



Historic Farmsteads

Preliminary Character Statement: East of England Region



ENGLISH HERITAGE



The Countryside Agency

**Landscape
Access
Recreation**

Acknowledgements

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This document is one of eight Preliminary Character Statements, which provide information on the characteristics of traditional farm buildings in each Region. They can be viewed and downloaded at www.helm.org.uk/ruraldevelopment and at www.ahds.ac.uk.

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Summary: East of England Region

I LANDSCAPE AND AGRICULTURAL CONTEXT

NATIONAL FRAMEWORK

Patterns of land use were very varied, reflecting cultural factors as well as climatic conditions and the physical structure of the landscape. The distribution of farmsteads, their dates of foundation and their relationship to the farming landscape are intimately linked to **historical patterns of fields** and **settlement** in the landscape. Areas of nucleated settlement, concentrated in a central band running from Northumberland into Somerset and Dorset, are associated with villages whose communally farmed townfields were subject – at varying rates – to amalgamation and enclosure by tenants and landlords from the 14th century. This process was often associated with the creation of new holdings and farmsteads within the new enclosures. Areas of dispersed settlement, where farmsteads are either isolated or grouped in hamlets and surrounded by originally smaller townfields and more ancient patterns of enclosure, are most strongly characteristic of western and parts of eastern and south-eastern England. Between the two extremes are areas that contain both nucleated and dispersed settlement to varying degrees.

Agricultural development in England can be divided into the following major periods:

- *Up to 1750* Economic boom in the 12th and 13th centuries, which included the development of large farms on monastic and secular estates, was followed by contraction of settlement and the leasing out of estates after the famines and plagues of the 14th century. The period from the 15th century was characterised by a general increase in agricultural incomes and productivity and the emergence – particularly from 1660 – of increasingly market-based and specialised regional economies. Substantially complete farm buildings of this period are rare, and provide the first evidence for the development and strengthening of regional traditions and building types. Many surviving farmsteads in upland areas, with farm buildings attached to their farmhouse, survive from the later 17th and 18th centuries. It is otherwise very rare for farmsteads to have more than a house and barn dating from this period.
- *1750 – 1880* This is the most important period of farm building development, the production of farmyard manure by cattle playing a major role in increasing agricultural productivity. The increased output of this period was encouraged by rising grain

prices and the demands of an increasingly urban population, and was enabled by the expansion of the cultivated area (especially from the 1790s to 1815), the continued reorganisation and enlargement of holdings and the final phase of the enclosure of open fields – concentrated in the Midland counties. Substantial improvements in animal husbandry were made with the development of improved breeds and a greater awareness of the importance of the need for housing, particularly for cattle, which hastened fattening and meant that manure could be collected and stored better. The high-input/high-output systems of the 'High Farming' years of the 1840s to 1870s were based on the availability of imported artificial fertilisers, manures and feeds.

- *1880 – 1940* There was little fresh investment due to the long farming depression in this period, notable exceptions being some estates and continuing developments in dairying areas. Hygiene regulations in the inter-war period resulted in intense forms of housing for pigs and poultry, and the replacement of earlier forms of housing for dairy cattle by new forms of cow house with concrete floors and stalls, and metal roofs and fittings.
- *1940 to present* The 1937 Agriculture Act anticipated the need to increase self-sufficiency, and the Second World War witnessed a 60% rise in productivity. This was the result of the growth in livestock numbers, increasing scientific and government control and guidance, more specialised systems of management and the conversion to arable of permanent pasture. The Agriculture Act of 1947 heralded the intensification and increased specialisation of farming in the post-war period, accompanied by the development of government and industry research and guidance. The Government provided grants to cover the capital cost of new building under the Farm Improvement Scheme (introduced 1957). The introduction of wide-span multi-purpose sheds in concrete, steel and asbestos met increasing requirements for machinery and for the environmental control of livestock and on-farm production, particularly of milk.

REGIONAL PATTERNS

In most of the Region, settlement is a mixture of villages, hamlets and dispersed farmsteads; many of the latter are often clustered around commons and greens. Across the fenland, much of which – particularly to the south – was unsuited to settlement until extensive drainage operations reclaimed large tracts of land, the density of

settlement is relatively low with small, nucleated villages and isolated farmsteads. On the anciently enclosed claylands to the south and east the density of dispersed farmsteads and hamlets increases, with high numbers of moated sites through Essex and Suffolk in particular. Bedfordshire, the western part of Cambridgeshire and the northern edge of Hertfordshire lie within the Central Province where nucleated villages are the predominant settlement type.

Much of the Region had good access – via its rivers, ports and extensive coastline – to London and foreign markets. Mixed farming was very strong, but parts of the area were suited to specialise. Thus the lightest soils were particularly suited to the growing of corn and keeping of sheep. These are concentrated in the north and west of Norfolk and Suffolk, where 18th- and 19th-century large-scale enclosure – and associated farmsteads built for great estates such as Holkham – now dominates the landscape. The claylands were best suited to dairying. Farmers throughout the Region had fattened cattle for export, and they pioneered major improvements in crop rotation from the late 17th century, which used winter feed crops (notably turnips) and artificial grasses and had a significant impact on the agricultural development of England. Higher land prices close to London meant that farms and estates in the south of the Region were generally smaller than elsewhere, often specialising in fruit growing and the export of a great variety of products to the capital. During the 19th century the influence of London was even more firmly felt, with market gardening and dairying increasing in importance. Railways became a major factor from the 1840s. Intensive bullock and cattle feeding (with oilcake) was increasingly widespread in the period up to the 1870s, a major aspect being the fattening of livestock bound for Smithfield market imported into Norfolk from Scotland and Ireland. The 19th century also saw the application of steam power to the drainage and reclamation of the peat-based southern fens, which led to the creation of distinctive new landscapes with new farmsteads placed at regular intervals along the roads.

2 BUILDING MATERIALS

NATIONAL FRAMEWORK

The use of locally available materials, combined with local vernacular traditions, makes a fundamental contribution to local and regional diversity.

Long-rooted traditions such as earth walling, thatch and timber frame, survived much longer on farm buildings than farmhouses. Buildings in stone and brick, roofed with tile or slate, increasingly replaced such buildings from the later 18th century.

Standardised forms of construction, including softwood roof trusses, developed across the country in the 19th century, often reflecting the greater availability of materials such as Welsh slate transported along the canals and, later, the railways. Corrugated iron was used from the late 19th century as a cheap means of replacing or covering roofs (particularly thatch) in poor condition.

REGIONAL PATTERNS

Only on the extreme edges of this Region is any building stone found, such as limestone on its western boundary, flint (intermixed with brick), carstone, chalk and clunch in north-west Norfolk.

The claylands of the Region have varied traditions of building in earth, including the highly distinctive clay lump concentrated in south Norfolk and north Suffolk.

Timber-framed buildings – once extensive in their distribution – remain a distinctive feature across the claylands, which retained a large proportion of both woodland and hedgerow timber into the 18th century. Agricultural buildings are either clad in lath and plaster – as in Suffolk, Cambridgeshire and south Norfolk – or more commonly weatherboarded.

Brick was used from the medieval period in East Anglia but did not become widespread for farm buildings until the early 19th century.

Almost all farm buildings were thatched with longstraw, a consequence of the importance of arable farming. During the 19th century much of the Region's thatch was replaced with plain clay tiles or pantiles, but reed thatching continued in the Broads and parts of the Fens and straw thatching in other areas such as south Cambridgeshire. The replacement of longstraw by combed wheat reed has led to a different appearance.

3 FARMSTEADS

NATIONAL FRAMEWORK – FARMSTEAD TYPES

The scale and form of farmstead plan types are subject to much variation and are closely related to farm size and status, terrain and land use. It was far more common for the houses on farms in northern and western England to be attached to the farm buildings. By contrast, even small farms in the South East and East Anglia were characterised by detached houses and separate buildings, often loosely arranged around the sides of a yard.

- *Linear plans*, where houses and farm buildings are attached, were ideally suited to small farms (usually stock rearing and dairying), especially in northern pastoral areas with little corn and longer winters where there was an obvious advantage in having cattle

and their fodder (primarily hay) in one enclosed building. They now display a wide range in scale, from large steadings of independent Pennine yeoman-farmers to the smallholdings of miner-farmers.

- *Dispersed plans*, comprising clusters and unplanned groupings of separate buildings, were more widespread. They now range from those of hamlets, where the buildings of different owners were often intermixed, to large-scale individual steadings, some of which were of high status.
- *Loose courtyard plans* became most strongly associated with large and/or arable farms. The buildings are built around a yard with or without scatters of other farm buildings close by.
- *Regular courtyard plans*, where the various functions were carefully placed in relation to one another in order to minimise the waste of labour, and where the manure could be conserved, were built – at first on large estates – from the later 18th century.

REGIONAL PATTERNS – FARMSTEAD TYPES

In common with the South East, the Region has some very early surviving entire complexes of loose courtyard steadings dating from the 17th century, often distinguished by groups of two or more barns, granaries and stabling. Many of these loose courtyards are found in the claylands, where dispersed plans are common also. Regular courtyard farms are documented in the Region from the mid-18th century, although no surviving groups can be dated before the 1780s. They are concentrated in areas of post-1750 enclosure, and are strongly associated with the activities of estates. Some of the largest examples of mid-19th century steam-powered industrial farms are found on the Duke of Bedford estates. On smaller dairy farms such re-planning was less likely and a scattered group of buildings around a yard remained typical.

NATIONAL FRAMEWORK – BUILDING TYPES

The functions of crop processing and storage and the accommodation of animals and birds determine the variety of building types, which could house one or a combination of functions. The principal types are listed below.

Barns are generally the largest farm buildings to be found on farms. They were either designed solely for storing and processing the corn crop, these being most common in areas of arable production, or as combination barns to incorporate many functions. Threshing machines, usually powered by horses accommodated in a projecting wheel house, were introduced from the later 18th century. Split-level mixing barns developed in many regions from the later 18th century as a result of the widespread introduction of machinery for processing corn and fodder. The introduction of the portable steam engine and threshing

machine in the 1850s heralded the end of the traditional barn as a building for storage and processing.

Field barns were built in areas where farmsteads and fields were sited at a long distance from each other, and where holdings were intermixed. **Granaries** were either detached or built over stables and cart sheds. **Cart sheds** often faced away from the farmyard and were typically close to the stables and roadways, giving direct access to the fields. **Stables** were normally two-storey well-lit buildings with a hayloft above. **Cow houses** were typically built for dairy cattle. The folding of stock in strawed-down yards and feeding them with root crops became more general from the later 18th century, together with the subdivision of yards into smaller areas and the construction of **shelter sheds** and **loose boxes**. **Pigs** were undoubtedly kept on most farms and particularly on dairying establishments, where there was a ready supply of whey on which to feed them. **Dovecotes** were built to house pigeons, which provided variety to the diets of high-status households and a rich source of manure.

REGIONAL PATTERNS – BUILDING TYPES

In common with the South East, the Region has some major concentrations of pre-1550 and pre-1750 farmstead buildings. Early (pre-1750) farm buildings are largely absent from the acidic coastal and heathland soils affected by post-1750 improvements, being instead concentrated on deeper soils and in valley bottoms. There is a marked concentration of pre-1750 farm buildings (predominantly barns) on the Flegg Loams, across the claylands of South Suffolk and North Essex and South Norfolk and High Suffolk.

Barns in arable areas, as in the South East, were large in scale. A distinctive characteristic of the Region, shared with the South East, is the concentration of timber-framed aisled barns dating from the 12th to the 19th century. Many are the result of a massive rebuilding programme underway between 1550 and 1650. Aisled barns are particularly concentrated in the western half of Suffolk, the Broadland fringe in Norfolk, Essex, Hertfordshire and east Cambridgeshire. The majority are four to six bays in length with slightly larger barns of seven to eight bays found in the main cereal-growing areas. Some of the largest manorial farms had two or three separate barns while typically medium-sized farms had two, allowing for the wheat and barley to be housed and threshed separately. Smaller multi-functional timber-framed barns, often including stables or cow houses at one end, were built on the dairy farms of the South Norfolk and High Suffolk Claylands although often the animal housing has since been removed.

The Region also has some very early examples, dating from the 17th century and earlier, of granaries, cart

sheds and stables. Associated with the dairy industry of the High Suffolk clays are so-called neathouses for milking and feeding, identifiable by their lack of lofts, internal subdivision and window openings. Some of these, and subdivisions in multi-functional barns, are the earliest evidence for cattle housing in the country. Cattle houses located on the edge of the grazing marshes of the Norfolk Broads are highly specialised in their form, in which cattle were housed down side aisles facing into a central nave where root crops were stored. Increases in the price of fatstock from 1840 encouraged more intensive fattening systems such as loose boxes being widely introduced. Shelter sheds around straw yards were also increasingly common from the mid-19th

century, particularly on estate farms such as those of north Norfolk.

In this predominately arable Region it is not surprising that hay barns are rare. Malting barley (for export to London and abroad) was a significant crop in Norfolk and Hertfordshire and both were important malting counties. A few farms retain maltings but by the 19th century the industry was concentrated in towns where large industrial maltings were built. A type of building associated specifically with the traditional market-gardening economy of the gravel soils of Bedfordshire is the onion shed.

1.0 Introduction

If the land is best suited for tillage, then the outhouses must be adapted to the purposes of keeping cattle for plowing; of holding and thrashing corn; and of preserving straw, &c. for winter food. In the counties where oxen plow, ox-houses must exceed the quantity of stabling: if where horses only are used, stables alone will be sufficient. If the land seems to promise fairest for pasturage, then cow houses, suckling-houses, sheepcots, dairies, and fattening houses must predominate; and if for grass, much barn-room seems unnecessary.

The Complete English Farmer, 1771, quoted in Wiliam 1986, p.67

Farm buildings are the leitmotif of the countryside. It seems appropriate to describe them with a musical term for they are thematic, and the resonance of their forms, colours and textures within the scenery is that of sound, overall and orchestrated. Here and there is the solo instrument, spectacular in its own right, but much more important is the orchestral effect.

Darley, Gillian (1981) *The National Trust Book of the Farm*, The National Trust, London, p.7

Historic farmsteads and their buildings make a fundamental contribution to the richly varied character of our countryside, and illustrate the long history of farming and settlement in the English landscape. England displays a huge diversity in geology, with a greater variety in small areas than anywhere else in Europe, which combined with varied farming practices has resulted in a great diversity of materials and types of farmstead.

It is clear, however, that we know far more about the nature and processes of change affecting land cover and field pattern than we do about agriculture's built environment and its contribution to countryside character and local distinctiveness. Furthermore, we know far less about the working than the domestic buildings of the farmstead. Recent research has made initial efforts to address this issue, and has made it clear how the domestic and working buildings of the farmstead are subject to very different processes of change (Gaskell & Owen, 2005).

English Heritage is now undertaking to develop this knowledge base in order to inform diverse future outcomes, such as the targeting of grant aid and the development of character-based policies for the sustainable reuse of farm buildings. This document is one of eight regional *preliminary character statements* that aim to promote better and more accessible understanding of the character of farm buildings. It is important, as a first step in this process, to present an information base for a broad diversity of users with an interest in researching,

understanding and managing historic farmsteads. It has therefore been written as a sourced synthesis of information, drawing together information that will enable the farmsteads of each Region to be better understood within the national context of farmstead and agricultural development, and their surrounding fields and settlements. As this is a preliminary statement, it and future work will benefit greatly from information and comments. These will be gratefully received at the following e-mail address:

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The objectives of this document are:

- To provide an information base and introduction to the subject.
- To place the development of the farmsteads and farm buildings of the East of England Region within their national context.
- To demonstrate, with examples, how the *present* stock of farmsteads and their buildings reflects the diversity of farming, settlement and landscape character in the East of England Region.
- To provide broad guidance on the value and survival by period and functional type.

An accompanying policy booklet has also been prepared, which makes the case for urgent action and considers

the importance of historic farm buildings, their value and their future. See *Living buildings in a living landscape: finding a future for traditional farm buildings*, at www.helm.org.uk/ruraldevelopment.

In each of the following sections, the national overview is presented immediately before the regional statement. For example, on the topic of barns, the national overview describes the development, variety and uses of barns nationally while the regional statement describes the variety that can be seen in the barns of the Region.

Section 2 provides an introduction to characterisation and briefly describes the landscape character of the Region, examining the pattern of rural settlement across the Region.

Section 3 describes the predominant building materials used for farm buildings nationally and in the Region.

Section 4 provides a brief introduction to the agricultural history of England with particular reference to the development of farmsteads and farm buildings divided into the major periods, supported by statements relating to the survival and significance of farm buildings from each period. This is followed by a summary of the

agricultural history of the Region.

Section 5 provides a national and regional background of types of farmsteads and farm buildings.

Sections 6, 7 and 8 provide a national and regional overview of key building types.

Section 9 provides a Glossary of terms both familiar and unfamiliar to the reader (e.g. dairy, linhay, enclosure).

Section 10 provides a list of national and regional sources for further reference.

It is also important at this stage to outline a distinction in terminology. 'Traditional' is a term often used to describe farm buildings pre-dating 1940, after which modern building materials (concrete, steel, asbestos sheet) and revolutions in farming technology and farmstead planning marked a sharp divide with previous practice. 'Historic' is more encompassing, as it includes farmsteads of all dates, irrespective of changes in form and material; it has been used in this document in order that the reader can view the history of farm buildings, and their change and adaptation over the centuries, within their broad historical context.

2.0 Understanding Context and Character

2.1 LANDSCAPE CHARACTER AND CHARACTERISATION

Landscape character is defined as a distinct and recognisable pattern of elements that occur consistently in a particular type of landscape. Particular combinations of geology (Figure 1A), landform, soils, vegetation, land use, field patterns and human settlement create character. Character makes each part of the landscape distinct, and gives each its particular sense of place. Landscape-scale techniques for understanding and guiding future change, now brigaded under the heading of characterisation, have developed since the 1990s. These have developed as multi-disciplinary and holistic tools for understanding the whole rural environment, its capacity to absorb change and its links to community values and needs.

During the 1990s the Countryside Commission worked with English Nature and English Heritage to identify Joint Character Areas (159 in total) for the whole of England, each of these resulting from a combination of factors such as land cover, geology, soils, topography, and settlement and enclosure patterns. These are now being used as the framework for the delivery of advice and the targeting of resources for many aspects of the rural environment, most recently to farmers under the Higher Level Stewardship Agri-Environment schemes, and local authorities have taken forward this methodology for Landscape Character Assessments on a finer scale. These are also being used as the spatial framework for reporting change in the countryside, in the Countryside Quality Counts project (see www.cqc.org.uk).

The East of England Region extends over the Joint Character Areas listed in Figure 1B. Whenever the text cross-refers to the Joint Character Areas, they will be listed by their number (i.e. JCA 152). The key characteristics and a detailed description and map for each Character Area are available from the Countryside Agency's website (www.countryside.gov.uk/lar/landscape). The web addresses for each JCA are detailed in Section 11.

Human impact has been central to the development and present character of landscape. Historic Landscape Characterisation (HLC), which is being developed by English Heritage with its county and local partners, is using GIS mapping techniques to deepen our understanding and perception of the long historical development of our landscapes. The practical applications of HLC now include development plans, a broad range of conservation and enhancement strategies, strategic land-use planning and similar initiatives, and research and

academic implications (Clark, Darlington & Fairclough, 2004; Rippon, 2005, 100–142).

Pilot work is now indicating that the density and time-depth of farmsteads, and the rates of survival of different types of steading and building, are closely related to patterns of historically conditioned landscape character and type (Lake & Edwards 2006). This work represents a shift in focus away from individual buildings to a more question-based and holistic approach, one that uses landscape to both reflect and inform the patterning of the built environment. Recording and understanding at a local scale can both test and refine these broad-based, contextualised statements and contribute towards a more integrated understanding of both buildings and landscapes.

For characterisation see:

www.english-heritage.org.uk/characterisation

2.2 THE CHARACTER OF THE EAST OF ENGLAND REGION: AN INTRODUCTION

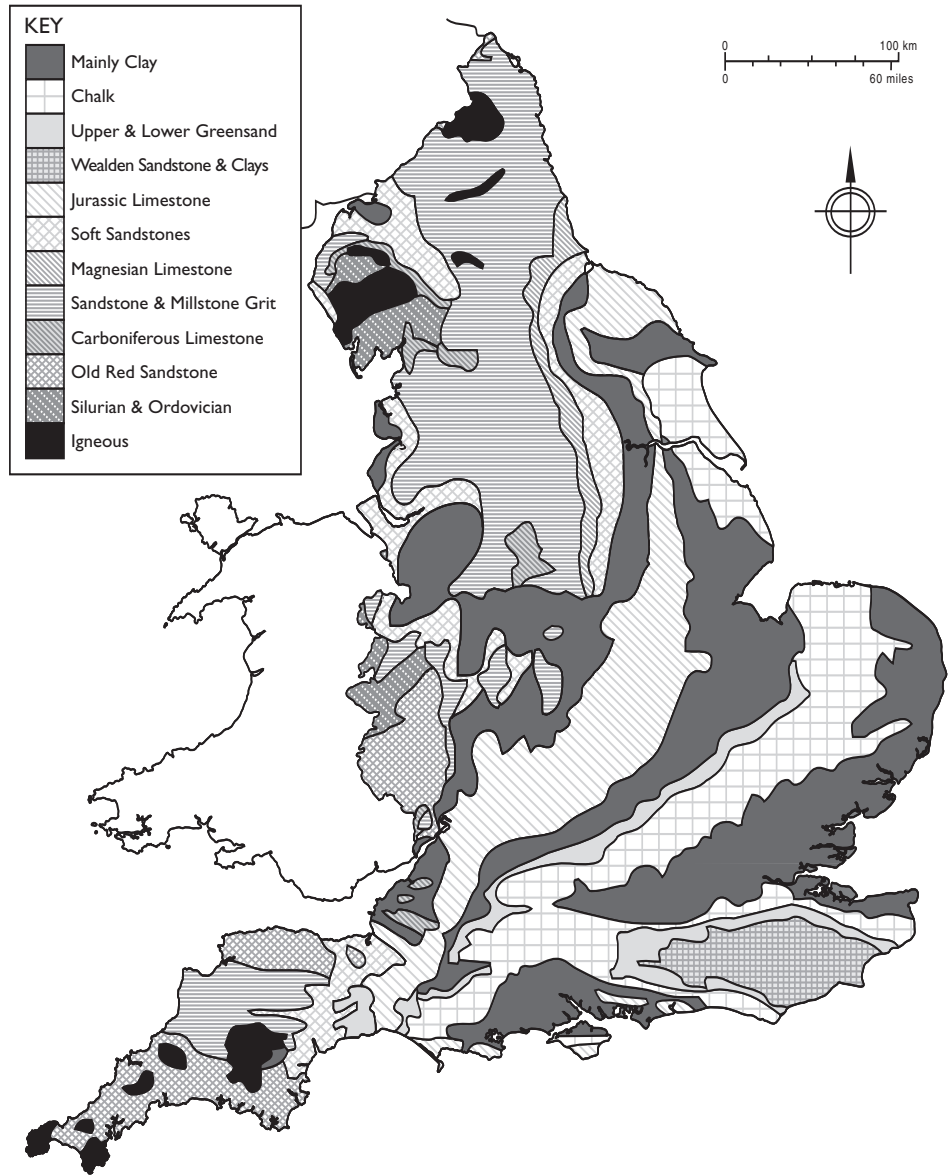
The East of England Region comprises the six counties of Norfolk, Suffolk, Cambridgeshire, Bedfordshire, Hertfordshire and Essex. It contains a variety of landscapes from flat fens, broads and coastal marshes, to dunes and beaches and the rolling landscapes of village, woodland and hedgerow.

Geologically the underlying rocks are sandstone in the east with chalk and limestone in the central areas, but much of the Region is covered by deep glacial soils, which can vary greatly within individual farm holdings.

Whilst the Region does not have the strongly contrasting upland–lowland landscapes of some of other Regions, there is considerable variety in the character of the landscapes across the area (Figure 1B). In the north-west of the Region is the open, flat, large-scale arable landscape of the Fens. Although the fenland and the Norfolk Broads in north-east Norfolk are probably the best-known landscapes in the Region, across much of Norfolk there are the higher, rolling landscapes of North West Norfolk and Mid and Central North Norfolk, where areas of heathland are found along Cromer Ridge and the greensand ridge bordering the fens. However, arable farming dominates the landscape of these areas, much of it associated with large estates.

At the heart of the Region is Breckland, a unique landscape of large-scale arable, open heathland and vast conifer plantations. South of Breckland is the East Anglian Chalk, an open, rolling downland landscape forming a

IA England displays a huge diversity in geology, with a greater variety in small areas than anywhere else in Europe. This variety provided the different building materials used in vernacular buildings that contribute so much to local distinctiveness. The East of England Region has few areas with good building stone – timber-framing was the predominant building technique across much of the Region's clay lands whilst flint from the chalk was often combined with brick along the chalk belt. The clays were used for earth-walled buildings and for bricks of a wide, and often distinctive, range of colours. Based upon 'Solid Geology' Source Defra/BGS, NERC: by permission of the British Geological Survey IPR/52-65C. ©NERC/Crown copyright. OS Licence no. 100042054



continuation of the Chilterns. North-west of the chalk is the Bedfordshire and Cambridgeshire Clayland, which forms a predominantly open, gently undulating arable landscape divided by the flood plains of the Great Ouse and Ivel. To the south-east of Breckland and the East Anglian Chalk are the South Suffolk and North Essex Claylands and the South Norfolk and High Suffolk Claylands, which have more hedgerow trees and stretches of woodland with a winding network of roads and lanes, contrasting with the long straight roads found across much of the western and northern parts of the Region. Along the south-eastern edge of Essex are the more heavily wooded, sandy Essex Wooded Hills and Ridges, and the lower-lying Essex Heaths, both of which form part of the North Thames Basin character area.

The coastal fringes of the Region, represented by the North Norfolk Coast, North East Norfolk and the Suffolk Coast and Heath are characterised by estuaries, salt marshes, grazing marshes, mudflats and sand dunes.

The Region's greatest economic asset is its intensively cropped high-quality agricultural land, 58% of which is Grade 1 and 2. The main area of Grade 1 land is in the fens where the soils are based on marine sands or deep peat. Only 10% falls into the lower-quality Grades 4 and 5, mostly in the Brecklands. The agricultural potential of the Region is further enhanced by its proximity to continental Europe resulting in warm summers and mild winters giving a long growing season. The Region receives only two-thirds of the national average of rainfall with higher areas such as the Chilterns receiving most rain (ERDP 2000).

2.3 THE CHARACTER OF RURAL SETTLEMENT

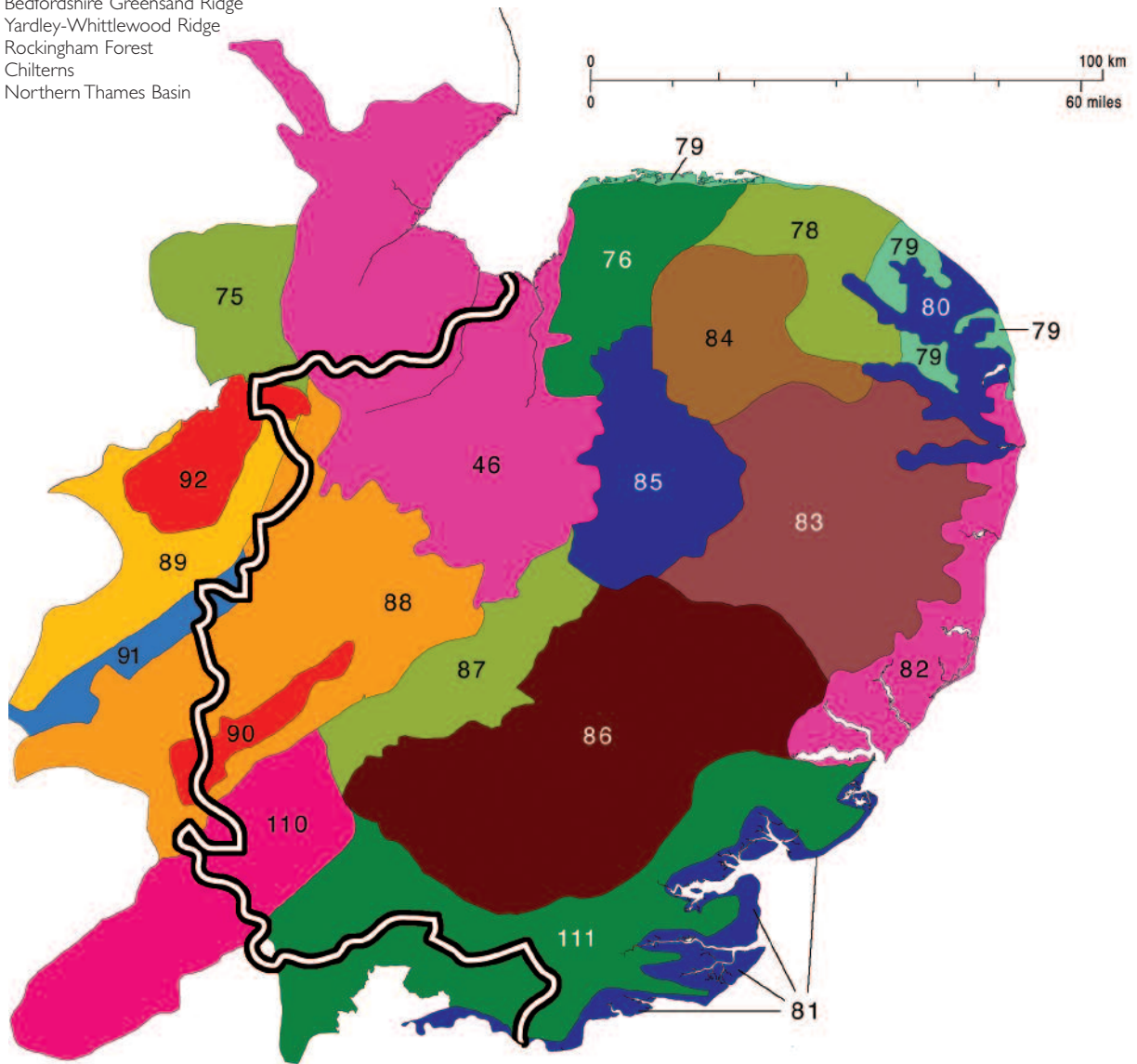
2.3.1 NATIONAL FRAMEWORK

Farmland has historically been divided into arable for growing corn and other crops, and meadow for hay and grass. In the past, farmers also had access to fallow land, land laid open after the harvest and areas of rougher common ground for grazing livestock. Patterns of

JCA number JCA name

- 45 Northern Lincolnshire Edge with Coversands
- 75 Kesteven Uplands
- 76 North West Norfolk
- 78 Central North Norfolk
- 79 North East Norfolk and Flegg
- 80 The Broads
- 81 Greater Thames Estuary
- 82 Suffolk Coast and Heaths
- 83 South Norfolk and High Suffolk Claylands
- 84 Mid Norfolk
- 85 Breckland
- 86 South Suffolk and North Essex Clayland
- 87 East Anglian Chalk
- 88 Bedfordshire and Cambridgeshire Claylands
- 89 Northamptonshire Vales
- 90 Bedfordshire Greensand Ridge
- 91 Yardley-Whittlewood Ridge
- 92 Rockingham Forest
- 110 Chilterns
- 111 Northern Thames Basin

IB This map shows the Character Areas relating to this Region. These are known as Countryside Character Areas or most commonly now as Joint Character Areas, this reflecting their development as multi-disciplinary means of mapping, defining and describing the character of distinct areas. Based upon Joint Character Areas. Source: Defra/English Nature/Countryside Agency. © Crown copyright OS Licence no. 100042054



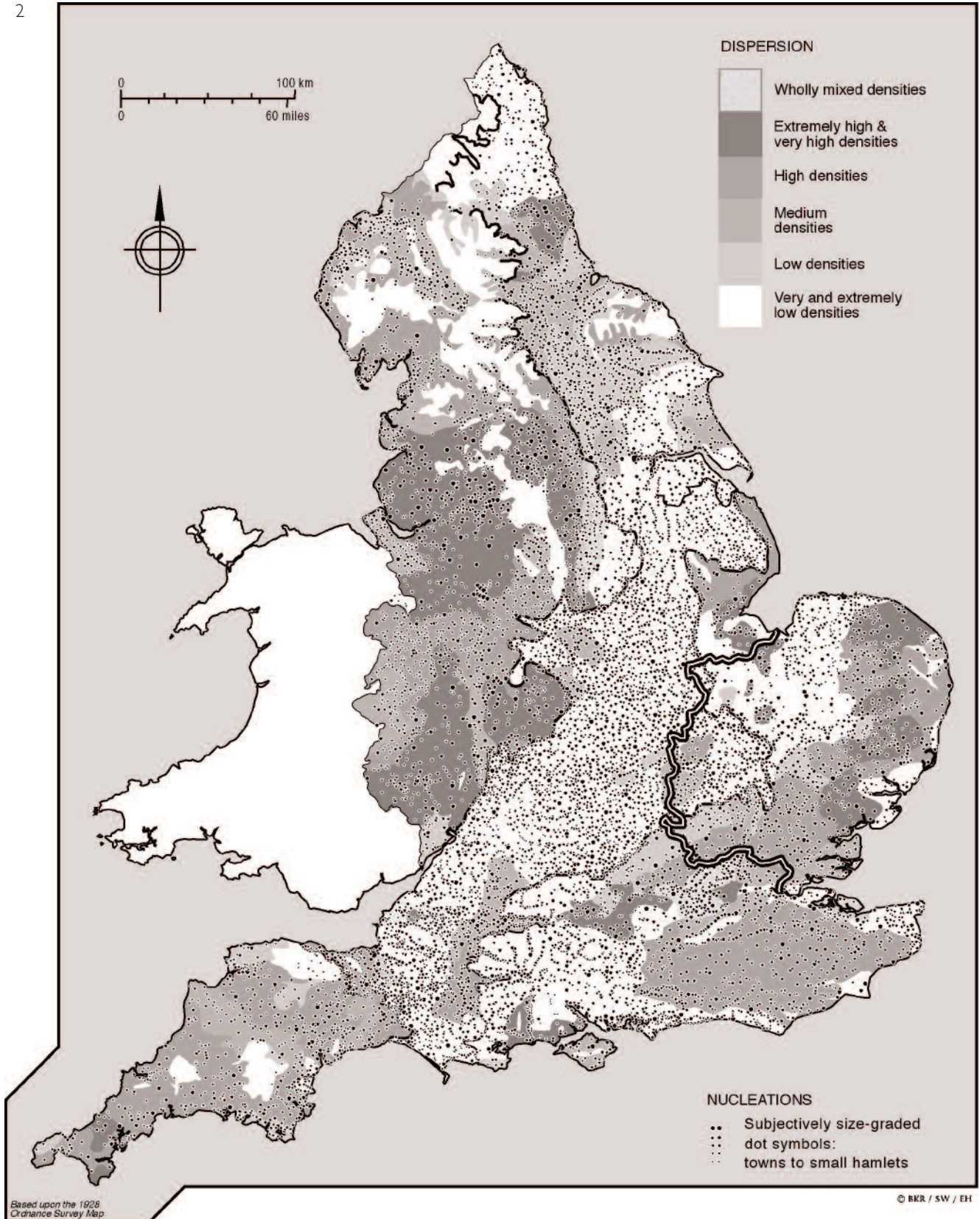
settlement in the countryside varied from large, nucleated villages to dispersed settlement areas with scattered, isolated hamlets and farmsteads, both being closely related to the patterns of fields and their associated boundaries in the surrounding landscape. There were many variations between the two extremes of communal open fields with their scattered holdings, which typically developed around larger nucleated settlements, and the anciently enclosed fields of isolated farmsteads and hamlets.

Re-arranging previously communal fields or common pasture land into self-contained private land units enabled the rationalisation of formerly scattered holdings, allowing better management of livestock and rotation of crops. This process of enclosure – evident from the 14th century and even earlier – resulted in the immediate or gradual establishment of new isolated farmsteads out in the fields. It could be undertaken on a piecemeal basis, or in one single phase, the latter form of enclosure being typically

2 Rural settlement in England. Rural settlement can broadly be divided into two types: nucleated villages, and dispersed farmsteads and hamlets. Figure 2 presents an analysis of the settlement pattern of England in the mid-19th century which identifies three 'provinces'. The Central Province, mostly characterised by nucleated settlement and once dominated by communal fields, stretches from Dorset, through Gloucestershire, the East Midlands, Yorkshire and along the north-east coast. This area is flanked by a South-Eastern Province covering the area from east Dorset and Wiltshire to East Anglia, and a Northern & Western Province. In these Provinces settlement is mostly dispersed. The majority of the area of the East of England Region lies in the South Eastern Province with high levels of dispersed settlement across the claylands in particular. Only a small area extending across Bedfordshire and into south Cambridgeshire falls within the village-dominated Central Province.

Based upon 'England: Rural Settlement in the mid-19th century'. Source: *An Atlas of Rural Settlement in England* (2000)
 © English Heritage / Roberts, B.K. and Wrathmell, S.

2



more regular in its appearance. Enclosure by parliamentary act, some of which formalised earlier agreements, often resulted in new designed landscapes. Parliamentary enclosure was concentrated in the period 1750 to 1880.

English Heritage has commissioned work on mapping these patterns of settlement in the English countryside, now published as *An Atlas of Rural Settlement in England* (Roberts & Wrathmell 2000) and *Region and Place, A Study of English Rural Settlement* (Roberts & Wrathmell 2002). In summary, it has been demonstrated that a Central Province mostly characterised by nucleated settlement and, by the 14th century, communal fields which occupied the great majority of the land area, is flanked by a South-Eastern Province and both a Northern and Western Province where settlement is mostly dispersed (Figure 2).

In areas of *nucleated settlement* in the medieval period and later, the majority of farmsteads were sited in villages and the surrounding land dominated by communally managed open fields, where the holdings of individual farmers were inter-mixed and farmed in rotation as meadow or arable land. Many open field systems were created during the period from the 9th to the 12th centuries, replacing earlier dispersed patterns of settlement with nucleated villages with communally managed fields, many of which were clearly planned by estates.

Farmsteads in areas of *dispersed settlement* are commonly isolated or clustered in hamlets. They are commonly medieval in origin (pre-14th century generally) and often surrounded by ancient and irregular patterns of field boundaries, including the reclamation of woodland or waste. Typically smaller and more numerous than the open fields of Midlands villages, these fields were either farmed from the outset as compact farming units or contained the scattered holdings or strips of individual farmers that were farmed on a communal basis. Areas of pasture and rough grazing were typically far greater in extent than in areas of nucleated settlement, and have again been subject to varying rates of enclosure from the 14th century.

Between the extremes of nucleation and dispersion are

the areas that to some degree included both villages and scattered farmsteads and hamlets. In these areas, nucleated villages again originated from developments between the 9th and 12th centuries, but were often intermixed with isolated farmsteads that date from both the medieval period or earlier and from the later enclosure of open fields and common meadow and pasture.

In some areas, the remains of earlier, including pre-Roman, farmsteads are visible as crop-marks or earthworks close to existing farmsteads or villages (see Roberts 1976 and Taylor 1983 for a useful introduction). While research is demonstrating that existing parish and field boundaries possibly originate from very early, even pre-Roman, field and estate boundaries, it is exceptionally rare for present farmstead sites – as in Cornwall's West Penwith – to display such continuity.

2.3.2 RURAL SETTLEMENT IN THE EAST OF ENGLAND REGION

Bedfordshire, the western part of Cambridgeshire and the northern edge of Hertfordshire lie within the Central Province where nucleated villages are the predominant settlement type. With the exception of this western fringe, most of the Region falls within Roberts and Wrathmell's South-Eastern Province where settlement is a mixture of villages, hamlets and dispersed farmsteads; many of the latter clustered around commons and greens. Across the fenland, much of which was unsuited to settlement until extensive drainage operations reclaimed large tracts of land, the density of settlement is relatively low with small, nucleated villages and isolated farmsteads. On the claylands to the south and east the density of dispersed farmsteads and hamlets increases, with high numbers of moated sites through Essex and Suffolk in particular. However, the distribution of moated sites continues west into Bedfordshire where high numbers of moats are also found, making this one of the few areas of the Central Province where higher levels of dispersed settlement density are recorded (Roberts & Wrathmell 2000). As the regional summary below makes clear (see 4.2), there was from the medieval period a strong degree of local variation in the distribution of enclosed and communally regulated fields.

3.0 Building Materials

3.1 NATIONAL OVERVIEW

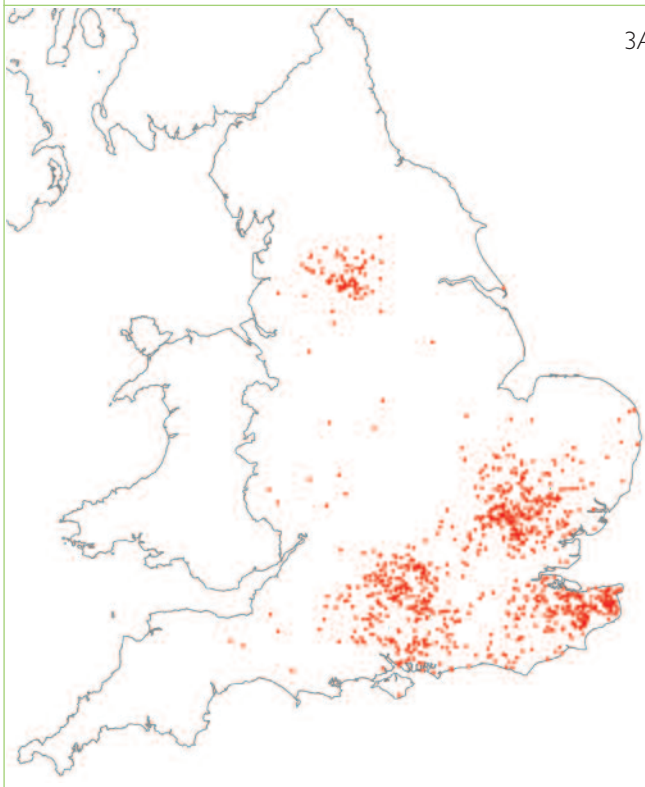
Farm buildings were frequently altered and re-roofed, and survivals can display evidence for successive phases of rebuilding, marked by straight joints in masonry or indications of mortise holes and joints in timberwork.

The present stock of farm buildings displays strong local and regional variation. This is the result of a range of factors, particularly England's huge diversity in geology, the status of the owner, availability of resources managed in the local landscape and the cost of manufactured materials (Rackham 1972; Moir 1997). Long-rooted traditions such as earth walling and thatch in Cornwall and timber frame in Norfolk, survived much longer on farm buildings than farmhouses, and were not overtaken by increasingly fashionable and robust forms of construction (such as stone in parts of Cornwall, brick in Norfolk) until the early to mid-19th century (Potts 1974; Lucas 1997). The coastal shipping trade had for many centuries allowed the transport of building materials, but the arrival firstly of canals and then railways allowed the

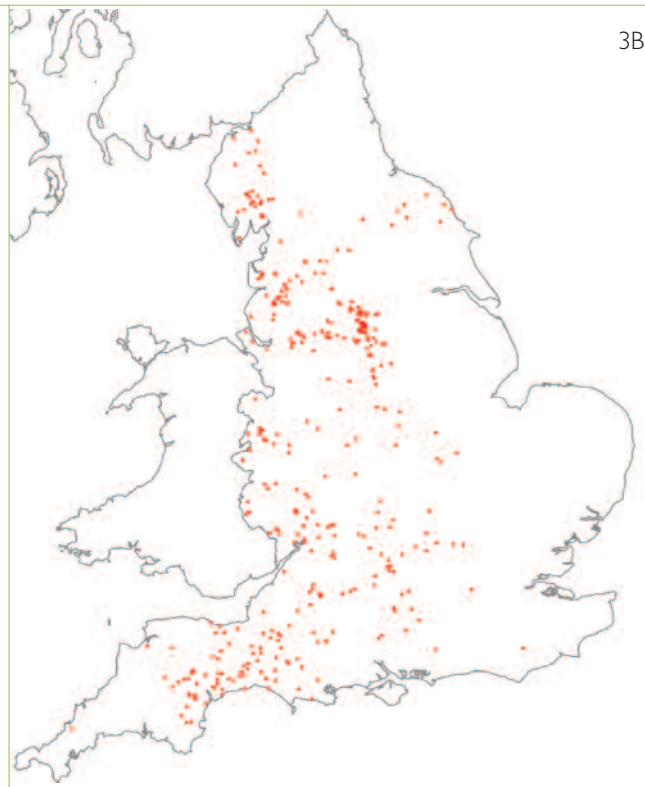
easier transportation of building materials into inland areas. Buildings in stone and brick, and roofed with tile or slate, increasingly replaced buildings in clay, timber and thatch from the later 18th century. Mass-walled buildings comprise the majority of listed agricultural buildings (67%), with timber framing accounting for just over one quarter of entries.

There are strong regional and local differences in roof construction and carpentry, as is still demonstrated by the distribution of aisled and cruck buildings (Figures 4 and 5). From the medieval period, the unit of reference in timber-framed and mass-walled buildings became the bay, the distance between principal roof trusses. These bays could also mark out different areas of storage within barns and other buildings (see 3.1.1.3). Iron bolts, straps and tension bars became increasingly common, often in combination with imported softwood, in the 19th century. Textbooks such as *Vaistell's Designs for Agricultural Buildings* (1827) and *Stephens's Book of the Farm* (1844) helped to promote more standardised forms of

3 The distribution of listed aisled (left) and cruck (right) barns in England
Aisled construction, used for domestic buildings from the 12th century at the highest level in society, was suited to the storage and constructional requirements of large barns. The weighting of the distribution is southern English, outliers being generally of a high status and dating from before 1550; a notable concentration in northern England is in the Halifax–Huddersfield area, where the wealth derived from a combination of farming and the cloth industry in the 15th and 16th centuries led to the construction of a notable group of aisled houses and barns. Aisled construction continued to be employed in southern England into the 19th century.
Crucks in domestic buildings have a date range from the mid-13th to the mid-17th centuries, examples in the north of England being generally later in date, whereas in agricultural buildings the earliest survivals are 15th century and the latest (in the southern Pennines) early 18th century. There is a wide variety of forms in cruck construction.
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3A



3B

4A Aisled barn, Cressing Temple, Essex. One of the earliest surviving barns in England on an estate of the Knights Hospitaller erected with timber felled between 1259 and 1280. (South Suffolk and North Essex Claylands)

© English Heritage / Michael Williams;

4B Barn at Cross Farm, Burgh-by-Sands, Cumbria, showing the full crucks to the interior of a late 17th-century clay-walled barn. This is one of a group of such barns on the Solway Plain, dating from between the 14th and 17th centuries. (Solway Basin) © Jen Deadman

5 Listed earth-built agricultural buildings in England. Survival is much more extensive than this map indicates. In the East of England clay lump buildings form the majority of the buildings shown in the two main clusters. Earth walling is also found in the clayland areas of south Norfolk and Suffolk and on the chalk belt running into south Cambridgeshire. © Crown copyright. All rights reserved. English Heritage 100019088. 2005



construction. Metal roofs were used from the 1850s for covered yards and other buildings on expensive planned farmsteads, but did not come into general use – mainly for covered yards – until the end of the 19th century. Pre-fabricated buildings in iron were manufactured and exported from the 1840s, the most well known on the farmstead being the Dutch barn (see 6.4.1), popular from the 1880s. Factory-made prefabricated buildings, built to standard widths applicable to a wide variety of uses, have since the 1950s been the standard building type used on farms. The principal materials are summarised below.

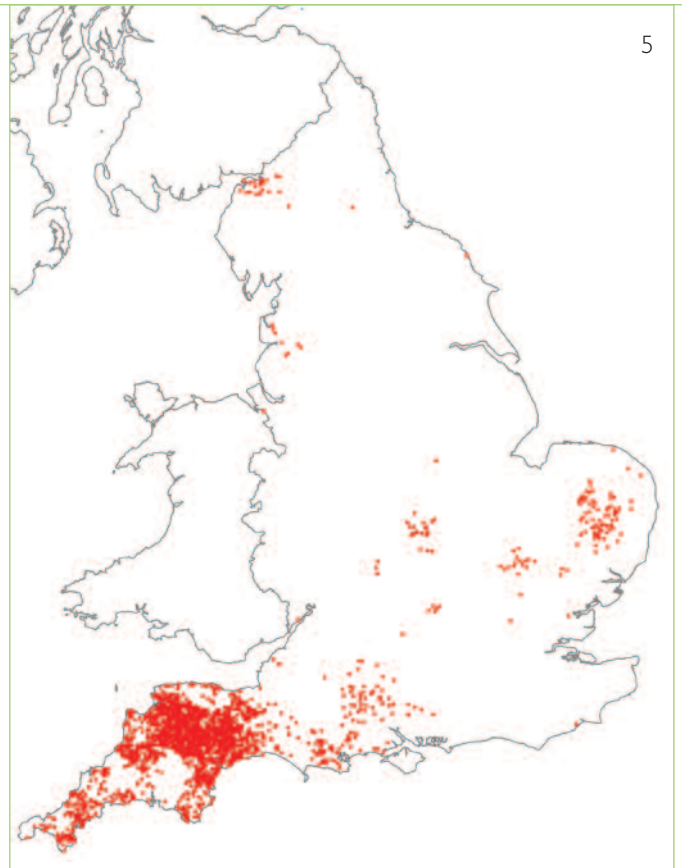
3.1.1 WALLING

3.1.1.1 Temporary structures

As could be expected, the most fragile structures are documented from excavation or archives (for example the Wiltshire vicarage stable 'enclosed with hurdle work' in Hobbs [ed] 2000, xvi and p.438) but have not survived. A long-standing building tradition, where posts were set directly in the ground with no definable bay structure, is documented from excavation and has survived in use for single-storey structures (including 18th-century cart sheds and 20th-century tractor sheds) to the present day (Lake 1989, p.43).

3.1.1.2 Mass walling

Mass-walled buildings now dominate the traditional farm building stock, almost exclusively so in the three northern regions. Stone and brick display a wide variety of treatment, their use reflecting not only the availability of materials but also the status of the farm and its owner. Large parts of England – particularly in the South East, South West, East of England, the East Midlands and the North West – display different traditions of walling in earth, dating from the 14th century (Figure 5). Concrete was used from the 1860s



5

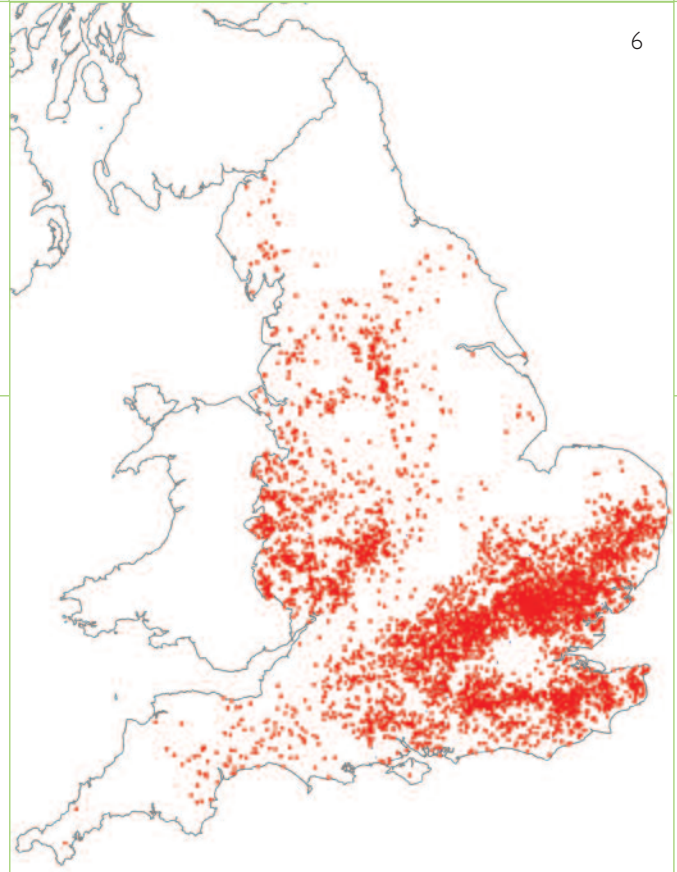
on some farms, for example for silage clamps, but did not achieve general use until after the 1950s.

3.1.1.3 Timber frame

Timber-framed buildings are concentrated in the East of England, the South East and the West Midlands. The basic vocabulary of construction had been developed by the 13th century – notably the use of sophisticated jointing techniques, particularly at the junction of the main posts and roof trusses (the so-called bay divisions), and timber sills raised off the ground on dwarf walls. Climate and patterns of land use and ownership have affected the

6 Listed timber-framed barns in England. Although listing concentrates on the generally best-preserved sample of surviving buildings, this map broadly shows the extent of present survival. Note the separation – marked by the limestone belt running from Dorset to Yorkshire – of the major concentrations in south-east England and central southern England and western and northern England, where separate traditions of carpentry and framing developed. The map also reveals much about patterns of loss, and particularly rebuilding in stone and brick, over the centuries. There is a sharp boundary, for example, between the claylands of south Norfolk and Suffolk and the lighter soils of Breckland and north Norfolk, where brick had generally replaced timber frame by the 19th century. The absence of timber frame in the North East, where again it is documented, is notable. Such a map presents an obvious invitation to future analysis and research. © Crown copyright. All rights reserved. English Heritage 100019088. 2005

6



availability of timber and, together with cultural factors, have influenced the distribution, appearance of distinct traditions in timber framing and the framing of roof trusses for mass-walled buildings (Smith 1965; Stenning & Andrews 1988; and Figures 3 and 6). The infill between the timber frames would either be wattle and daub (a clay and straw mix), brick (often a later addition) or simply left as a wattle framework. Timber planks, either rebated or slotted like wattle, were also used but now only survive in very rare instances. External walling and render can also disguise evidence of earlier timber framing, including cruck and aisled construction.

3.1.1.4 Timber cladding

In parts of the country – particularly in the South East, East of England and the western part of the West Midlands – timber frames were often clad in horizontally fixed weatherboarding. Hand-sawn hardwood boarding is now rarely found, as machine-sawn softwood was increasingly used from the late 18th century.

Weatherboarding is either applied to a whole building (most commonly in regions in the South East and the southern part of the East of England) or to the upper portions of sidewalls (a common use in the West Midlands). Vertical boarding is mainly found in the South East. This had cover strips to prevent the ingress of rain; surviving examples date from the late 19th century. Hit-and-miss timber boarding, sometimes known as Yorkshire boarding, has been widely in use as cladding since the 1970s, since it provides good ventilation and meets modern animal welfare requirements.

3.1.1.5 Corrugated iron

See 3.1.2.3.

3.1.2 ROOFING

3.1.2.1 Thatch

Thatch was common in large parts of the country, and farmers used a wide range of locally available materials: heather, bracken, reeds, rushes, grass, turf, and straw from oats, barley, wheat and rye. Thatch, predominantly made of wheat straw or water reed, is now mainly confined to southern England and East Anglia (Figure 7). Heather and bracken was, until the 19th century, used in upland areas of moorland and heath, such as Dartmoor, the Pennines,

the North York Moors and the Cheviots. Solid thatch, where the whole of the roof space was filled with materials such as heather or gorse with a straw or reed topcoat, was formerly widespread but is now very rare (Moir & Letts 1999, pp.103–4).

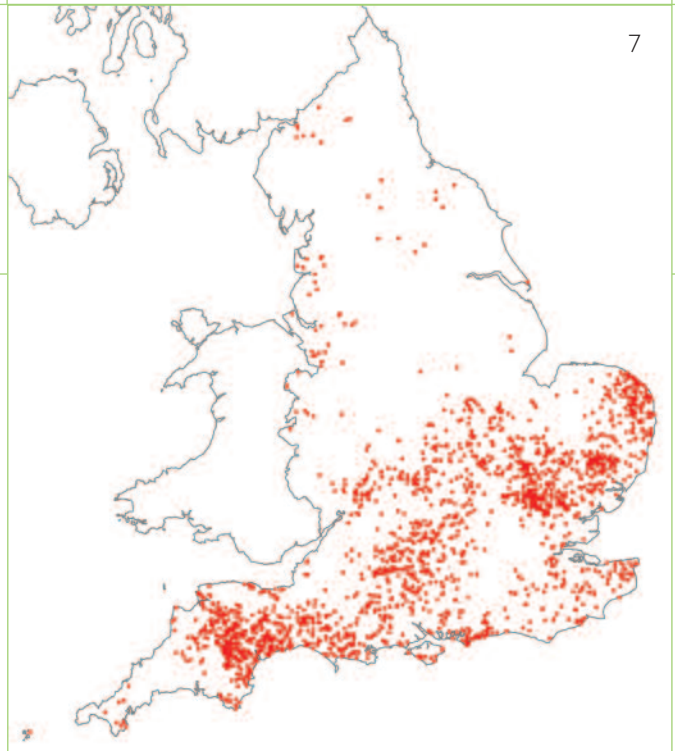
3.1.2.2 Plain clay tiles and stone slates

These materials were used at a high social level from the medieval period and are found in many parts of the country. Their use became increasingly widespread after the later 18th century, along with stone and brick walling, supplanting smaller farm buildings built of timber, earth and thatch in many parts of the country. The coastal trade and improved communications also enabled the widespread introduction of pantiles – instantly recognisable with their distinctive curved profile – into parts of the South West and across large areas of the eastern counties from north Essex to Northumberland, and of Welsh slate into many inland areas.

3.1.2.3 Corrugated iron and other prefabricated modern materials

Corrugated iron was used in England from the 1820s, initially for industrial buildings. Although several pioneering firms were producing portable corrugated-iron-clad buildings by the 1850s, it did not come into general use for new farm buildings (particularly on so-called Dutch Barns for protecting harvested hay and corn crops, see 6.4.1) until the farming depression of the 1880s made cheaper materials desirable. By the First World War, corrugated iron was in general use for the repair of roofs on farm buildings, particularly thatch. It

7 Listed thatched agricultural buildings in England. Particularly evident is the concentration of surviving thatch – the majority of which in agricultural buildings is listed – in southern England, despite its widespread replacement by materials such as corrugated iron from the late 19th century. Rebuilding, and reproofing in slate and tile, has removed the evidence for its formerly extensive use (in straw, heather and bracken) from much of northern England. Such a map presents an obvious invitation to future analysis and research.
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was also used for the walling of model farmsteads built to a budget (Wade Martins 2002, p.175) and for smallholders' buildings in areas such as the New Forest. From the 1940s, asbestos cement cladding and a variety of insulating products found their way on to the farmstead. Hit-and-miss vertical boarding (also known as Yorkshire boarding) has been used as cladding since the 1970s.

3.2 BUILDING MATERIALS IN THE EAST OF ENGLAND

3.2.1 WALLING (Figure 8)

3.2.1.1 Stone

Only on the extreme edges of this Region is any building stone found. Carstone, chalk and clunch were used in north-west Norfolk, with limestone occurring in west Cambridgeshire and parts of Bedfordshire. The East Anglian chalk is often overlain by clay with flints, and the use of brick, flint and tile is particularly characteristic of many historic farmsteads within the area (see 3.2.1.4).

3.2.1.2 Earth

The Region has a greater diversity of types of earth walling than any other. Clay walling set around a timber and wattle framework was common in much of the Region into the 18th century, but became subject to replacement by brick. Surviving examples, which on present evidence are confined to the claylands of the Region, are of great rarity. Clay lump is a distinctive walling material in the claylands of south Norfolk and north Suffolk and in an area south of Cambridge where it was being promoted from the late 18th century. There is some evidence for its use in the medieval period from archaeological excavation (Longcroft 2004, pp.7–9), but no standing buildings incorporating clay lump appear to pre-date the late 18th century, from when it was revived and actively promoted as a low-cost material. It can also be found on a smaller scale in north Essex and Bedfordshire (McCann 2004, pp.18, 40–41). An interesting variation is a form of solid clay recommended by the Rev. Copinger Hill of Buxhall and found in south Suffolk. Clay and straw were mixed together as for clay lump, but instead of forming this into large bricks, it was built up layer by layer on a brick plinth as for a cob wall. The whole wall was then finished with a layer of fine clay and then, as with clay lump, tarred (Aitken & Wade Martins 1998, p.15).

3.2.1.3 Timber

This is one of the major timber-framing regions in England. Rebuilding in brick from the 17th century has removed much of the evidence for timber frame from areas such as north and west Norfolk, which have lost much of their woodland cover (Longcroft 2004, p.11). In contrast, timber-framed buildings remain a distinctive feature across the claylands of the Region, which retained a large proportion of both woodland and hedgerow timber into the 18th century. Box framing is the usual construction method with true cruck-framed buildings virtually entirely absent from the Region except for its western edge, which pushes into the main cruck distribution area. The use of close studding, with close-set uprights creating tall, narrow panels, is a characteristic feature of many timber-framed houses (Smith 1965, p.138). Until the 19th century these panels were normally infilled with wattle and daub, which was then plastered and sometimes decorated with parquetry (the stamping or incising of the wet plaster to create patterns). Agricultural buildings by contrast are either clad in lath and plaster – as in Suffolk, Cambridgeshire and south Norfolk – or more commonly weatherboarded.

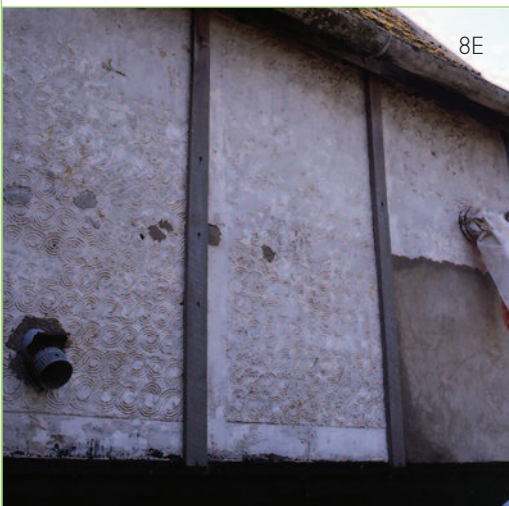
3.2.1.4 Brick

Brick was used from the medieval period in East Anglia, Hales Barn at Hales Hall in Norfolk being an outstanding example of its use for a high-status farm building. However, it did not become widespread for farm buildings after the mid 18th century, it being most commonly used on estates undertaking capital improvements and with high rental values (Lucas 1997, p.77). Brick – varying in colour from deep red to yellow – was often used in conjunction with flint in much of

8 Examples of walling materials in the East of England Region

- A Exposed timber frame with brick infill. (South Suffolk and North Essex Claylands)
- B Weatherboarding over timber frame. The typical wall covering for timber-framed agricultural buildings across the Region is horizontal weatherboarding. (East Anglian Chalk)
- C Timber-framing panels could also be filled with wattle and daub. This example has been tarred – a characteristic treatment seen on many farm buildings in the Region. (South Suffolk and North Essex Claylands)
- D Clay applied to laths. (South Norfolk and High Suffolk Claylands)

- E Pargetting. Where plastered panels, or in some cases the whole of the elevation of a building was plastered, the wet plaster could be decorated. Such treatment is normally found on farmhouses but may be seen on some farm buildings such as stables. (South Suffolk and North Essex Claylands)
 - F Rammed earth. Solid earth walling is seen in parts of the Region, especially in the chalk areas. (South Suffolk and North Essex Clayland)
- All photographs © English Heritage/Michael Williams except B © Bob Edwards; F © Susanna Wade Martins (continued overleaf)*



8 Examples of walling materials in the East of England Region (continued).
 G Clay lump. The use of unfired blocks of clay laid in regular courses as with brickwork began in the late 18th century but most belong to the mid-19th century during which time whole farmsteads were built using this method. Typically clay lump or clay bat buildings were protected by a coating of gas tar: (South Norfolk and High Suffolk Clayland)
 H & I Brick. The Region contains some important early examples of brick used in agricultural buildings such as this late 17th-century barn (H) that has characteristic features such as the decorative ventilation patterns and stepped gables. Features such as diaper brickwork and

tumbled brickwork to gables (not illustrated) are Regionally characteristic. Locally made bricks can also give a distinctive character to farm buildings, particularly the yellow Cambridge bricks. (H Mid Norfolk; I Breckland)
 J In the chalk areas of the Region flint provided one of the few stones for building. Although used from the medieval period and in some higher status barns in north Norfolk, its use in farm buildings, combined with brick for banding, quoins and dressings, is typical of the 18th and 19th centuries. (Mid Norfolk)
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Norfolk, east Cambridgeshire and the Chiltern edge. Its introduction was delayed in the claylands until the mid-19th century, when larger estate farms took the lead in replacing timber and clay structures with brick and tile.

wheat reed. During the 19th century much of the Region's thatch was replaced with plain clay tiles or pantiles, but thatching in water reed continued in the Broads and parts of the Fens.

3.2.2 ROOFING (Figure 9)

3.2.2.1 Thatch

All farm buildings in arable areas were thatched in longstraw, although have been replaced by combed

3.2.2.2 Slate

There is no source of stone suitable for making stone slates in the Region, the nearest production centre being in Northamptonshire. Therefore, stone slates are only rarely encountered along the western edge of the

9 Examples of roofing materials in the East of England Region

- A Thatch. Water reed from the managed reed beds of the Norfolk Broads was used in the north-east part of the Region. In many other parts of the region straw from arable farming was available and widely used for farm buildings. (The Broads)
- B Clay tiles. Clay for brick and tile making was available in many parts of the Region and was exploited from the medieval period. (South Suffolk and North Essex Claylands)

C Pantiles. Profiled roofing tiles are a characteristic feature of the roofs of the East of England. (East Anglian Chalk)

- D Welsh slate. Across most of the Region the use of Welsh slate increased as the railways made transportation easier and cheaper. Slate allowed a lower roof pitch to be used, characterising many farm buildings of the period from earlier thatched or tiled buildings. (Breckland)
- A 227169 Taken as part of the Images of England project © Mr E.M Trendell; B & D © English Heritage / Michael Williams; C © Bob Edwards



Region. Welsh slate was imported through the Region's coastal ports and from the late 18th century by canal.

3.2.2.3 Tiles

The north of the Region is strongly associated with pantiles, which in an area stretching up the Scottish

border were increasingly used at a vernacular level from the early 18th century and in some cases earlier. It had also spread across the northern half of Suffolk and Bedfordshire by the 18th century. Plain tile is more typically found in the southern half of the Region, spreading into mid Norfolk (Brunskill 1987, p.170; Moir & Letts 1999, pp.18–19).