walls constructed of uncoursed, random rubble yield only small quantities of usable stone. Wastage is high due to fragmentation and disintegration when demolished. However, walls constructed of squared, or roughly squared dressed stone laid in courses usually yield a good quantity of stone for re-use. Red sandstone is very soft and liable to break up at the demolition stage. If small quantities are reclaimed it is only usable for very small extensions or low garden walls.

Apart from reasons of structural stability the visual aspects of choosing stone can be complex. Simulated stone put alongside quarried stone is usually unsatisfactory. The varied character of quarried stone with its weathered texture and suble tones is almost impossible to reproduce. Whilst the structural quality of any reconstructed material may be more consistent and uniform, the visual result is often harshly mechanical. Even casting reconstituted materials in moulds taken from actual quarried stone does little to help, and making them into simple 'squared' blocks, even with suitable colouring added does not seem to work.

In many instances the problem of incompatibility can be overcome by use of sympathetic but contrasting materials rather than by trying to match the existing natural stone. Some solutions are shown in sketches on pages 10, 11, and 13. In red sandstone areas a suitably coloured brick or "cement" render may be preferable to a dyed simulated stone which lacks the subtle colours and texture of quarried stone. Colours chosen for render mixes need to be sympathetic to the adjoining stone. Situation and aspect must be considered as well: a light coloured rendering exposed to dirt, e.g. by the roadside, will need considerable maintenance. A dark colour will obviously need less attention in such a situation. On buildings set in the open, away from trees and traffic will need less maintenance and can be a light colour.

Examples of material compatibility are given in the following tables.

# MATERIAL COMPATIBILITY

EXISTING EXTERNAL BUILDING MATERIALS
OOLITIC LIMESTONE (e.g. Freshford, Wellow)

TYPE OF BUILDING WORK AND RECOMMENDED MATERIALS

| Garden walls and small extensions | Large/medium extensions | New Buildings |
|---|---|---|
| a) reclaimed oolitic limestone * | a) reclaimed oolitic* limestone | a) reconstructed stone |
| b) rendered blockwork | b) rendered blockwork | b) rendered block-work |
| c) timber stained or cedar wood (small extensions only) | | c) brick |
| | | d) reclaimed oolitic limestone * |
| | | *difficult to obtain sufficent quantity |

a) best solution
b) reasonable solution
c) possible alternative in some circumstances

In order of preference

DESCRIPTION/EXAMPLE OF RECOMMENDED MATERIALS

| Bricks | Reconstructed Stone | Render |
|---|---|---|
| <u>Butterley of Ripley</u> | <u>Bradleys of Swindon</u> | (wood float) <u>colour specials</u> |
| 03/27 Kirton Cambridge cream wirecut | 'T' block weathered North Cerney | IDB15 white<br>25Y9/3 cream<br>08B13 magnolia<br>S0Y7/2 stone<br>00A05 corvette<br>00A01 pebble<br>00A09 granite<br>08B21 grey |
| 44/15 Desford Barley grey multi wirecut rustic | | colour impregnation within render desirable |
| <u>Cattybrook of Ibstock</u> | | |
| mixed grey | | |

Blending new and old materials needs special care. All materials suggested will be considered individually.

The omission of other materials does not imply unsuitability.

EXISTING EXTERNAL BUILDING MATERIAL (e.g. Stowey Stone)
WHITE/BLUE LIAS LIMESTONE

TYPE OF BUILDING WORK AND RECOMMENDED MATERIALS

| Garden walls and small extensions | Large/medium extensions | New Buildings |
|---|---|---|
| a) new or reclaimed white/blue lias<br>b) rendered blockwork<br>c) brick | a) new or reclaimed white/blue lias<br>b) rendered blockwork<br>c) brick | a) new or reclaimed white/blue lias<br>b) reconstructed stone |

In order of preference

a) best solution
b) reasonable alternative
c) possible alternative in some circumstances

DESCRIPTION/EXAMPLE OF RECOMMENDED MATERIALS

| Bricks | Reconstructed Stone | Render |
|---|---|---|
| Butterley of Ripley<br>03/27 Kirton Cambridge Green Rustic wirecut<br>Ryanish<br>SL21 Ivory<br>FS0 Heather White<br>Cattybrook of Ibstock<br>mixed grey | Bradleys of Swindon<br>coursed (uneven courses) or weathered North Cerney<br>Shearstone (Wessex) Ltd., of Clapton<br>A mixture of types WG1 MP3 Y5<br>Forticrete of Shepton Mallet<br>Hamstone | |

Blending new and old materials needs special care. All materials suggested will be considered individually.

The omission of other materials does not imply unsuitability.



EXISTING EXTERNAL BUILDING MATERIAL
BROWN PENNANT SANDSTONE (e.g. Pensford etc.)

TYPE OF BUILDING WORK AND RECOMMENDED MATERIALS

| Garden walls and small extensions | Large/medium extensions | New Buildings |
|---|---|---|
| a) reclaimed Brown* Pennant<br>b) brick<br>c) rendered red blockwork<br>* Becoming difficult to obtain amounts required | a) brick<br>b) rendered blockwork | a) brick<br>b) reconstructed stone<br>c) rendered blockwork |

In order of preference

a) best solution
b) reasonable alternative
c) possible alternative in some circumstances

DESCRIPTION/EXAMPLE OF RECOMMENDED MATERIALS

| Brick | Reconstructed Stone | Render |
|---|---|---|
| Butterley Bricks of Ripley<br>044/15 Desford Darley Grey multi wire rustic<br>044/14 Desford Old English Greystone wirecut<br>Redland of Reigate<br>09:2260 Nutbourne 'Whitley' brown rustic<br>19:6460 Holbrook riven brown<br>Cattybrook of Ibstock<br>Grey Brown rustic | Bradleys of Swindon<br>Cotswold grey coursed chisel dressed | (wood float) colour specials<br>BS. or Munsell<br>10C39 brown<br>SY4/4 green<br>12B25 green<br>06C29 green/brown<br>- colour impregnation within render desirable |

Blending new and old materials needs special care. All materials suggested will be considered individually.

The omission of other materials does not imply unsuitability.

EXISTING EXTERNAL BUILDING MATERIAL
RED SANDSTONE/DOLOMITIC CONGLOMERATE (e.g. West Harptree)

TYPE OF BUILDING WORK AND RECOMMENDED MATERIALS

| Garden walls and small extensions | Large/medium extensions | New Buildings |
|---|---|---|
| a) reclaimed red sandstone *<br>b) brick<br>c) rendered blockwork<br><br>* Becoming difficult to obtain amounts required | a) brick<br>b) rendered block-work | a) brick<br>b) rendered block-work |

In order of preference

a) best solution
b) reasonable alternative
c) possible alternative in some circumstances

DESCRIPTION/EXAMPLE OF RECOMMENDED MATERIALS

| Brick | Reconstructed stone | Render |
|---|---|---|
| <u>Butterley of Ripley</u><br>58/46 Merthyr Autumn Brown wirecut rustic<br>044/80 Desford Old English County mixed<br><u>Redland of Reigate</u><br>13:4610 Beare Green 'weald made' red<br><u>Cattybrook</u><br>Grey/Brown | -none- | (wood float)<br><u>colour special</u><br>04D45 red<br>04D43<br><br><br><br><br>- colour impregnation within render desirable |

Blending new and old materials needs special care. All materials suggested will be considered individually.

The omission of other materials does not imply unsuitability.