
Design Guide for the conversion of farm buildings



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Some barns such as the Grade I listed tithe barn at Swalcliffe are of such regional and national importance that conversion to a dwelling requiring extensive alterations will be unacceptable although a sensitive change of use for some other purpose may be acceptable

*Head of Development and Property Services
Cherwell District Council,
Bodicote House,
Bodicote,
Oxon OX15 4AA
Tel (01295) 252535 or Fax (01295) 253153*

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1. Introduction

Cherwell District has a rich inheritance of traditional farm buildings, normally stone built, which contribute significantly to the attractive character of the environment both within village centres and in the surrounding countryside

As a result of changes in farming practice over recent years many of these buildings are now under threat because they are no longer required for their original purpose. The key to the successful preservation of traditional farm buildings is often a sympathetic change of use involving minimal alteration to the original fabric. Conversion to a dwelling is potentially the most harmful option, since a greater degree of alteration is usually required in order to accommodate modern living requirements. This document which is intended for guidance only, aims to highlight the special features and character of traditional farm buildings, and suggests ways in which they can be retained within sensitive schemes for change of use or conversion.

2. Policy context: Cherwell Local Plan: principles of conversion

It is important to note that this Design Guide should be read in conjunction with the Cherwell Local Plan which contains the Council's policies regarding the conversion of rural buildings. Copies of the Local Plan can be inspected or purchased from the Council offices at Bodicote.

In summary, the Council's policies relating to the re-use and conversion of farm buildings look favourably upon residential, tourism or employment generating uses provided

- (i) the building can be converted without major rebuilding or extension & without inappropriate alteration to its form and character,
- (ii) the proposal would not cause significant harm to the character of the countryside or the immediate setting of the building,

- (iii) the proposal would not harm the special character & interest of a building of architectural or historic significance,
- (iv) the proposal meets the requirements of the other policies in the Local Plan.

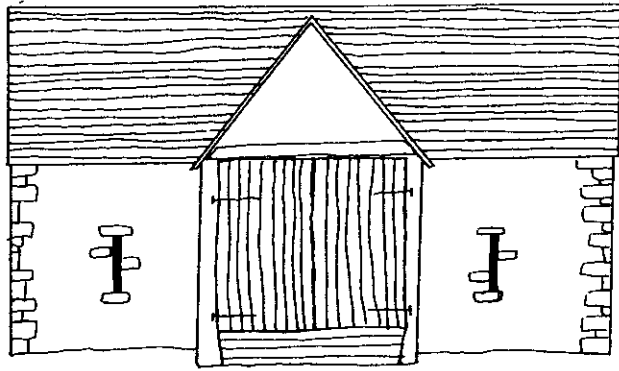
When residential use is proposed, the Council will normally require the number of dwellings created to be limited to one per barn to limit the extent of physical alteration to traditional structures which, invariably, are simple with few window and door openings.

The Council's policies recognise the Government's view that the re-use of suitable agricultural buildings should help to diversify the rural economy and create jobs. Clearly the conversion of all worthy and sound farm buildings to houses would not achieve that aim. However their use for employment generating purposes or tourist related development, which can bring local economic benefits, is more likely to be acceptable environmentally if the buildings are located in an existing enclosed yard within an established farmstead. To encourage the exploitation of such opportunities, the Council has adopted a policy presumption against the conversion of more than one barn to a dwelling within an established farmstead and has introduced a grant scheme to encourage conversions that provide workspace for small businesses. Details of this scheme are available from the Economic Development Unit at Bodicote House.

It must be remembered that there will be instances where proposals for re-use and conversion will not be acceptable within the policy framework set out in the Local Plan. This guide sets out to explain the approach that the Council wishes to encourage in the design of proposals for re-use/conversion so that as much of the historical interest, intrinsic character and integrity of traditional north Oxfordshire agricultural buildings as possible will be retained for the benefit and enjoyment of future generations.

3. Function of the barn: historic and architectural features

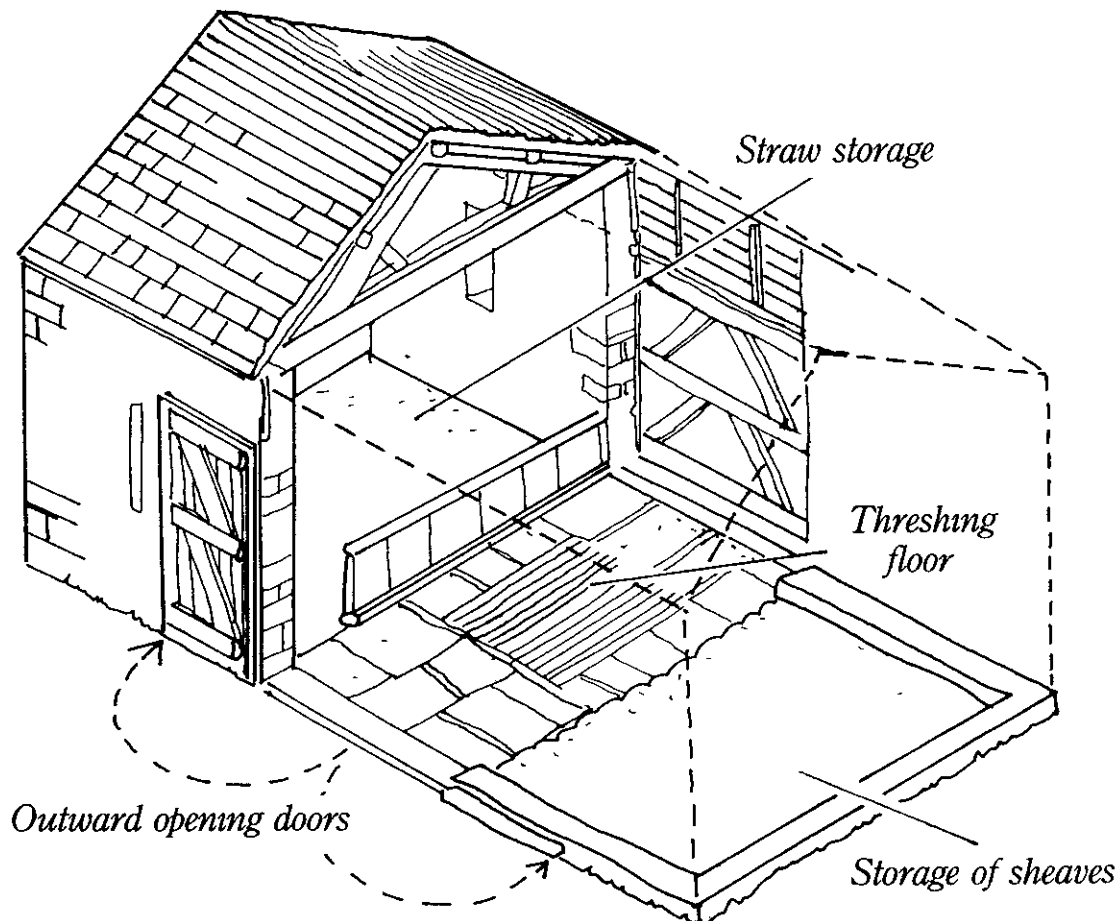
Before going into the Design Guide it is appropriate to consider briefly the *function* of the primary farm building – the barn – so that there is an understanding of the essential historical use of this building and of its features



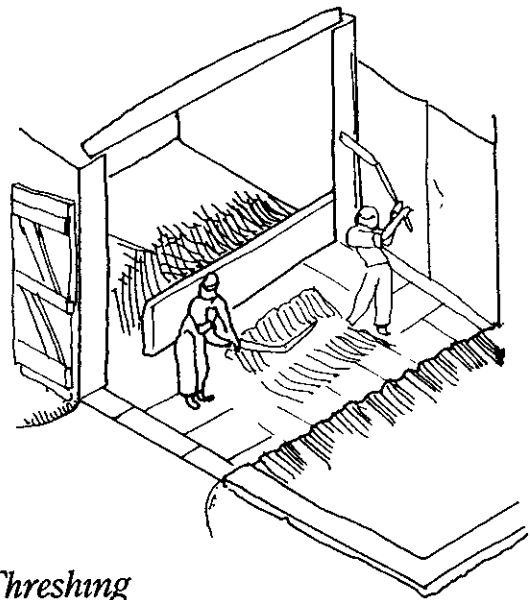
Wagon Porch

Barns reflect the social and economic factors which governed a particular locality at a particular period of time. For example, their size, shape, materials, location and function demonstrate local patterns of building and craftsmanship as well as farming practice. The traditional barn in North Oxfordshire has walls built entirely of stone, with either a thatched or stone-slate roof and perhaps one or two stone porches. Later roofing materials include plain tiles and Welsh slate. There are rare examples of timber-framed, weatherboarded barns with a stone plinth in this District.

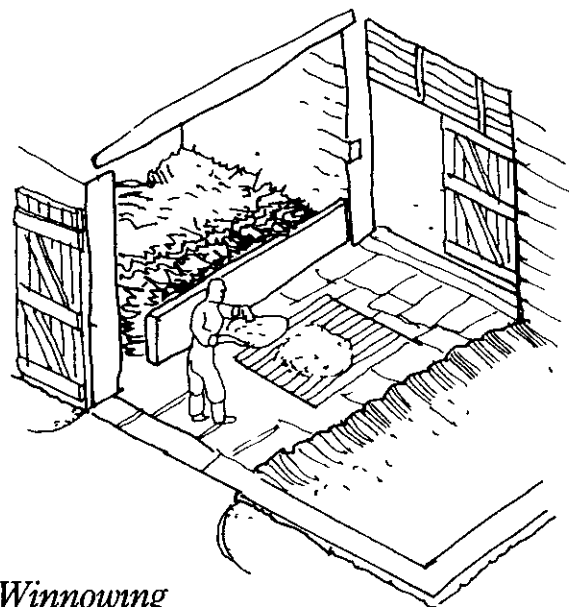
Examples of 19th century brick barns are found throughout the District. The wagon doors are robust and vertically boarded with ledges and braces, under wide wood lintels. Ventilation slits are common either side of the wagon door and may also be found in the gables. Internally the single large storage space and the roof structure are the significant features.



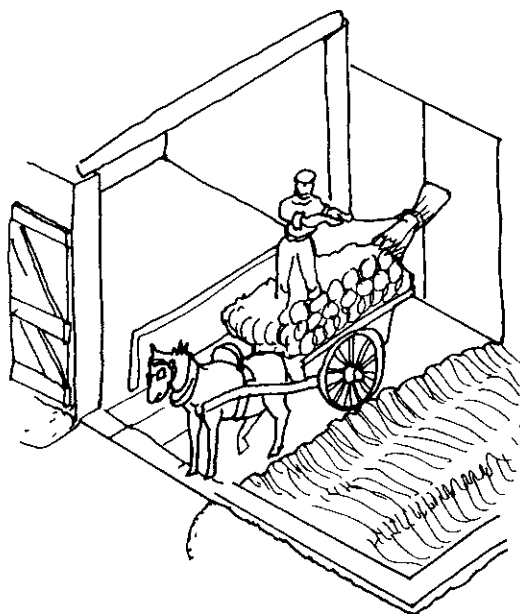
A barn is essentially a building for *storage* of cereal crops, storing the sheaves of corn from harvest time until they were threshed (but may also be used for storage of other crops such as pulses, or used as shelter for animals or storage of farm equipment) The second function of the barn is to provide the place for *threshing* the grain, the process of loosening and separating the grains of corn from the stalks In the simplest and most common case the barn is three bays long, with two storage bays flanking a central bay in which a threshing floor lies between the larger entrances on either side One doorway is usually larger than the other to allow a heavily loaded harvest wagon to enter The crop – wheat, barley, oats or rye – was threshed with hand flails on a floor of earth, stone flags or timber during the winter months, the two opposing doorways providing a through draft for winnowing (blowing the lighter chaff away from the heavier grain) The great barn doors were used to induce a draught, usually by completely opening the one set of doors and partially opening the opposite set



Threshing



Winnowing



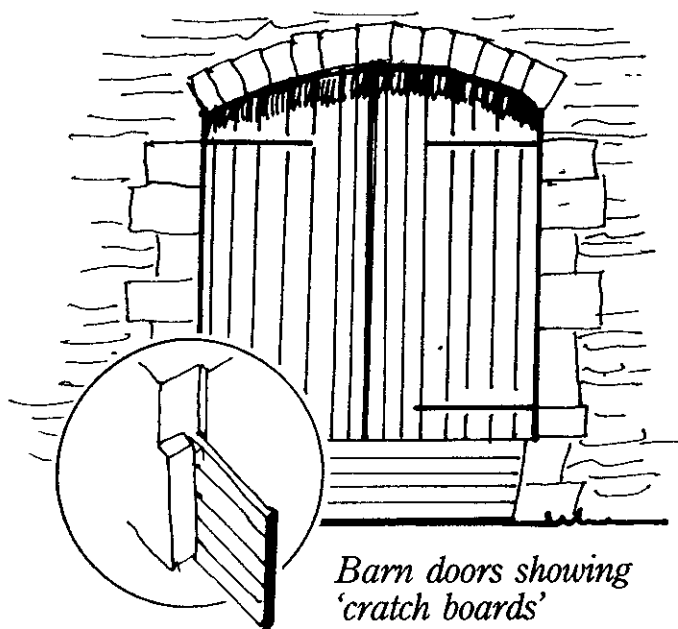
Unloading the sheaves

The process of *hand threshing* with a flail, which was universal until the mid 19th century invention of the threshing machine (which enabled threshing, winnowing and grading to be done in one operation), governed the basic design of the barn from earliest times

Doors and porches are generally the most prominent external feature Commonly a large wide doorway closed by double doors, with a wooden lintel above the doorway, was high enough to admit laden wagons or carts to unload from the threshing floor into the bays, its height also provided *light* for threshing and *air* for winnowing

Porches are found in many medieval barns and were useful in increasing the size of the threshing floor and providing shelter for laden wagons

"Cratch" boards (horizontal boards in grooves) are commonly found below the wide barn doors. They served the purposes of providing a means of controlling the draught, enabling the wide doors to clear the manure in the farmyard, and keeping farmyard animals off the threshing floor when the doors were open. The cratch boards would also prevent stray grains from escaping with the force of threshing.



Barn doors showing 'cratch boards'

Walling and roofing materials show regional characteristics in terms of building materials and craftsmanship from earliest times until the 19th century, when availability and influx of, for example, Welsh slate and non-local brick by railway or canal altered this pattern.

Pitching-holes are window-like openings covered by wooden shutters, sometimes provided in the sides and ends of barns and used for pitching corn or hay into a barn off a cart or wagon standing outside. Pitching-holes could also be used to give light and air if the barn was not full. Generally the shape was just off square. After about 1825 circular ones appeared.

Owl holes are nearly-square or circular openings of about 6"-9" set high up in the gable of a barn. They let owls into the barn to catch vermin.

Cupboard or small recesses by the door or in the porch wall held the horn containing grease for lubricating the joint in the hand flail which was used possibly two or three times a day.

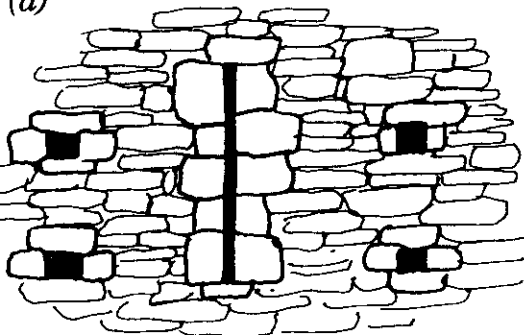
Internal subdivision Before the 17th century there was no internal subdivision of barns. After that the practice began of dividing the barn up bay by bay, thus reinforcing the walls against wind and helping to keep the loose crop or straw inside the side bays and off the threshing floor.

Roof construction Often the most important architectural feature of barns, the construction technique and use of material provides evidence for dating buildings.

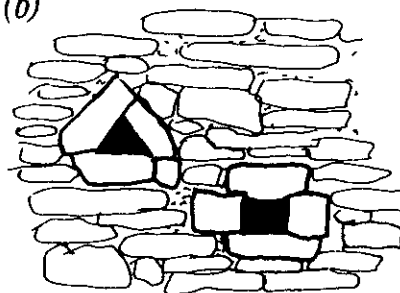
Air vents were provided in the walls of barn to prevent the crops inside from becoming mouldy. Corn was stored dry and required less ventilation than hay. Normally air vents in stone barns were slits or single holes. At first holes were square, but a triangular form appeared during the late 18th century. Often geometric patterns of air vents were introduced into brick barns.

Ventilation

(a)



(b)



(a) slit & holes

(b) Triangular hole & single hole

4. Design Guide for the conversion of barns and other farm buildings

General

The *character* of a barn is derived from its original function as a working agricultural building, and therefore every effort should be made to retain the original *simplicity* of scale and form and to alter it as little as possible externally and internally. The principal characteristics of barns are their large open interiors, unbroken roof slopes and interesting roof structures.

Existing features of architectural and historic interest

These should be retained and incorporated within the design scheme. The external and internal appearance should be preserved, including features such as external stone steps, porches, lanterns, dovecots, ventilation slits, barn door openings, pitching holes, timber-framed or stone partitions, roof structures and niches.



Sensitive conversion of a redundant barn. Features such as the uninterrupted roof slope, wagon opening and ventilation slit are retained. Alterations are minimized and respect the character and integrity of the barn.

Windows

Barns rarely have windows, and so *new* means of admitting light have to be carefully considered in order not to affect the character of the building. Existing openings should be retained and re-used as a priority.

New openings should be kept to a minimum and should be of a scale, form and type compatible with the character of the building and its existing openings. Simple robust wood-framed casements will normally be most appropriate.

Normally a vertical form of window creates minimum interference with the visual appearance of the barn. A symmetrical

layout of window openings should be avoided as this more than anything else will impose a 'domestic' character on the building.

The visual impact of window surrounds should be subdued by using paint or stain which harmonises with surrounding roof and walls (for example, black for timber-framed buildings, or grey, moss green or mushroom for painted frames, or dark green, black or dark brown stains).

If roof lights are needed they should relate to the scale of the existing building and to the pitch of the roof, avoiding disruption of the roofline. Before considering rooflights, the location of unobtrusive windows in the gable ends should be considered. Conservation type rooflights have the advantage of retaining the roofline. As far as possible window openings should be placed on the 'private' or least publicly conspicuous side of the building. Existing openings such as ventilation slits or put-log-holes or owl holes may be glazed by the use of light section frames set well back in the reveals.

Wagon door openings

Wagon door openings are a characteristic feature of barns, and are the most obvious openings for large windows and doors. Full-height windows may be inserted with strongly emphasised vertical mullions. Alternatively part may be glazed and part used as a doorway. In some cases it may be preferable to glaze the complete opening, retaining the wide plank doors for additional protection. In these ways a characteristic feature can be put to a positive practical use in enabling the access of light into a large area of the barn, thus minimising the need for new window openings in either wall or roof.

Any new door openings should harmonise with the original structure. The most appropriate door is a simple robust plank door. The insertion of doors with elaborate detailing, or inappropriate period features such as 'Georgian style' doors with fanlights, should be avoided.

Roofing and walling materials

Original, traditional roofing and walling materials should normally be retained and any replacement materials should match the existing.

In special cases where substitute materials are used they will be expected to be of a high standard compatible in scale, texture and colour with the character of the building and its existing materials of construction

Interior

Some of the most successful schemes are based on an 'open plan' design with part of the building left open to the roof, perhaps surrounded by galleries and leaving the roof structure exposed to view. A stairwell, for example, could utilise the full height and width of the building and allow for the scale and special features of the interior to be fully appreciated. At least one section of the barn should remain open to the roof for this reason.

In the roof space the trusses may present a problem, obstructing head-room. Where the original roof structure survives it is important that roof trusses and structural roof members are retained in situ. Design solutions must be found in some cases to avoid unnecessary disturbance of the original roof structure. For example, half landings underneath the truss can obviate the need to either cut trusses or raise walls in gaining access to the first floor.

Extensions

Most barns are large compared to the size of an average house. In order to preserve the integrity, character and features, accommodation should aim to be contained wholly within the existing buildings. In the rare cases where extensions are proposed they should be of traditional form such as simple lean-to outshots, continuing the downward slope of the main roof. Domestic features such as porches will not be considered favourably and alternative solutions such as provision of internal draught lobbies should be considered.

Sub-division

In order to preserve the character of barns, there is a policy presumption against sub-division. Normally one unit will be permitted per barn, thus avoiding the need for extensions and alterations which would be detrimental to the barn's character.

Setting

The most sensitive conversion can be spoilt by inappropriate changes to the setting of the building. A comprehensive approach should be adopted when preparing an application for conversion in order to cover details such as the layout of drives, gardens, garaging, walls and fences, etc. The design and materials of ancillary buildings, should be of traditional materials and form and should aim to harmonise with the existing building. Hedge or tree planting should be made up of species indigenous to the locality.

Under the Town and Country Planning General Permitted Development Order 1995 all dwellings carry a degree of 'permitted development', i.e. works that can be carried out without requiring planning permission. Where barns are listed such 'permitted development' will still require listed building consent, but on an unlisted barn such uncontrolled development can be disastrous to the appearance of the barn conversion. Consequently it will be the usual practice when approving a barn conversion to impose a condition which will remove these 'permitted development' rights. This will mean that *all* extensions, ancillary buildings and major external alterations will require a submission for planning permission.

Structural Survey

Where the principle of conversion is acceptable, submitted applications should be accompanied by a *full structural survey* to ensure that an accurate record of the existing building is made against which alterations can be assessed. Elevations, cross section and longitudinal sections will be required at a scale of 1:50. A structural engineer's report may also be required if the building is in a deteriorating condition.

Planning Applications

Normally detailed applications will be required for the conversion of barns for alternative uses. Such proposals will also need to comply with the Building Regulations.

Wildlife

Attention is drawn to the provisions of the Wildlife and Countryside Act 1981 with reference to the protection of owls, bats and bat roosts, which may occupy redundant agricultural buildings. English Nature must be consulted if building work or remedial treatment of timber is planned at a site used by bats, and will advise on the relevant course of action to take in order to conform with legislation.

5. Conclusion

If farm buildings are to be retained and preserved both for their own merit and for the contribution they make to their environment, it is essential that they continue to be used or, where this is not possible, that sensitive conversion is achieved.

A very high degree of architectural skill is needed if farm buildings are to be converted in such a way that their distinctive features, both internal and external, are retained. The design guide is intended to encourage and promote satisfactory design solutions.

6. Further Information

1. Planning and Development Services
Cherwell District Council
Bodicote House, Bodicote
Oxon OX15 4AA
Tel: 01295 252535
2. Southern Tourist Board
Information and tourism related farm businesses
40 Chamberlayne Road
Eastleigh, Hampshire
SO50 5JH
Tel: 023 8062 5400
3. English Nature
Advice relating to the Wildlife and Countryside Act 1981 concerning the protection of bats and owls
Foxhold House,
Crookham Common,
Newbury, Berks.
RG15 8EL
Tel: 01635 238881

4. Department of Environment, Food and Rural Affairs (DEFRA)
Environmental Grants
Coley Park
Reading
RG1 6DT
Tel: 0118 939 2097
5. Society for the Protection of Ancient Buildings
Useful publications including the SPAB Barns Book with sections on alternative uses and case studies of conservation
37 Spital Square,
LONDON
E1 6DY
Tel: 020 7377 1644

7. Reading List

- R W Brunskill,
Traditional Farm Buildings of Britain
- English Heritage,
Statement on the Conversion of Historic Farm Buildings (available free on application)
Tel: 020 7973 3000
- John Sell
First Aid Repair to Traditional Farm Buildings (SPAB Info Sheet 7 – see address above)
- G Darley
A Future for Farm Buildings (SAVE Britain's Heritage, 1988)
- N. Harvey
A History of Farm Buildings in England and Wales, Revised 1984

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