

**BARNS AT WOODS FARM, WOOD ROW,
HATFIELD BROAD OAK, ESSEX**

HISTORIC BUILDING RECORDING

ARCHAEOLOGICAL SOLUTIONS LTD

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HATFIELD BROAD OAK, ESSEX**

HISTORIC BUILDING RECORDING

Authors:	Tansy Collins BSc Lee Prosser PhD Charlotte Davies BA Kathren Henry Kate Higgs BA	
NGR: TL 5365 1824		Report No. 3260
District: Uttlesford		Site Code: HBWF09
Approved: Claire Halpin MIFA		Project No. 3397
Signed:		Date: March 2009

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OASIS SUMMARY SHEET

Project details			
Project name	<i>Barns at Woods Farm, Wood Row, Hatfield Broad Oak, Essex</i>		
Project description (250 words)	<p><i>In February 2009, Archaeological Solutions Ltd (AS) conducted programme of historic building recording of former farm buildings at Woods Farm, Wood Row Hatfield Broad Oak, Essex.</i></p> <p><i>The recording revealed that along with nearby farms and tenurial holdings, the construction of The Woods is closely associated with the shrinkage and decline of Hatfield Forest in the period after 1650, with the break-down of the forest as a legal entity accorded official protection. At this time a number of new holdings grew up on its periphery. Overall, it seems that both barns belong to this period. Improvements in farming technology, specifically grassland husbandry, along with demand at market for grain and livestock in areas such as London, led to an increase in large farmsteads (Lake 1989) reflected in four good comparative examples of this date at The Grange in nearby Takeley. In terms of construction they represent the first steps towards a more scientific system of construction which would become universal in the 18th and 19th century. Building 7, though of little historic interest, reflects the culmination of this process of standardisation and efficiency, before it was superseded after the First World War by new materials and methods of building. The reuse of much timber in some of the later structures suggests that the farm had other buildings which were later adapted or incorporated into an expanded agricultural complex in the 19th century.</i></p>		
Project dates (fieldwork)	<i>17/02/2009 – 26/02/2009</i>		
Previous work (Y/N/?)	<i>N</i>	Future work (Y/N/?)	<i>?</i>
P. number	<i>3397</i>	Site code	<i>HBWF09</i>
Type of project	<i>Historic building recording</i>		
Site status	<i>Grade II listed barns</i>		
Current land use	<i>Agricultural barns</i>		
Planned development	<i>Conversion to residential use</i>		
Main features (+dates)	<i>Two 17th century barns, with later alterations and additions</i>		
Significant finds (+dates)			
Project location			
County/ District/ Parish	<i>Essex</i>	<i>Uttlesford</i>	<i>Hatfield Broad Oak</i>
HER/ SMR for area	<i>Essex HER</i>		
Post code (if known)			
Area of site	<i>c. 9,000m²</i>		
NGR	<i>TL 5365 1824</i>		
Height AOD (max/ min)	<i>c. 91m AOD</i>		
Project creators			
Brief issued by	<i>ECC HEM</i>		
Project supervisor/s (PO)	<i>Tansy Collins</i>		
Funded by	<i>Mr D Robson</i>		
Full title	<i>Barns at Woods Farm, Wood Row, Hatfield Broad Oak, Essex; an historic building recording</i>		
Authors	<i>Collins, T. Higgs, K.</i>		
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Date (of report)	<i>March 2009</i>		

BARNS AT WOODS FARM, WOOD ROW, HATFIELD BROAD OAK, ESSEX HISTORIC BUILDING RECORDING

SUMMARY

In February 2009, Archaeological Solutions Ltd (AS) conducted programme of historic building recording of former farm buildings at Woods Farm, Wood Row Hatfield Broad Oak, Essex.

The recording revealed that along with nearby farms and tenurial holdings, the construction of The Woods is closely associated with the shrinkage and decline of Hatfield Forest in the period after 1650, with the break-down of the forest as a legal entity accorded official protection. At this time a number of new holdings grew up on its periphery. Overall, it seems that both barns belong to this period. Improvements in farming technology, specifically grassland husbandry, along with demand at market for grain and livestock in areas such as London, led to an increase in large farmsteads (Lake 1989) reflected in four good comparative examples of this date at The Grange in nearby Takeley. In terms of construction they represent the first steps towards a more scientific system of construction which would become universal in the 18th and 19th century. Building 7, though of little historic interest, reflects the culmination of this process of standardisation and efficiency, before it was superseded after the First World War by new materials and methods of building. The reuse of much timber in some of the later structures suggests that the farm had other buildings which were later adapted or incorporated into an expanded agricultural complex in the 19th century.

1 INTRODUCTION

1.1 In February 2009, Archaeological Solutions Ltd (AS) conducted a programme of historic building recording of former farm buildings at Woods Farm, Wood Row Hatfield Broad Oak, Essex (NGR TL 5365 1824; Figs. 1 & 2). The work was commissioned by PHD Associates on behalf of their client Mr David Robson of The Woods, and carried out as part of a planning condition imposed on approval to convert the existing agricultural buildings to residential use (Uttlesford Planning Ref. UTT/2004/03/FUL). It was undertaken according to a brief issued by Essex County Council Historic Environment Branch (HEM; Mr. A. Garwood, dated 6th February 2009) and a specification prepared by AS (dated 9th February 2009).

1.2 The relevant planning policies which apply to the effect of development with regard to cultural heritage are Planning Policy Guidance Note 15 'Planning and the Historic Environment' (PPG15) and Planning Policy Guidance Note 16 'Archaeology and Planning' (PPG16) (Department of the Environment). PPG15 (1994) is the national Planning Policy Guidance Note which applies to the conservation of the historic environment by protecting the character and appearance of Conservation Areas and protecting listed buildings (of architectural or historical interest) from

demolition and unsympathetic change and safeguarding their settings as far as is possible. This condition is also widely applied by local authorities.

1.3 The project was carried out to Level 3 as defined in the English Heritage document *Understanding Historic Buildings: a guide to good recording practice*, 2006 and the RCHME *Recording Historic Buildings: A descriptive specification 3rd edition*, 1996. It was also carried out in accordance with the Institute of Field Archaeologists' (IFA) *Standard and Guidance for the Archaeological Investigation and Recording of Standing Buildings or Structures* (revised 2001). The relevant sections of *Standards for Field Archaeology in the East of England*, East Anglian Archaeology Paper 14/ALGAO (Gurney 2003) and the IFA *Standard and Guidance for Archaeological Desk-Based Assessments* (revised 2001) were also followed.

1.4 The objectives of the archaeological building recording were;

- to compile a high quality record of the structures proposed for conversion, in order to understand the form, function, evolution, and any remaining architectural/technological embellishment of the building/s. Existing plans will be collated and form the baseline survey;
- to provide a review of the local and regional historical context of the structures recorded by the project. It will be adequately detailed to place the findings of the recording in context.

2 DESCRIPTION OF THE SITE

2.1 Woods Farm, Wood Row is situated within the parish of Hatfield Broad Oak in the county of Essex (Fig. 1). The site lies on the southern borders of Hatfield Forest, with the village of Hatfield Broad Oak located to the south-east of the site, and Hatfield Heath 3.3km to the south-south-west. The dispersed hamlet of Wood Row comprises Woods Farm, Forest Farm and Forest Hall, the latter of which lies 500m to the south-west. The range of former agricultural buildings consists of barns and outbuildings located to the immediate north-east of Woods farmhouse, the entire complex situated immediately adjacent to the south-west to north-east aligned road on the west.

2.2 The site comprises a U-shaped range of buildings, with a south facing yard, which includes two barns within the U-shaped range and a free standing dairy on the south (Fig. 2). One of the barns comprises a Grade II listed threshing barn (EHER 38113), the remainder of the buildings comprising former livestock shed, stables, a dairy as well as a further timber-framed threshing barn all curtilage listed to the featured barn. The site is irregular in plan and covers an area of approximately 9,000m². To the north, west and east lies agricultural land containing deciduous woodland and farm ponds. The majority of the buildings within the site are currently redundant and it is proposed to convert these existing farm buildings to residential use.

3 METHOD OF WORK

3.1 Archaeological databases

The standard collation of all known archaeological sites and spot-finds in the area is the Essex Historic Environment Record (EHER). In order to provide a representative sample, the EHER database was searched for all known entries within a 1km radius of the site. Entries within this approximate 1km radius of the site are listed in Appendix 1, and plotted in Fig. 3. Their significance, where relevant, is discussed in Section 5.

3.2 Historical & cartographic documents

The principal source for maps and primary documentary sources was the Essex Record Office (ERO) in Chelmsford. All available material regarding the study area and the buildings was consulted, has been listed in Appendix 2, and where relevant, reproduced as Figs. 4 - 8.

3.3 Secondary sources

The principal source for secondary material was the Essex Record Office (ERO) in Chelmsford, as well as the library resources at AS. Sources have been referenced appropriately in the bibliography.

3.4 The buildings

3.4.1 The site was visited on 20th and 24th February in order to compile the description of the building and undertake the drawing and photographic work. Tansy Collins and Lee Prosser carried out the written descriptions and photographic recording and Kathren Henry and Charlotte Davies completed the drawing work. Floor plans, sections and elevations based upon drawings provided by the client are included with annotations (Figs. 9-15).

3.4.2 The photographic recording was conducted using medium format (4.5 x 6cm) black and white film and included all external views and general internal shots. This utilised a Zenza Bronica ETRS camera and Ilford HP5 IOS 400 120mm film. Finer architectural detail was captured using 35mm black and white film. Colour photographs were taken using an Olympus Camedia E20 digital camera, duplicating the black and white photography. Supplementary colour photography was captured on 35mm Ektachrome colour transparency film. External lighting and weather conditions were good at the time of the survey. A scale was used wherever possible, and a flash was employed for internal shots. A pictorial index of the digital photography and selected colour plates are included below together with location plots (Fig. 14-16).

4 THE EVIDENCE

4.1 Topography, geology and soils

4.1.1 The site is situated in a rural location on the southern borders of Hatfield Forest. The surrounding area is wooded with Hatfield Forest's Collin's Coppice and Emblem's Coppice located 500m to the north-west of the site (Fig. 1). Further woodland lies to the west comprising Wall Wood and Monk's Wood, whilst east lies The Park associated with Barrington Hall. The site lies at c. 91m AOD above the western valley side of the Pincey Brook, which flows roughly southwards 720m to the east. The Hatfield Broad Oak area is located on a solid geology of Eocene London Clay Formation (BGS 1997) overlain by chalky till. The site also lies on the cusp of two soil associations, with Hanslope Association soils to the west and Stretham Association soils to the east (SSEW 1983).

4.2 Archaeological and historical background (Fig. 3)

Prehistoric

4.2.1 The early prehistory of the Hatfield Broad Oak area remains relatively unknown and there is little to suggest that it was occupied prior to the Bronze Age period. Furthermore, no known early prehistoric, Bronze Age or Iron Age findspots are documented within the area surrounding the site. However, archaeological monitoring during the laying of a pipeline from Hatfield Heath to Matching Tye revealed evidence of late Bronze Age field boundaries to the south of the Pincey Brook (Guttmann 1999).

4.2.2 Despite the paucity of known Bronze Age sites, metalwork finds are not uncommon on the Essex Boulder Clay and include a Late Bronze Age sword in or near a streambed by Matching Green c. 7km to the south (Brown 1988). Intensive fieldwalking to the west of Saffron Walden has demonstrated that settlement on the clay uplands was well established by the end of the Iron Age (Williamson 1984; 1986) and a possible enclosure contained an unurned cremation dated to 950 BC at Little Hallingbury (Robertson 1975).

Romano-British

4.2.3 As noted, intensive fieldwalking in the area west of Saffron Walden has revealed evidence for settlement on the clay uplands on the edges of the clay plateau and the valley floors, and which is known to have been occupied into the Romano-British period (Williamson 1984; 1986). Recent aerial photographic surveys of clay areas such as Hatfield Broad Oak have revealed an increasing number of Roman cropmark sites revealed beneath eroding ridge and furrow (Palmer 1996). Despite the site's potential for small-scale Roman activity, only a single scatter of Roman pottery has been found 750m to the north of the site and was recovered from the south end of Collin's Coppice (EHER 4523).

Anglo-Saxon

4.2.4 No known archaeological remains or features have been found in the area surrounding the site and Saxon settlement in Essex was predominantly concentrated along the river valleys (Darby 1971) and in previously cleared land (Tyler 1996). Continuity of settlement location from the Roman period has been demonstrated at some Essex sites, such as Mucking and Rivenhall, but the Stansted survey showed a clear break in occupation, with woodland regeneration over areas of Roman farmland (Brooks & Bedwin 1989). The same is true for the central plateau of Williamson's survey area in north-west Essex, though the plateau margins demonstrated some continuity of settlement between the Roman, Saxon and medieval periods (Williamson 1986).

Medieval

4.2.5 The Domesday survey shows a high population in north-west Essex, with a generally sparser medieval population on the more impervious London Clay to the south (Darby 1971). Hatfield Broad Oak, however, was one of the largest settlements in Essex, with a Benedictine priory and market, by 1086 (Powell 1983). The place-name Hatfield Broad Oak was in use by 1136 at the latest, whilst extensive woodland clearance took place in the surrounding area between 1066 and 1086. Hatfield Forest was first documented in 1225 and was legally designated a royal forest (Rackham 1989). The forest itself was not entirely wooded, but comprised both forest in the modern sense, wood pasture and arable and pastoral fields which functioned as parishes and villages as elsewhere, but within the confines of forest law, which placed certain tenurial restrictions on the inhabitants. Wood Row Quarter forms, on historic plans, a wide, funnel-shaped area of wood pasture, which was clearly used to drive pigs and cattle onto for grazing.

4.2.6 The population of the Hatfield Broad Oak area grew rapidly until the late 14th century, resulting in the establishment of small settlements such as Wood Row within which the site lies (Rackham 1989). The dispersed hamlet also incorporates a Grade II* listed early 14th century timber framed house known as Forest Cottage and the neighbouring Grade II listed 15th century The Forest (EHERs 38116 & 38111). Over 1km to the north-east of the site also lies Little Barrington Hall consisting of a Grade II listed 15th and mid 16th century timber framed house and irregular medieval moat (EHERs 4291).

Post-medieval & later

4.2.7 In the 15th century onwards, the effects of famine, the Black Death and the growth of towns led to a drop in population accompanied by a widespread shrinkage of villages and hamlets in Essex and the abandonment of many farms (Guttmann 1999). However, the disappearance of the forest as a legal entity resulted in new opportunities, and some expansion. This occurred on the edge of the managed woodland and pastures, showing that some restrictions remained. Associated buildings of this date include Nos. 42 – 44 and Nos. 45 – 46 The Forrest, Forest

Farmhouse and associated farm buildings, and Woods Cottage, which are of 16th to 18th century date (see Appendix 1, below).

The site

4.2.8 The site comprises an enclosed U-shaped range of buildings, typical of an Essex mixed farmstead, with a south-facing stockyard and including two timber-framed barns. A freestanding early 20th century brick-built dairy forms the southern boundary to the yard, while to the south-west lies the farmhouse with a pond to the west of the complex (Fig. 2). The farmhouse itself appears to be late 19th century in date, which is consistent with historic map evidence, and so likely replaced an earlier building. The buildings subject to assessment are limited to those of the U-shaped range (excluding part of the northern range and west return already converted to residential use), and two further buildings to the east comprising a cartshed and Dutch barn. The east range of assessment structures incorporates a Grade II listed barn (EHER 38113), described as a late 17th century timber-framed threshing barn (see Appendix 3), while the north range contains a further timber-framed barn that is unlisted. The remainder of the structures subject to assessment comprise small units such as livestock sheds, stables and a probable former dairy / milking parlour all of which are curtilage listed to the barn.

4.2.9 No relevant documents concerning the site were found at the Essex Record Office (ERO) in Chelmsford and little is known of the origin of the listed barn and its associated farm buildings. The date for the two barns, and particular elements within other buildings on the site (discussed in more detail in Section 6) are all consistent with a 17th century date which perhaps suggests the farmstead developed both as a result of the decline of the forest, and in response to the general trend of population growth and agricultural improvement. Historic map evidence, discussed below, indicates some development to the farm layout in the 19th century although perhaps not as substantial as is seen in other areas with the development of the planned model farm.

4.2.10 The site's location along Wood Row indicates that it originally lay alongside the south-eastern extent of Hatfield Forest. It has been suggested that this perhaps indicates a medieval precursor to the farm, contemporary with the neighbouring 14th century and later properties within Wood Row (Lowndes 1878). However, it is more likely and consistent with the evidence observed on site, that the farm was established along the edge of the woodland pasture when the forest shrank in the 17th century (Rackham 1989). The location of the farm also indicates an association with Little Barrington Hall, the boundaries of which are fixed by one of the forest's oldest documents, the Barrington Claim (*Ibid.* 1989).

4.2.11 Historic directories record the farm as early as 1848 when White's Directory of Essex refers to the site somewhat colloquially as 'Tom by the Woods', occupied by the farmer Nicholas Patmore. Ten years later, the Hatfield Broad Oak tithe award of 1858 indicates 'Toms by th' Wood' (#455) as still occupied by Nicholas Patmore, yet owned by Thomas Lowndes Esq, who had in fact purchased part of the Barrington estate in 1836 (Ref. D/CT166; Powell 1983). By 1874, however, there

was no mention of either ‘Tom by the Woods’ or Woods Farm in that year’s Post Office Directory of Essex (PO 1874).

4.3 Cartographic sources

Map of Barrington Hall estate in Hatfield Broad Oak, 1766

4.3.1 This map, although not reproduced here, comprises a depiction of the Barrington Hall estate in 1766 and labels the assessment site as ‘*Toms by the Wood*’ including 186 acres (Ref. D/DQ14/38). There is no depiction of the barn or any further agricultural buildings within the site and it is likely they were omitted due to the small scale of the map.

Chapman & Andre’s map of Essex, 1777 (Figure 4)

4.3.2 This is the earliest cartographic source to depict the site in any detail although reveals little of interest except that the site lay along the south-eastern extent of the woodland pasture belonging to Hatfield Forest, within the dispersed hamlet of ‘Wood-side’. What is visible appears to comprise a single structure within the area of the site although it is unlikely that this is an accurate or complete depiction of all extant buildings.

Hatfield Broad Oak tithe map, 1858 (Figure 5)

4.3.4 The Hatfield Forest enclosure map of 1857 (Ref. Q/RDc48) does not extend as far as the assessment site, and so is not included here. The Hatfield Broad Oak tithe map (Ref. D/CT166) of 1858 names the site as ‘Toms by the Wood’ comprising a house and homestead covering an area of 1 acre 3 roods 12 perches. The site lay to the north and north-east of what was presumably the farmhouse and clearly comprised a U-shaped range of farm buildings.

1st edition Ordnance Survey map, 1897 (Figure 6)

4.3.5 This OS map is the first source to depict the extant buildings to any degree of detail and confirms the presence of the U-shaped range of farm buildings towards the northern extent of the site. The two timber-framed barns are evident, with porches in the appropriate position, and the remainder of the north range and west return all consistent with that seen today. A small unit is shown within the angle between the two barns, of which there is no evidence surviving today. The rectangular yard created by the U-shaped range is subdivided and two buildings are depicted, no longer present. A small structure is located to the north-east of the complex, but the two assessment structures on the east are not yet in existence.

3rd edition Ordnance Survey map, 1921 (Figure 7)

4.3.6 A number of changes have occurred since the production of the 1897 map and the layout is now consistent with the buildings present today, although the buildings within the yard area are still present. The U-shaped range of buildings is exactly as

today, with the small unit forming the north-east corner now absent. Two further structures to the east of the complex are now in existence, following the outline of the present assessment buildings. The period of time since production of the previous source has also seen alteration outside the assessment area as the brick-built dairy is now shown.

Ordnance Survey map, 1960 (Figure 8)

4.3.7 The final available source to depict the site comprises the OS map of 1960. There is no change evident to the assessment structures since the production of the previous map, except the two porches are not shown to the barns, presumably due to the small scale of this map.

5 THE BUILDINGS

5.1 The buildings surveyed are situated to the north-east of the farmhouse and comprise continuous ranges of agricultural buildings framing three sides of a turfed farm yard. The east wing of this complex comprises a Grade II listed threshing barn (Building 1) with an adjoining former milking parlour (Building 3). In close proximity, along the north side, Building 2 is a timber-framed barn (not listed), with a number of smaller buildings extending westwards (Buildings 4 and 5). Several of the structures have previously been converted to new uses, and lay outside the scope of this survey. On the west return of the complex, several structures at the south end include Building 6, which is divided into three separate units. A large brick dairy of early 20th century date completes the courtyard to the south, but also lay outside the area of the current assessment. To the east, a cart-shed (Building 7) and a modern Dutch barn (Building 8) were also considered.

5.2 Building 1 – Barn 1

Exterior

5.2.1 Building 1 is a four-bay, timber-framed and weatherboarded barn orientated north–south with a porch set off-centre to the north on the east side (Plate 1), the whole structure measuring some 62 feet x 21 feet (18.5m x 6.35m). The frame sits on a brick dwarf wall of orange/red bricks of late 19th or early 20th century date, laid in random bond with later patching and repair in evidence. The weather boarding is all of modern softwood (probably larch), now coated with a bitumen finish. The roof, which is steeply pitched, is clad in modern corrugated sheet repair. At the time of survey the barn was undergoing repair on the east side.

Interior – general description

5.2.2 The four bays are numbered below from north to south, so that the porch lies in Bay 2 (Plate 2). The framing is characterised by principal posts with gently swelling jowls, and long, slightly curved braces to straight tie-beams. Slender raking struts above tie-beam level flare towards the roof, where they engage a single purlin in each pitch (Plate 3). The wall framing is fairly systematic, with in-line mid-rails

and pegged studs in both upper and lower registers, differing only in the use of primary tension-bracing in the upper registers at the corners and adjoining the porch. Scarf joints in the wall-plates are halved and bladed with four pegs. The timber throughout appears to be entirely of oak, of middling quality and preserving much wormy sapwood. The roof is systematic and well-preserved, though the quality of the timber is visibly poorer. Principal and mid-bay rafter couples of slightly larger scantling have been selected, and are triangulated by a pegged collar. All rafters ride over the back of clasped purlins to a plain apex. The barn was formerly half-hipped at both ends and within the porch roof, but subsequent modification has taken the walling directly to the gable apex in each case.

5.2.3 The timber scantling varies considerably, but rough averages were taken for those timbers which were accessible. These are:

Principal post	8" - 9" x 9 ½" (203mm – 229mm x 241mm)
Mid-rail	8 ½" x 5"-5 ½" (216mm x 127mm – 134mm)
Common studs	5" x 3 ½" (127mm x 89mm)

5.2.4 Discrete modification and repair is evident throughout, most particularly in the bay panel opposite the porch and at the south end where substantial replacement of minor timbers is apparent. In one bay, crude cranked brackets have replaced the earlier curving braces to the tie-beam. Inappropriate modification is reflected in the most recent use of the building for housing cattle, so that cement has been applied to the lower framing, and a concrete floor laid throughout. Notably, there is little use of any metal support.

Interior – detailed description and inventory

5.2.5 Assembly markings are mostly absent from the timber, although a few gently scratched examples were noted. There is no coherent sequence of markings throughout the barn so it could not be ascertained from which end the barn was originally constructed. Assembly markings are noted below for each truss.

North gable wall

5.2.6 The north wall retains corner posts in good condition, although extensive worm attack is apparent. As elsewhere, the principals have gently swelling jowls and rudimentary chamfers, though the timber is barely of fit standard to support their presence. The central prick post is likewise waney, with flanking mid-rails dividing the panels into upper and lower registers. The lower register to the west has five simple studs, all pegged to the mid-rail. No pegs remain to the sill, suggesting replacement, though this member is decayed. The lower register to the east preserves three original studs with a small doorway occupying the remainder of the panel, giving access to the neighbouring building (Building 3). The doorway appears contemporary, as there are no redundant mortices or peg holes in the mid-rail, which we would expect had studs been removed to accommodate a new insertion. The existing door, which has three simple ledges and vertical boards, appears 19th century in date.

5.2.7 The upper registers on both sides of the central post have downward primary braces from the corner posts, properly pegged at both ends. In common with systems of this type, the two studs bisected by the brace are morticed, but nailed and not pegged. Two further, inner studs are of full height, and pegged at both top and bottom. The tie-beam/wall-plate has a waney upper edge, over which nine nailed studs extend to the collar. Short rafters remain from the earlier hip construction, now left redundant by the carrying up of the external wall to the apex. Earlier oak weatherboarding remains visible at lower level, framing the roof-line of Building 3, where the two structures abut.

Bay 1

5.2.8 The east sill survives and is fairly robust, although now partially encased in cement. A single, slightly cambered mid-rail frames eight lower studs, seven of which are original. The two central studs have been truncated to accommodate a simple softwood aperture housing a reused industrial iron-framed casement window with 12 panes. This in turn is now redundant, and flushed over to the exterior with weatherboarding. The upper register preserves a similar framing pattern, although the seven studs here are slightly staggered to their corresponding lower members. Primary braces descend from the corner posts and follow the standard system with only the full studs pegged top and bottom.

5.2.9 The west panel sill is much decayed, but preserves a short, simple bladed scarf. The seven lower studs are pegged top and bottom, but now partially encased in cement. The mid-rail profile and camber is exactly as its east companion and is clearly halved from the same timber. Seven corresponding upper studs remain, the north pair cut by a straight downward primary-brace as on the east. The wall-plate displays a face-halved and bladed scarf joint with four edge pegs (Plate 4).

5.2.10 The roof seems to retain most original elements in a system of eight rafter-couples, the mid-bay couple of slightly greater size with a collar, as noted above.

Truss 1

5.2.11 The first truss comprises principals with gentle jowls and rudimentary chamfering, the tie-beam having a very waney upper edge. Long and elegantly sweeping braces spring from the principal posts to the tie-beam. Most are secured by two pegs, but here, the west brace is secured by three, presumably to off-set a weakness in the timber, which has fractured nonetheless. The struts engage the purlins, which are scarfed at this point. The south face of the truss preserves a gently scratched assembly mark, II on the west brace and a II with tag on the east brace and adjoining post. The tie-beam and strut display a III on the west and III to the east.

Bay 2 and the Porch

5.2.12 Although the porch is clearly contemporary, the wall plate continued across this bay formerly, but has been removed. Empty mortices for upward braces survive in the principals, and the stump-ends of the former wall plate are also present on either side (Plate 5). The framing of the porch is consistent with the main structure.

Both sills retain mortices (greater in number to the north) for a raised floor of some description. The north wall retains a good quality mid-rail and the outer principal also displays a jowl. Five studs are present in both the lower and upper register, with three in the upper bisected by a downward primary brace. A decayed but good quality wall-plate survives. The south wall has a good mid-rail and jowled outer post, with the four lower pegged studs with three probable secondary insertions which may replace an earlier aperture. The outer post here is jowled as on the north and displays a II with a tag. Five upper studs are again part bisected by a downward brace. A good wall-plate survives.

5.2.13 The valley rafters of the porch roof are cogged over purlins and support a roof of identical form to the barn, with two collars, both properly pegged. Slight later modification is evident with softwood propping.

5.2.14 The barn door is framed by secondary inner jambs or posts, but these appear original and are properly pegged to the lintel. Both have a short mid-rail, double-pegged to the corner posts, while slender braces threaded through the jambs from the outer principals to the lintel triangulate this outer porch wall. This system appears to brace the principals to resist the outward thrust exerted by heavy doors and is an unusually sophisticated device in an otherwise conventional frame. The doors no longer remain although pintles survive, along with two locking bar sockets, one at head height and a second at high level. Above at the apex we see simple nailed-on studs, simply cogged over a collar.

5.2.15 The west wall opposing the porch has been modified extensively. Redundant mortices indicate the presence of an original mid-rail and seven studs in the wall-plate, together with mortices in the principal posts for downward primary-bracing as seen elsewhere in the barn. Two robust secondary posts now take their place similar to the porch door jambs, with mortices to house short mid-rails in the same manner. It is possible that these two posts are original, with mortices chiselled but never used, but the evidence does not support either theory. Both have been given additional support at the base with short chocks. Seven good rafters survive with the usual, more substantial intermediate rafters to support the collar.

Truss 2

5.2.16 This truss retains good but waney principals with gently swelling jowls, the west post decayed at lower level, and hence given extra support from a chock at the base. The tie-beam is straight but fairly waney and supported by two elegantly curved braces. Both east and west braces are, with their corresponding members on Truss 1, halved elements of single, original timbers. The struts widen at the head, as elsewhere, engaging the purlins which are scarfed at this point. The west principal post adjoins a scarf joint in the wall-plate. Slight racking of the barn has caused the west brace to disengage from the post. Assembly markings were noted on the north face and comprise a I to the west brace and adjoining post, with a I and tag on the base of the east brace. The tie-beam and raking struts show a I on the east and a II on the west.

Bay 3

5.2.17 The east wall of this and the neighbouring panel have recently been repaired, with replacement of the sill with a single length of oak spanning both bays 3 and 4. Seven original studs have been re-pegged, and remain housed in the original mid-rail. Seven corresponding studs, partially bisected with primary braces are present in the upper register. A good wall plate survives.

5.2.18 The western sill-beam is probably original, but augmented on the south with a secondary bolted-on timber. Here, eight original lower studs have been given secondary supports in softwood, while eight good original upper studs and wall-plate survive unmodified. The mid-rail is slightly cambered and forms a halved companion piece to the corresponding member in Bay 4. The roof is substantially original, having the slightly intermediate rafters supporting the collar, as we see elsewhere.

Truss 3

5.2.19 The principals follow the general form, though the west post is more waney, as is the tie-beam. Mortices remain in both tie-beam and posts for earlier curving braces but these have been removed and replaced with crudely fashioned solid oak elbow brackets, bolted and nailed in position. Modern additional support is given by nailed-on and bolted softwood members that triangulate the truss, suggesting a history of structural problems. As before, swelling struts support the purlins, though the east member is much decayed.

Bay 4

5.2.20 The east wall, as noted above has been repaired extensively. Seven original lower studs have been re-pegged to the sill-beam with three modern oak replacements. Six upper studs are original with a downward primary from the corner post. The central two studs and the base of the brace have been truncated for an inserted window, which is now redundant. This was of simple, six-light, timber-framed form, retaining no glass and now flushed over with external weatherboarding. The wall-plate is of good quality with a scarf joint adjoining Truss 3.

5.2.21 The west sill is much decayed although likely original, while the dwarf wall here is in poor condition. The mid-rail is in good condition, and evidently the companion piece to the mid-rail in Bay 3 as indicated above. The seven lower studs are fairly waney, and have been encased in cement to half height. The upper studs follow the standard form with a straight downward primary-brace from the south-west corner post. The wall-plate displays a face-halved and bladed scarf joint. The roof on both sides is all original and as at the north end preserves the former hip.

South gable wall

5.2.22 Much modification at this end has left a decayed original sill, corner posts and central prick post, but elsewhere, softwood has replaced earlier members and the whole arrangement has been bolstered with full-width diagonal softwood bracing, bolted to the underlying timber. The south-east corner post jowl has split and

disengaged. The lower registers retain four original studs although the lower sections are embedded in concrete and one stud survives only as a short pendant stump. The upper registers comprise four studs per panel all of modern softwood although apparently reusing earlier mortices. Redundant mortices in the corner posts indicate an earlier downward primary-bracing system as seen on the north. The tie-beam/wall-plate survives with nailed-on studs to the collar. Four original hip rafters survive, but modified as on the north.

5.3 Building 2 – Barn 2

Exterior

5.3.1 Building 2 is a five bay, timber-framed and weatherboarded barn orientated east – west with a porch set centrally on the east side. This structure is slightly smaller than Building 1, measuring 60 feet x 16 feet (18.10m x 4.75m). The frame sits on a high brick dwarf wall with a steeply pitched roof covered in corrugated metal sheeting. The brickwork is of probable late 19th / early 20th century date laid in Flemish bond, and partially rebuilt on the west side with buttressing noted in some places. The weatherboarding is entirely in softwood, and like its companion, entirely smothered with bitumen.

5.3.2 Central double loading doors on the south elevation give access to the barn (Plate 6). These are set at approximately 0.5m above ground level and have a wide gap at the base. They are boarded, ledged and braced in the conventional manner, but of 20th century date and flanked by small, high loading doors or hatches. These are of greater age, as they hang on pintles and preserve blacksmith-made strap hinges with shaped finials. The opposing porch similarly has a high loading door as ground floor access is not possible.

Interior – general description

5.3.3 The five bays are numbered from west to east in the description below, with the contemporary porch on the north side of Bay 3 (Plate 7). The floor is a disturbed mixture of earth and concrete, while at the west end of the barn and within the porch, the lower framing is obscured by corrugated sheet metal cladding. The oak frame displays a mixture of good quality squared timber for the principals with fairly waney wood elsewhere, particularly at roof level.

5.3.4 The framing system is fairly consistent throughout, though with a few inconsistencies. While most principal posts have slightly shaped jowls, several simply swell in the manner of Barn 1. In general the tie-beams are straight, with curved, slightly cranked braces springing from the principals. Above tie-beam level the roof form is of rafter couples with a collar clasping a side-purlin in each pitch. The construction is simple with no ridgeboard, nor is there any evidence for supporting struts from the tie-beams. As with Barn 1, we see a formerly half-hipped arrangement at both ends and within the porch, but latterly modified in the same manner.

5.3.5 The wall framing is systematic on three sides. In-line mid-rails are present except to the south, with studs and bracing in the upper register. This too demonstrates discrete differences; properly primary braced in some areas, but utilising a more archaic system of trenched over bracing at the ends. The south is constructed in a manner which suggests it was once open-fronted with curved braces and infill with continuous studwork. This is discussed below.

5.3.6 The timber scantlings vary considerably but average measurements can be extracted:

Principal post	8" x 8" (203mm x 203mm)
Mid-rail	8" x 4" (203mm x 102mm)
End wall mid-rails	9" x 5" (229mm x 127mm)
Common stud	5 ½" x 4" (140mm x 102mm)
Sill-beam	9" x 7" (229mm x 178mm)

5.3.7 Some modern softwood repair is apparent throughout, but as with Barn 1, the building has received very little help from metal strapping that we would expect to see in barns of a similar date and form.

Interior – detailed description and inventory

5.3.8 A few assembly marks are noted although these form no coherent sequence. They are noted below where they occur.

West gable wall

5.3.9 The lower timberwork is obscured, but seven studs can be discerned beneath a continuous mid-rail, each properly pegged and of varying size. Seven upper studs are pegged at the base and trenched over with a slightly cranked brace from the principal to the mid-rail. Several are clearly reused earlier timbers. The wall plate here has a continuous groove in the soffit, which, with an eccentric peg-hole above the jowled corner post also indicates reuse. At the upper level, nailed-on studs rise to the former hip collar, where two hip rafters remain.

Bay 1

5.3.10 The lower timbering on the north wall is partially obscured, although five studs below the mid-rail are visible, of which only the two inner studs are properly pegged. The upper register has six studs, but only the eastern example is pegged at both ends. This panel is primary-braced, although a redundant mortice survives on the first truss principal which may indicate a replaced timber. The wall-plate is of good quality. The north-west corner posts also retain redundant mortices although these do not appear to have any relationship with the existing configuration.

5.3.11 The south panel has no mid-rail but instead six full-height studs. These are primary-braced from the first east stud, itself reused. The south-west principal and the bay post (of Truss 1) retain redundant mortices for curved braces, in the manner preserved in Bay 2 and elsewhere on the south (see below). There are no

corresponding mortices in the wall-plate although this is crudely scarfed to its companion on the east and of smaller scantling so is probably a replacement.

5.3.12 The roof has six common rafters in this bay, mostly of very waney timber and apparently utilising saplings or branches, often retaining bark. This has been substantially replaced in softwood on the north side. The purlins have two nailed-on collars.

Truss 1

5.3.13 Truss 1 differs from elsewhere in having unjowled, straight principals, both of which exhibit signs of reuse. The north side retains a nailed-on curved brace while to the south the tie-beam retains a small notch for a notch-lapped brace and a very slight impression of a let-in joint in the principal post to house the corresponding base of the missing brace. The tie-beam is fairly waney but is finished with chamfers and run-out stops on the south. There is no evidence above tie-beam level for further support to the roof structure such as struts or upper posts. The principal rafters in this instance are no greater than the commons and a pegged collar traps the side purlins. The base of the north brace displays a chiselled VII with a tag on the west face.

Bay 2

5.3.14 The north sill beam and mid-rail are of good quality, with four studs in the lower register and four above, these pegged both top and bottom. A fifth inserted stud at the junction of the porch is not pegged and is perhaps an addition specifically to provide a base for external weatherboarding at this point. A straight downward brace from the principal is notched over the adjacent two studs then pegged to the mid-rail. The wall-plate has a continuous groove in the soffit and displays a crude scarf joint to the east.

5.3.15 The lower framing of the south wall is partly visible with a well-preserved sill. Five apparently full-height studs lie above, some morticed and others simply nailed and cogged over the wall-plate. The lower west area of the panel is primary-braced, although the studs are truncated above this by the insertion of a loading door. The door itself is of rudimentary form, boarded with three ledges and three surviving hasps. A robust curved brace springs from the east bay post and is morticed and pegged to both post and wall-plate, while empty mortices remain for a corresponding missing brace on the west. The wall-plate is a good squared timber.

5.3.16 The roof comprises five rafters in each pitch, all fairly waney with a central half-bay rafter-couple housing a collar, which traps a side purlin. Other small additions include supporting chocks and nailed-on pieces.

Truss 2

5.3.17 This truss comprises principals in good condition with slightly shaped jowls rising to a straight tie-beam with curved, slightly cranked braces on both sides. There is again no visible sign of original upper struts.

Bay 3 and the Porch

5.3.18 The porch appears contemporary with the main structure. In the same manner as Barn 1, the wall plate across the porch bay has been truncated, and we see the ends of sawn-off braces in the flanking principals. In this instance, any loss of stability has later been made good with an inserted tension rod through the flanking wall-plate.

5.3.19 Within the porch the west wall has a mid-rail with four lower studs, partly obscured at the base, although all properly pegged. The upper register has four studs, pegged top and bottom. The east wall is of similar construction with four lower pegged studs although here two additional timbers have been cogged over and nailed to the mid-rail. Four waney upper studs are original.

5.3.20 The entrance gable of the porch is partly obscured at lower level although the sill appears to survive, as do the corner posts, which display evidence for reuse. There is no mid-rail but six full-height waney studs, two of which frame a high loading door, the outer members being supporting by downward primary-bracing from the corner posts. The door is of modern materials and of no interest. The tie-beam / wall-plate retains larger mortices than necessary for the existing studs with double-pegging in several, suggesting all studs to this upper area are replaced. This loading door arrangement has clearly been in place for a considerable time as weathering of the surrounding timber is apparent.

5.3.21 Above the north wall plate two further studs act as struts to engage the purlins, rather than the original collar, which sits above. This suggests that the purlins have been repositioned. The roof here was formerly half-hipped (Plate 8). There are six rafters per pitch with modern replacement purlins set lower at the north gable end and so not housed within the collar.

5.3.22 The south wall opposing the porch frames a large doorway set at approximately 0.5m from ground level with a timber sill-beam. Secondary posts form door jambs, all properly pegged into the wall-plate, though empty mortices in the flanking principal posts and soffit of the wall-plate indicate an earlier, braced arrangement seen in the flanking bays. These missing braces were clearly once present as a single peg remains *in situ*. The wall-plate displays an edge-halved and bladed scarf joint with a single peg in each blade. The existing door jambs retain locking bar mortices along with trenches for door ledges and threshing leap sockets. The doors are as described above, 20th century.

5.3.23 The south pitch of the roof has seven common roof rafters, mostly replaced. There is a nailed-on collar and modern timber supports at the junction with the porch roof.

Truss 3

5.3.24 The south post has a gently swelling jowl, although its companion to the north is shaped. Two good curving braces to the tie-beam survive, both double-pegged. As before no sign of original upper strutting is visible although modern inserted raking

struts now support the collar above. The collar is cambered and notched to the principal rafters, clasping the purlins. The tie-beam retains some bark. Several eccentric assembly marks are visible on the west face. The base of the north brace displays a V, as does the principal post, and the head of this brace has a I as does the soffit of the tie-beam. The south brace has a I at the base and on the principal post and a II is visible on the soffit of the tie-beam only.

Bay 4

5.3.25 The dwarf wall is most visible at this end, where the lower modern cladding is not present, and we see 19th century red brick, laid in English bond with lime jointing. The north panel retains an original, but decayed sill-beam. The framing system continues as before with a mid-rail and four lower studs, now with subsidiary inserts and supports in poor quality softwood. Four original upper studs also display additional support. The whole panel is triangulated with a modern full-height nailed-on brace of softwood. The wall-plate retains a continuous groove in the soffit, along with a scarf joint at the east end (Plate 9). Support has been also added in the form of a crude iron strap attached to join the principal post with the porch and wall-plate.

5.3.26 The south panel preserves its sill-beam along with five tall original studs, three of which are trenched over the back of a curved brace pegged from the tie-beam to principal post. The insertion of an upper loading door of softwood corresponding to the west has disturbed the east side of the panel which now displays a complex sequence. Redundant mortices indicate an earlier brace, perhaps removed with the insertion of the doorway. However, part of this area also appears blocked with modern softwood timber, perhaps replacing a second earlier aperture, which itself appears to have truncated a large downward brace of which a stump survives at the base. There are six good rafters per pitch all of good quality timber and original apart from a single example on the north side.

Truss 4

5.3.27 Both principal posts retain shaped jowls with braces to the tie-beam, although the south brace has disengaged from the post. As with the other trusses there is no evidence of further support such as struts over the tie-beam, although the original collar remains. Assembly markings include, on the west face, a V on the north principal post and a W at the base of the brace at this end. A IIII is visible on the soffit of the tie-beam. On the south side there is an X at the base of the brace and adjoining post and a III on the soffit of the tie-beam.

Bay 5

5.3.28 The north wall retains its original sill. Three original studs survive in the lower area, pegged both top and bottom, a fourth replaced with a slender stud of oak and other secondary intermediates of poor quality timber. Four original upper studs are present, again with secondary insertions. The studs on the east side of the panel retain redundant trenches, with mortices in the principal and mid-rail to indicate the presence of a former downward brace. The wall-plate is of good quality. Like its

companion to the west, further support has been given with a modern full-height softwood brace nailed diagonally across the panel.

5.3.29 The south wall sill-beam is continuous from the adjoining bay, with six studs pegged both top and bottom. The western studs are bisected by a large downward primary brace with a modern secondary timber nailed over. The east studs are trenched over the back of robust slightly curved brace from the principal post to the wall-plate. Empty mortices remain for a corresponding brace on the west side and hence must predate the large primary-brace, as in the adjoining bay panel (Bay 4). The studs here retain fragments of a single vertical lath with a lime-plaster infill. The wall-plate is waney with remaining bark.

5.3.30 There are five original rafters per pitch with an intermediate nailed-on collar. Redundant hip rafters lie above collar level at the east end.

East gable wall

5.3.31 The sill-beam and a large continuous mid-rail survive. Six original studs in the lower area are pegged top and bottom, with a few secondary inserts. The corner posts have swelling jowls, that to the south having a slightly shaped profile, though this is not emphatic. Above the mid-rail two original studs flank a central post with downward cranked braces trenched over the studs, both properly pegged. Three secondary studs appear to have been added at a later date. The wall-plate / tie-beam retains a continuous soffit groove as seen in a number of other timbers, noted above. The upper studs are nailed to a collar set within the gable, and these retain partial infill of lime plaster, adhering to a single vertical lath, which is nailed directly to the external weatherboarding. There is also evidence below the tie-beam of the same vertical lath and plaster infill system.

5.4 Building 3

Exterior

5.4.1 This building comprises a former milking parlour or dairy adjoining the north gable end of Building 1, although only abutting the corner of Building 2 at its north-west corner. It is a single-storey structure, all rendered below eaves level with a weatherboarded north gable end and corrugated sheet roof.

5.4.2 The north elevation is rendered at low level with weatherboarding to the gable, where straight joints in the boarding may indicate a former aperture.

5.4.3 The east elevation has an off-centre modern stable door flanked by shallow five-light metal-framed windows. The west elevation has an off-centre modern stable door, as on the east side although not aligned with its companion. Two high-set windows are now boarded over to the exterior.

Interior

5.4.4 The floor is partially covered with brick paviors and cement infill. The walls are built-up on three sides with cement blockwork although this was formerly timber-framed as notches and pegs survive on the wall plates for an earlier structure. The doors, on east and west, appear 20th century, both ledged and braced to the rear with V-braced upper sections. The east windows are of reused Crittall type steel lancets reset on their sides, so that original stay bars now hang uselessly, while the windows on the west are eight-paned bottom-hung casements (now boarded to the exterior as noted above) (Plate 10).

5.4.5 The south wall abutting Building 1 preserves earlier weatherboarding. Render covers the lower boards, against which a feeding trough of modern brick has been constructed. A well-made wooden manger lies over, of diamond-section softwood sticks, probably of 20th century date.

5.4.6 On the three remaining walls only the original oak wall-plates survive. The north gable comprise a series of nailed-on studs above wall-plate level with weatherboarding to the rear and a central window of steel-framed domestic casement form, which corresponds to the aperture seen from the exterior.

5.4.7 The roof is supported by two tie-beams of fairly waney construction with nailed-on raking struts, bird-mouthed to a single purlin in each pitch. Collars are notched and nailed into the rafters above each tie-beam and at the ends of the building, clasping a purlin of fairly square section. The rafters are of varying size and appear to comprise earlier widely spaced originals with secondary intermediates and more slender members at a later date. All rafters rise to a ridgeboard. This roof is apparently a mixture of reused oak rafters from a building of contemporary date to the barns which alternate with much more slender and modern oak members.

5.5 Building 4

Exterior

5.5.1 Building 4 is a single-storey timber-framed structure forming part of the north farm yard range adjoining Building 2 to the east and Building 5 to the west. It comprises a single bay weatherboarded to the exterior with a corrugated sheet roof. A high brick dwarf wall laid in Flemish bond remains on the south side. A stable door on the south is in poor condition, 20th century in date but apparently reusing an earlier 19th century latch.

Interior

5.5.2 The interior has an earthen floor, while the dwarf wall differs in height: that to the north has been made up with cement now partly encasing the timberwork above. The east wall is weatherboarded to the apex comprising part of the end wall of Building 2 where we see a mixture of oak and possibly elm along with handmade nails. The sill-beam of the barn is exposed.

5.5.3 The north wall is primary-braced with downward braces, that on the east from the wall-plate and that on the west from the principal post. There is a central stud (probably reused) and four flanking studs, which all appear pegged to the wall-plate. One stud has been truncated for the insertion of a small fixed light. The wall-plate is robust and probably reused as it retains a large redundant mortice. The external weatherboarding appears to be a mixture of oak and modern softwood replacements. The south wall has a raised dwarf wall with a sill-beam over which lie six inserted studs.

5.5.4 The lower area of the west wall is obscured by softwood weatherboarding, but above this a central post with downward primary-bracing is visible (Plate 11). Three common studs lie on either side, some reused. The wall-plate over is waney, as are the corner posts which here appear reused. Studs lie above the wall-plate rising to the collar and then to the apex. On this side in both corners lie rudimentary diagonal timber feeding troughs with a timber tether.

5.5.5 The roof has nine common rafters in each pitch of robust form, clearly once underdrawn, as lath marks and lime plaster impressions remain. The west collar is notched and pegged into the rafters and clasps a single purlin in each pitch. Both purlins are reused and there is no ridgeboard.

5.6 Building 5

Exterior

5.6.1 This structure comprises a two-bay range adjoining Building 4, although with a lower pitched roof, softwood weatherboarding and corrugated sheet roofing as seen elsewhere. The south wall has a modern boarded stable door which is ledged and braced to the rear.

Interior

5.6.2 The interior is floored with a mixture of 19th century rough paviers and cement. Timber-framing survives all round, although the north wall is obscured below wall-plate level with composite chip-board sheeting. The east wall comprises the external weatherboarding of Building 4 of oak and elm with the 19th century dwarf wall below. The west wall by contrast has been modernised with cement render and expanded steel mesh. The south wall is of simple form comprising a 20th century dwarf wall of a single soldier course of Fletton bricks over a cement base. A thin sill-beam with softwood studs lie over, some given secondary support. The only timber of apparent age is a decayed corner post on the east and a principal post at the bay division which appears reused. The oak wall-plate is possibly a replacement.

5.6.3 The central tie-beam is of very waney timber with a single curved nailed-on brace on the north side and a notched-lap mortice for a corresponding brace on the south. There are no struts above but a waney collar lies offset, clasping a side-purlin (Plate 12). Two further tie-beams have been added for structural support, both of poor quality and cogged over the wall-plates at the east and west ends. Six common

rafters (per pitch) lie in each bay all rising to a ridgeboard at the apex, with collars at each end to carry the purlins. Most of the timber is extremely waney, mostly retaining bark.

5.7 Building 6

5.7.1 This building comprises most of the western range, excluding only the north part end, and has been divided into Units A, B and C, all comprising distinct elements, apparently former stables or similar.

Unit 6A

5.7.2 Unit A is weatherboarded on the east with brick on the west. A particularly robust door of massive construction, ledged and braced to the rear is situated in the east wall. This may have been designed to restrain a bull (Plate 13).

5.7.3 The interior has a mixed floor of earth, brick paviors and cement. The north wall is rendered to enclose the converted unit beyond. The south wall retains a high dwarf wall of Fletton brick, with timber nogging above and vertical softwood boarding visible to the rear. Above tie-beam level rough laths and thick coarse lime plaster containing quantities of straw has the appearance of some age. The east wall retains its timber-framed construction, comprising fairly thin studs beneath a surviving waney wall-plate, although to the north this is mostly encased in cement. Two tie-beams survive, one providing a bay division, and the second lying against the north wall where it appears to have been repositioned and is no longer properly cogged over the wall-plates. Both tie-beams are waney and are no more than hedgerow timbers. Cranked elbow brackets to the tie-beams lie on the east. There is a feeding trough in one corner.

5.7.4 The roof is rudimentary, comprising a few widely-spaced rafters with modern additions. However, this roof was originally more substantial as a well-made notched and nailed-on collar traps a side-purlin that continues through the rendered south wall into the Unit 6B.

Unit 6B

5.7.5 Unit B comprises two bays, weatherboarded on the east side, although the west wall is now dismantled and undergoing repair. A stable door and adjoining hatch on the east appear 20th century in date.

5.7.6 The floor to the interior is of 20th century latticed Staffordshire blue paviors. The walls are lined throughout, including the roof, with horizontal boarding of late 19th or early 20th century date. The only feature visible is a tie-beam of fairly modern appearance.

Unit 6C

5.7.7 This unit is of two bays and forms the southern extent of the west range and as with Unit B is now partly demolished on the west and south. The east façade is weatherboarded and contains a boarded door.

5.7.8 The floor of the interior is earthen where visible, although much obscured with the use of the unit for storage. The east wall comprises 19th century studwork with some reuse of older timbers. A good quality wall-plate survives. The north wall is weatherboarded in softwood with lime render over laths in the gable above. The south wall retains some timber-framing, mostly modern although with a few older waney elements such as the tie-beam and collar. The bay division tie-beam is of slender form, with a well-made collar above, now given extra support to compensate for the removed west wall in the form of temporary steel propping. The roof itself has been remodelled but retains one or two earlier waney rafters. All the reworking visible throughout is late 19th century in date.

5.8 Building 7

5.8.1 Building 7 comprises an open-fronted cart-shed of four-bays, all of even, systematic 20th century softwood construction and lying close to Building 1. The north side is open-fronted, while the remaining three walls are weatherboarded with softwood. An interesting oversight is a lack of stylobates to the principal posts, which have consequently rotted at their base. Elsewhere, the framing is of good quality.

5.8.2 Good robust posts on the north side display short braces trenched over the wall-plate, which displays simple scarf joints. The enclosed walls rest on a brick dwarf wall of approximately eight courses laid in Flemish bond. A good squared sill-beam is complemented by larger principals at the bay divisions framing a typical primary-braced system with slender studs (Plate 14).

5.8.3 The roof is very shallow-pitched with wide, thin-section tie-beams, strapped and stapled to the walls. Short raking struts rise to principal rafters, which have wide yoke piece supporting a deep ridgeboard. There are no common rafters, instead three purlins per pitch are visible, one of which is adjacent to the ridgeboard, all cogged over the principal rafters.

5.9 Building 8

5.9.1 Building 8 is a six-bay, modern Dutch barn. It is of typical pre-fabricated construction with I-section uprights, wall-plates and rafter couples, all strengthened by L-section brackets. Three timber purlins lie in each pitch, supporting a corrugated chrysotile and cement asbestos roof bolted in large sheets (Plate 15).

6 DISCUSSION

Building 1

6.1 Barn 1 is surprisingly well preserved, given the general quality of the timber, but this has been utilised with great efficiency in a systematic, regular construction. Being located so close to the forest at Hatfield, it might be assumed that timber was an abundant resource, but the farm was clearly distinct, and made do with more limited supplies. It is unusual to see, in the waney profiles of the timber, so many elements which clearly derive from single trees or timber baulks, but the careful selection of appropriate pieces for braces and other relevant members is, in this way made emphatic.

6.2 Notable features include the sweeping braces and the swelling raking struts which clasp the purlin and principal rafters with great efficiency. The use of primary bracing in at the corners, where it was most needed is also instructive in showing that the carpenter understood the various forces which would be exerted on the barn well. In terms of date, the primary-braced system is most common from the 18th century, but is not unknown at an earlier period, and here has clearly not yet become standardised throughout the frame. The lack of any iron supports also indicates an earlier date, but other elements, such as the jowling of the principals and clasped roof construction exist across a broad date-range and are less helpful. A mid to late 17th century date may be suggested on the basis of the scarfing, and the fact that the barn was weatherboarded from the outset, patches of which survive on the north gable. This accords with the list description. Both barns have steeply pitched roofs and may have been thatched originally.

6.3 What we may add to our knowledge is that the barn retains almost all its original timberwork intact, with the exception of occasional modification noted above. The most recent use of the barn for livestock is reflected in the use of cement infill at lower level in several bays, which has accelerated decay and necessitated the repairs currently in progress.

Building 2

6.4 This barn shows more complexity in its construction, but in a broad sense it bears many similarities to Barn 1. The general framing is similar, but some development is present in the slight shaping of the jowls, the mixture of true primary-bracing with an earlier form and an absence of struts or posts above tie-beam level. With the seemingly older curved bracing form on the south side, these might even suggest a slightly earlier date to Barn 1, though in general, there appears to be broad contemporaneity; the building has been weatherboarded from the outset and the scarfs also suggest a 17th century date.

6.5 The quality of timber is less consistent than in Barn 1 but like its companion utilises a mixture of good quality squared timbers for the principal elements together with the poorer quality, waney timbers for the common studs and rafters, with some timbers representing no more than props and saplings. Even with this mixture, no metalwork supports were needed until the recent past, which stands as a testimony to the robust nature of the frame.

6.6 The south bay panels represent a major difference which is difficult to explain. They are clearly contemporary with the rest of the frame, but were built with a system of short, curved upward braces in the manner of an open-fronted arcade. The current height of the frame above ground level makes it impossible for a useful purpose however. Several long studs which now frame the bays are properly morticed and pegged into the wall-plates, suggesting perhaps that the building was framed with the initial intention of being open-fronted, but then altered during construction. This does not explain why mid-rails were not employed as elsewhere, and is not convincing. The barn may have been reconstructed and altered at a later date, but similarly, we might expect to see strapping and other additions if this had occurred at any time after the early 18th century. The many differences and inconsistencies may reflect other factors such as the practices of a particular carpenter, or unknown elements which hinder further useful speculation. There remain several interesting points to note. The occasional use of thin plaster infill between the studs over vertical laths was once much more widespread than is now apparent, yet we do not see it employed in Barn 1. This may have been a wind-proofing measure, but was clearly associated with a weatherboarded exterior. The employment of reused timbers is also a feature of note. Several wall plates preserve soffit-grooves, presumably for an earlier nogging system such as wattle and daub, which can be paralleled on late medieval barns in Essex and Hertfordshire.

Buildings 3 – 6

6.7 These four buildings are all fairly rudimentary in construction, with much evidence for the reuse of earlier timber. The reused elements within all these ranges likely date from buildings contemporary with the 17th century barns, and perhaps fragments of buildings of the earlier date survive, although complete and repeated remodelling has obscured definitive evidence for this. This alteration occurred in the early 19th century when the new buildings formed the U-shaped range of buildings seen on the tithe map. It is likely that the west end of the north range and the part of the west return, which are not subject to assessment, would also yield similar conclusions if inspected. All of these later buildings also display evidence of later reworking and modernisation, in Building 5 and particularly Building 6, where later 19th century and 20th century features can be seen.

Buildings 7 and 8

6.8 Building 7 represents a structure of regular and systematic construction, perhaps dating to the first quarter of the 20th century when timber was still utilised as a primary building material in agricultural buildings of this nature, but before the development of modular prefabrication, blockwork and cladding in the post-war period. This accords with the map evidence. The Dutch barn (Building 8) is typical of storage barns constructed from the 1950s onwards. Historic maps suggest that it succeeds an earlier building on the same footprint.

7 OVERALL CONCLUSIONS

7.1 Along with nearby farms and tenorial holdings, the construction of The Woods is closely associated with the shrinkage and decline of Hatfield Forest in the period after 1650, with the break-down of the forest as a legal entity accorded official protection. At this time a number of new holdings grew up on its periphery. Overall, it seems that both barns belong to this period. Improvements in farming technology, specifically grassland husbandry, along with demand at market for grain and livestock in areas such as London, led to an increase in large farmsteads (Lake 1989) reflected in four good comparative examples of this date at The Grange in nearby Takeley. In terms of construction they represent the first steps towards a more scientific system of construction which would become universal in the 18th and 19th century. Building 7, though of little historic interest, reflects the culmination of this process of standardisation and efficiency, before it was superseded after the First World War by new materials and methods of building. The reuse of much timber in some of the later structures suggests that the farm had other buildings which were later adapted or incorporated into an expanded agricultural complex in the 19th century. The farm has clearly always been of modest means, though the unsurveyed milking parlour on the south side of the yard is an ostentatious statement of later prosperity. The owner of the barn was nonetheless thrifty, maintaining good buildings instead of replacing them wholesale, and instead repairing with materials such as sheet metal, which now seem incongruous, but which must have seemed cheaper, maintenance-free and efficient at the time.

ACKNOWLEDGEMENTS

Archaeological Solutions would like to thank Mr Robson of The Woods for funding the project, and his agents, PHD Associates for commissioning the building recording and for their assistance (in particular Ms. Andrea Durak).

Thanks are also due to the staff at Essex Record Office (ERO) in Chelmsford, and the staff at the Essex Historic Environment Record (EHER), in particular Ms. Alison Bennett.

AS would also like to thank Mr. Adam Garwood, of the Essex County Council Historic Environment Branch (ECC HEM) for his advice and input.

DEPOSITION OF THE ARCHIVE

An archive of all materials produced by the report has been created and listed according to English Heritage (MAP2) and RCHME standards. Copies of the final report will be lodged with the HEM, EHER, the Essex Record Office and National Monuments Record (NMR), Swindon. The archive will be lodged with Saffron Walden Museum.

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<http://www.imagesofengland.org.uk>

Unlocking Essex's Past website;

<http://unlockingessex.essexcc.gov.uk>

APPENDIX 1
ARCHAEOLOGICAL DATABASE (EHER)

EHER	NGR TL	Description
Romano-British (AD 43 - 410)		
4523	537190	Scatter of Roman pottery found at the south end of Collin's Coppice
Medieval (AD 1150 - 1500)		
17335	526 185	Wall Wood, Great Hallingbury Although never part of Hatfield Forest, Wall Wood consisted of a existed as a defined woodland at least as far back as the 13 th century, was a medieval hunting forest and has a massive, almost certainly medieval earthworks separating it from Hatfield Forest and Woodside Green
38111	539186	The Forest comprises a Grade II listed 15 th century and earlier timber framed house
38116	539187	Forest Cottage comprises a Grade II* listed early 14 th century timber framed house
4519	535190	A 13 th century ring was found in Collin's Coppice
37934	544191	Little Barrington Hall comprises a Grade II listed 15 th and mid 16 th century timber framed house
4291	545191	The site of Barrington Hall is represented by an incomplete and irregular medieval moat located close to a stream
Post-medieval (AD 1500 – 1750)		
38113	536182	Barn 40m to the north-east of The Woods comprises a Grade II listed late 17 th century timber framed barn
38017	531182	No. 45 and 46 The Forrest comprises a Grade II listed late 16 th - early 17 th and late 18 th century timber framed house with brick front, now two dwellings
38012	531182	No. 42 to 44 Forrest Road comprises a Grade II listed 17 th century or earlier timber framed house
38114	533179	Forest Farmhouse comprises a Grade II listed mid/late 16 th century timber framed house, part encased in red brick
38115	533179	Farm buildings 30m to the south-east of Forest Farmhouse comprise Grade II listed 17 th – 18 th and 19 th century farm buildings
38112	536183	Woods Cottage comprises a Grade II listed 17 th century or earlier pair of timber framed houses
Modern (AD 1900 onwards)		
40269	532179	Earth 20 th century cast iron signpost at Wood Row manufactured by Stanton Ironworks, Ilkeston Derbyshire
Undated		
19537	526189	Cropmarks of field boundaries and two possible enclosures at Lodge Farm
19550	527177	Cropmarks of field boundaries at Hatfield Broad Oak some of which appear on 1 st edition Ordnance Survey maps and seen on aerial photographs
19553	538174	Cropmarks of field boundaries at Child's Common, all of which appear on 1 st edition Ordnance Survey maps and aerial photographs
4292	545191	The site of Barrington Hall is represented by uneven ground thought to indicate a building site or possible moated site

APPENDIX 2 CARTOGRAPHIC EVIDENCE

Date	Map	Scale	Fig. No.	Location
1777	Chapman & Andre's map of Essex	-	4	ERO
1858	Hatfield Broad Oak tithe map	-	5	ERO
1897	Essex sheet XXXII.5; 1 st edition Ordnance Survey map	25":1 mile	6	ERO
1921	Essex sheet XXXII.15; 3 rd edition Ordnance Survey map	25":1 mile	7	ERO
1960	Essex sheet TL 51 NW; Ordnance Survey map	6":1 mile	8	ERO
1999	Ordnance Survey Explorer sheet 193; site location	1:50,000	1, 3	AS
2009	Detailed site location plan	1:1,250	2	Client

Documents consulted at the ERO;

Map of Barrington Hall estate in Hatfield Broad Oak, 1766	Ref. D/DQ14/38
Hatfield Forest enclosure map, 1857	Ref. Q/RDc48
Hatfield Broad Oak tithe map, 1858	Ref. D/CT166

APPENDIX 3
HISTORIC BUILDING LISTING

IoE Number: 353687

Location: BARN 40 METRES NORTH EAST OF THE WOODS, HATFIELD BROAD OAK, UTTLESFORD, ESSEX

Date listed: 08 August 1985

Date of last amendment: 08 August 1985

Grade II

TL 51 NWHATFIELD BROAD OAKWOOD ROW3/131 Barn 40 metres north east of The Woods

TL 51 NW HATFIELD BROAD OAK WOOD ROW 3/131 Barn 40 metres north east of The Woods - II Barn. Late C17. Timber framed and black weatherboarded with gabled corrugated iron roof. Of 4 bays with off-centre gabled midstrey on east side. Jowled storey posts, some reused, arch braces to tie beams and halved and bladed scarf joints. Roof is side purlin on broad shaped 'V' struts.

**APPENDIX 4
ARCHAEOLOGICAL SOLUTIONS
HBR ARCHIVE FORM**

Site Details							
Site Name: Barns at Woods Farm, Wood Row, Hatfield Broad Oak, Essex					NGR: TL 5365 1824		
County: Essex				Museum Collecting Area: Saffron Walden			
Site Code: HBWF09				Project Number: 3290			
Date of Work: February and March 2009				Related Work:			
Brief/s				Specification/s			
Date	Present			Date	Present		
6th February 2009	Yes			9 th February 2009	Yes		
Site Records (Description)							
Notes (31 sheets A4)							
Site Drawings (Give Details of Formats & Size)							
Drawn Plans & Sections: 4 sheets A3 drawing film							
Architect's Drawings: 4 A1 Sheets 1 A2 sheet 2 A1 and 10 A3 (annotated)							
Digital Drawings							
Printouts of Drawings			Printouts of Data			Digital Data	
In report						Digital photographs and drawings on CD	
Reports							
Report No		Report Type				Present	
2875		Historic building recording				Yes	
Site Photographs							
Black & White Contact Prints					Colour Slides		
Film No	Film Type	Negs	Negs Present	Contacts Present	Film No	Negs	Present
1	120mm	3-15	Yes	Yes	1	1-36	Yes
2	120mm	1-15	Yes	Yes	2	1-12	Yes
3	120mm	1-15	Yes	Yes			
4	120mm	1-15	Yes	Yes			
5	120mm	1-15	Yes	Yes			
6	120mm	1-12	Yes	Yes			
1	35mm	33-36	Yes	Yes			
2	35mm	1-18	Yes	Yes			
Photographic Location Plans Present? (Give Details)							
In report and separate printout in archive folder							
Digital Photographs (Give Details):							
Digital photography duplicates black and white photography. Index and selected plates printed in report. Separate printout of index included in archive folder and digitally on CD							

COLOUR PLATES



Plate 1 East elevation of Buildings 1 and 3, taken from the north-east (11)



Plate 2 Interior of Building 1, taken from the south (25)



Plate 3 View of Truss 1 (Building 1), taken from the south-east (28)



Plate 4 Face-halved and bladed scarf joint in west wall-plate of Building 1 (Bay 1), taken from the north-east (88)



Plate 5 Truncated wall-plate at the head of Truss 1, with mortice (indicated) in the principal post for a former upward brace, taken from the south-west (87)



Plate 6 North range (east end) including Building 2 (timber-framed barn), taken from the south (5)



Plate 7 Interior of Building 2, taken from the west (49)



Plate 8 View of the roof structure of the porch (Building 2), taken from the south-west (56)



Plate 9 Face-halved and bladed scarf joint in the north wall-plate of Building 2 (Bay 4), taken from the south (96)



Plate 10 Interior of Building 3, taken from the north-east (46)



Plate 11 Interior of Building 4 showing west wall, taken from the east (72)



Plate 12 View of roof structure of Building 5, taken from the south-west (75)



Plate 13 Detail of robust ledged and braced door on east side of Building 6 (Unit A), taken from the south-east (102)



Plate 14 Interior of Building 7, taken from the west (82)



Plate 15 View of the roof structure of Building 8, taken from the west (84)

PHOTOGRAPHIC INDEX



1
West and north ranges with Building 1 of the east range on the right, taken from the south



2
West range (Building 6) with residential unit on the right, taken from the east



3
North range including residential unit on the left and Building 5 and 4 on the right, taken from the south



4
North range with Buildings 5, 4 and 2 and east range with Buildings 3 and 1, taken from the south-west



5
North range (east end) including Buildings 5, 4 and 2, taken from the south



6
East range including Buildings 3 and 1, taken from the west



7

South elevation of Building 1, taken from the south



8

East elevation of Building 1 (south end), taken from the east



9

East elevation of Building 1, taken from the south-east



10

East elevation of Building 1, taken from the east



11

East elevation of Buildings 1 and 3, taken from the north-east



12

East elevation of Building 3, taken from the east



13

North elevation of Building 3 with Building 1 to the rear, taken from the north



14

North elevation of Building 3 and east elevation of Building 2, taken from the east



15

North elevation of Building 2 including the porch, taken from the north-east



16

North elevation of Building 2 (obscured by trees) and Building 4, taken from the north-west



17

North elevation of Building 5 with the range not subject to assessment beyond, taken from the north-east



18

West elevation of Building 6, taken from the north



19

South elevation of Building 6, taken from the south



20

North and west elevations of Building 7, taken from the north-west



21

South and east elevation of Building 7, taken from the south-east



22

Building 8, taken from the south-west



23

Building 8, taken from the north-east



24

North elevation of Building 7, taken from the north



25

Interior of Building 1, taken from the south



26

West sides of Bays 1-3 (Building 1), taken from the south-east



27

East sides of Bays 1-3 (Building 1), taken from the south-west



28

View of Truss 1 (Building 1), taken from the south-east



29

View of porch and east side of Bay 3 (Building 1), taken from the north-west



30

South end of Building 1, taken from the north



31

Interior of Building 1, taken from the north



32

West sides of Bays 2-4 (Building 1), taken from the north-east



33

View of the roof structure of the porch (Building 1), taken from the north-west



34

South wall of the porch (Building 1), taken from the north



35

East wall of Bay 3 (Building 1), taken from the west



36

East wall of Bay 4 (Building 1), taken from the west



37

South wall of Building 1, taken from the north



38

View of the south gable with former half-hip rafters surviving, taken from the north-east



39

West wall of Bay 4 (Building 1), taken from the east



40

West wall of Bay 3 (Building 1), taken from the east



41

West wall of Bay 2 (Building 1), taken from the east



42

West wall of Bay 1 (Building 1), taken from the east



43
North wall of Building 1, taken from the south



44
East wall of Bay 1 (Building 1), taken from the west



45
North wall of the porch (Building 1), taken from the south



46
Interior of Building 3, taken from the north-east



47
East wall of Building 3, taken from the west



48
View of roof structure of Building 3, taken from the south-west



49

Interior of Building 2, taken from the west



50

North side of Bays 3-5 (Building 2), taken from the south-west



51

South side of Bays 2-5 (Building 2), taken from the north-west



52

Interior of Building 2, taken from the east



53

Interior of Building 2 including the porch, taken from the south-east



54

South side of Bays 1-3 (Building 2), taken from the north-east



55

View of the roof structure of Building 2 (Truss 2), taken from the north-east



56

View of the roof structure of the porch (Building 2), taken from the south-west



57

South wall of Bay 3 (Building 2), taken from the north



58

South wall of Bay 2 (Building 2), taken from the north



59

South wall of Bay 1 (Building 2), taken from the north



60

West wall of Building 2, taken from the east



61
North wall of Bay 1 (Building 2), taken from the south



62
North wall of Bay 2 (Building 2), taken from the south



63
West wall of the porch (Building 2), taken from the east



64
North wall of the porch (Building 2), taken from the south



65
East wall of the porch (Building 2), taken from the west



66
North wall of Bay 4 (Building 2), taken from the south



67
North wall of Bay 5 (Building 2), taken from the south



68
East wall of Building 2, taken from the west



69
East gable of Building 2, taken from the west



70
South wall of Bay 5 (Building 2), taken from the north



71
South wall of Bay 4 (Building 2), taken from the north



72
Interior of Building 4, taken from the east



73

South wall of Building 4, taken from the north



74

South wall of Building 5, taken from the north



75

View of roof structure of Building 5, taken from the south-west



76

Interior of Unit A (Building 6), taken from the south-east



77

Interior of Unit A (Building 6), taken from the north-west



78

Interior of Unit B (Building 6), taken from the north-west



79

Interior of Unit B (Building 6), taken from the south-east



80

Interior of Unit C (Building 6), taken from the south



81

Roof structure of Unit C (Building 6), taken from the south-west



82

Interior of Building 7, taken from the west



83

Interior of Building 7, taken from the east



84

View of the roof structure of Building 8, taken from the west



85
Redundant mortices in the north sill-beam of the porch (Building 1) for a raised floor, taken from the south-east



86
Detail view of brace threaded through the north doorjamb of the porch (Building 1), taken from the south-west



87
Truncated wall-plate at the head of Truss 1, and assembly mark (emphasised and indicated) on brace and post, taken from the south-west



88
Face-halved and bladed scarf joint in west wall-plate of Building 1 (Bay 1), taken from the north-east



89
Head of west side of Truss 2 (Building 1) with face-halved and bladed scarf joint in the wall-plate, taken from the south-east



90
Face-halved and bladed scarf joint in west wall-plate of Building 1 (Bay 4), taken from the north-east



91
Detail at head of west side of Truss 2 (Building 1) and face-halved and bladed scarf joint in wall-plate (Bay 3), taken from the south-west



92
Simple scarf joint in the east wall-plate of Building 3, taken from the west



93
Detail of high-set loading door on south elevation of Building 2 (east end), taken from the south



94
Detail of high-set loading door on south elevation of Building 2 (west end), taken from the south



95
Detail of redundant soffit groove in the east wall-plate (Building 2), taken from the south-west



96
Face-halved and bladed scarf joint in the north wall-plate of Building 2 (Bay 4), taken from the south



97
Carpentry joint on the north wall-plate of Building 2 (Bay 1), taken from the south



98
Edge-halved and bladed scarf joint in the south wall-plate of Building 2 (Bay 3), taken from the north



99
Head of the south side of Truss 2 (Building 2), taken from the north-west



100
Detail of threshing leap socket on west side of doorway (Building 2), taken from the north-east



101
Detail of construction technique in the roof of Building 5, taken from the north-west



102
Detail of massive ledged and braced door on east side of Building 6 (Unit A), taken from the south-east



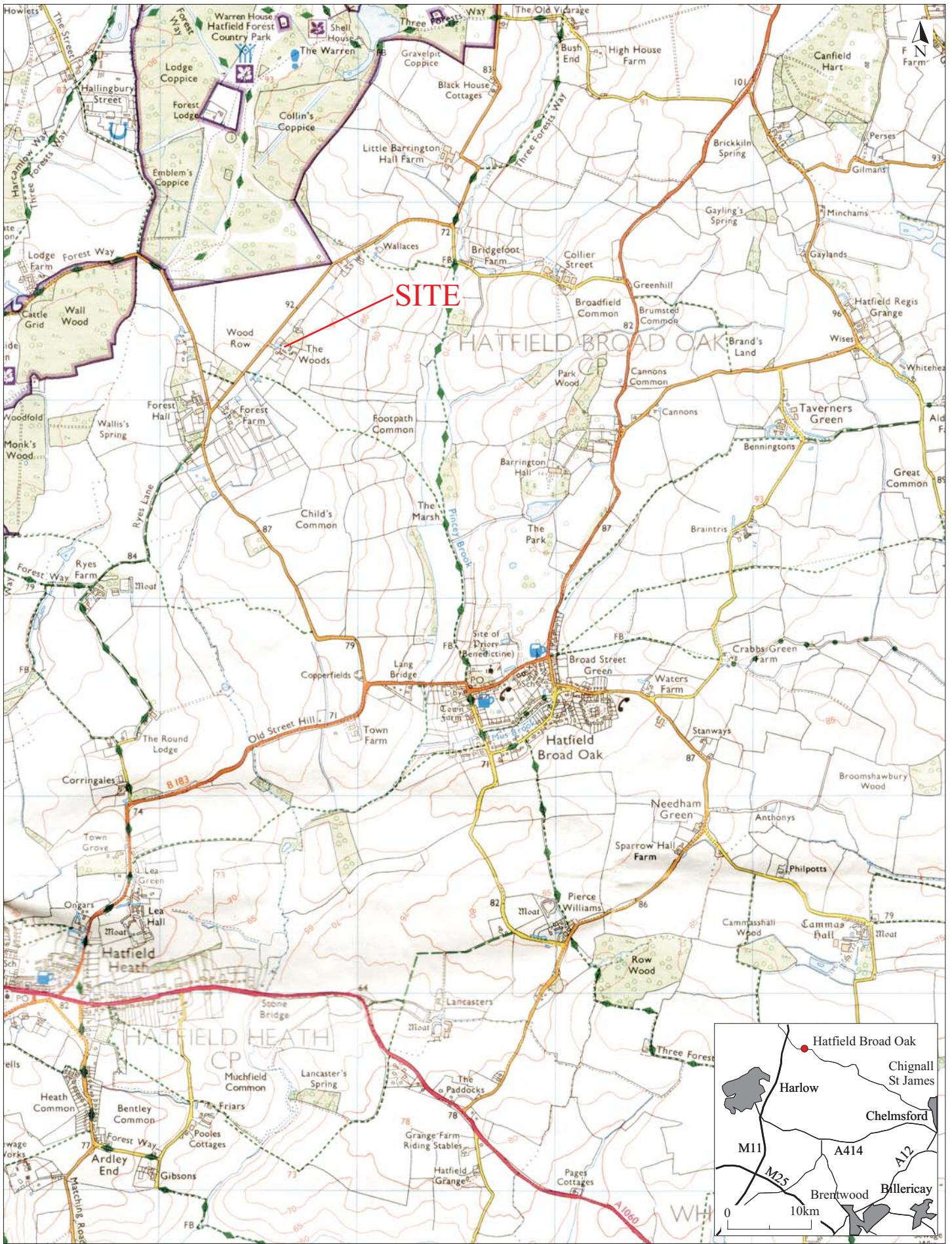
103

External detail of the stable door on the east side of Building 6 (Unit B), taken from the east



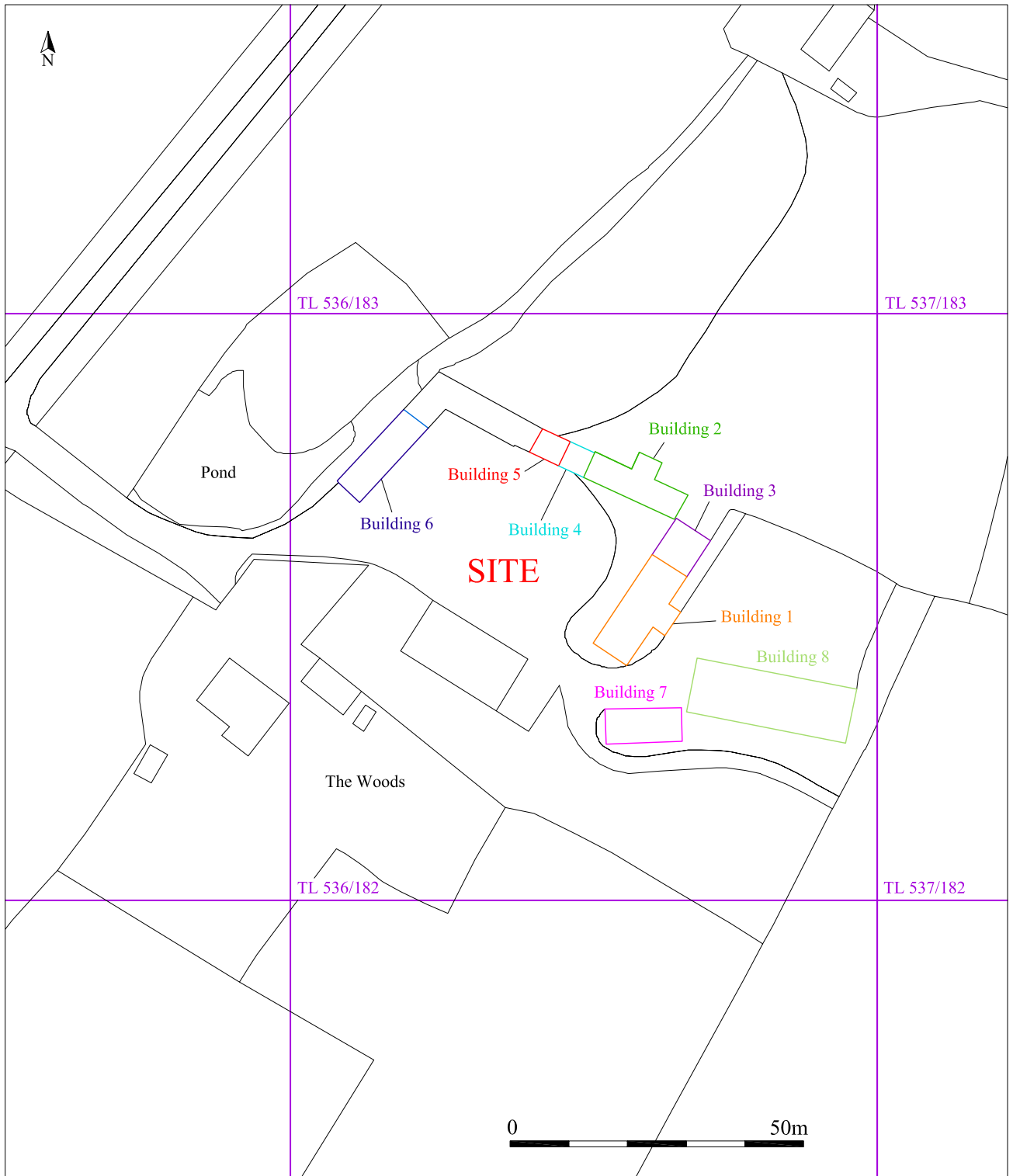
104

External detail of the robust door on the east side of Building 6 (Unit A), taken from the east



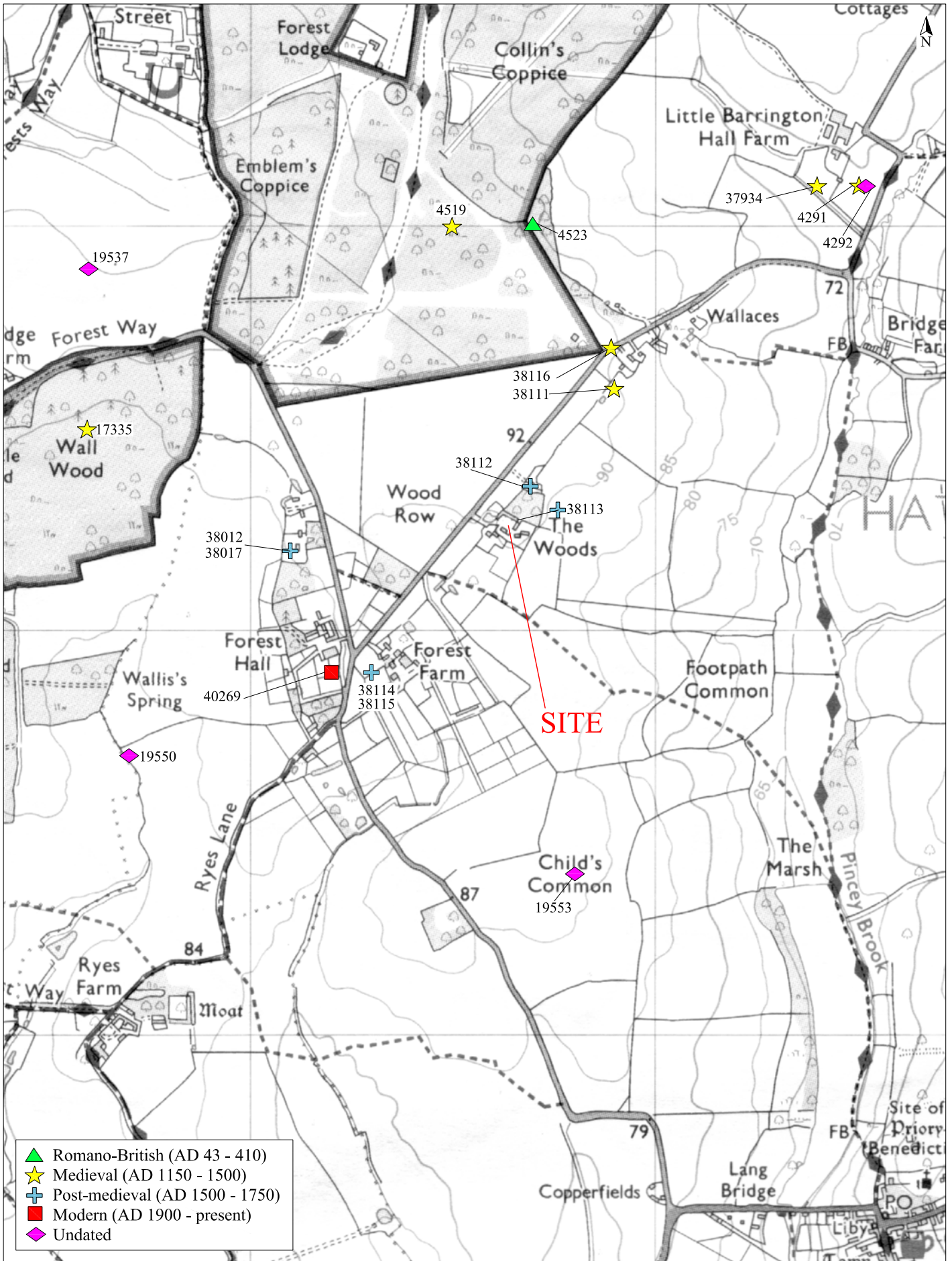
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Fig. 1 Site location plan
 Scale 1:25,000 at A4



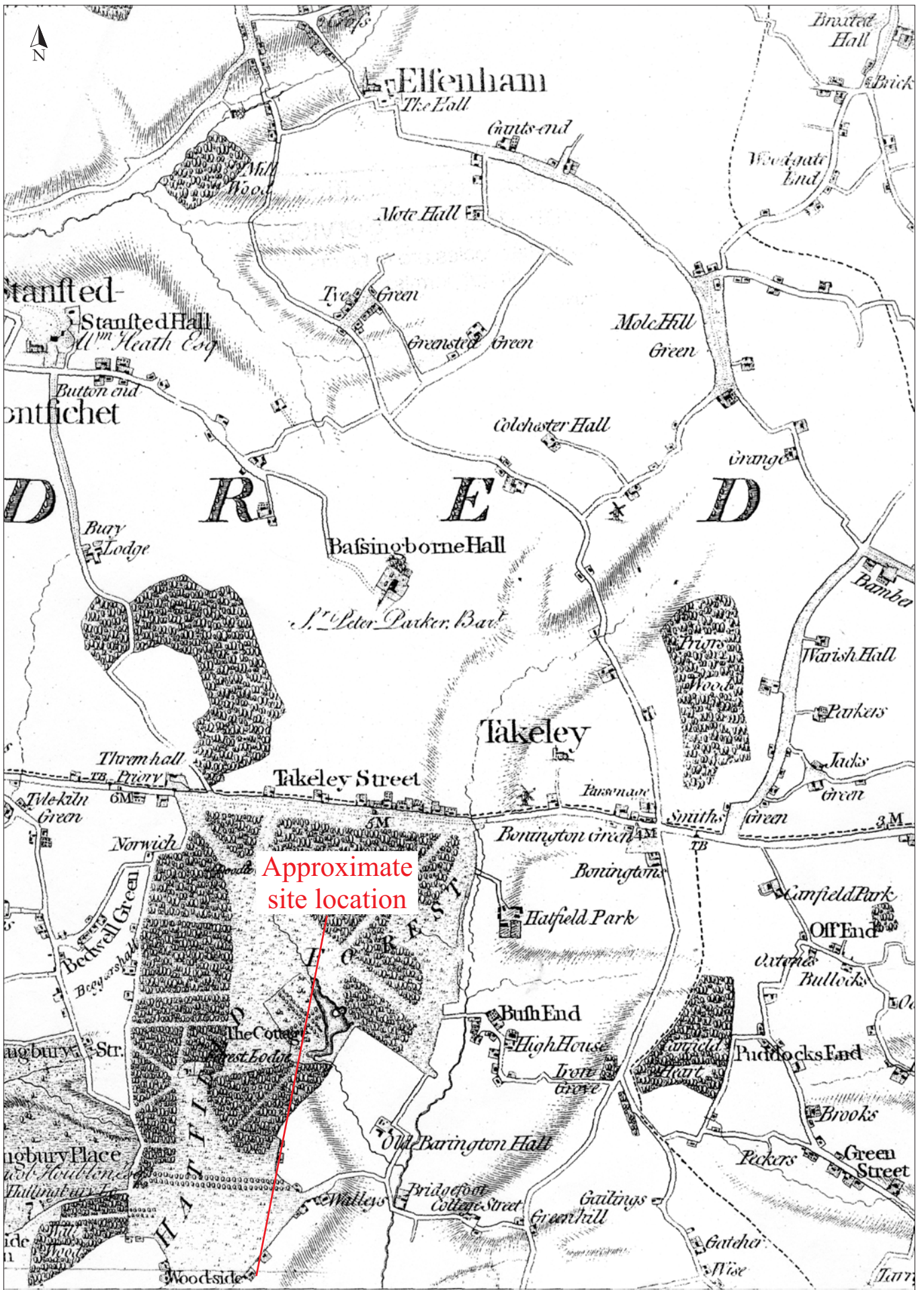
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Fig. 2 Detailed site location plan
 Scale 1:1000 at A4



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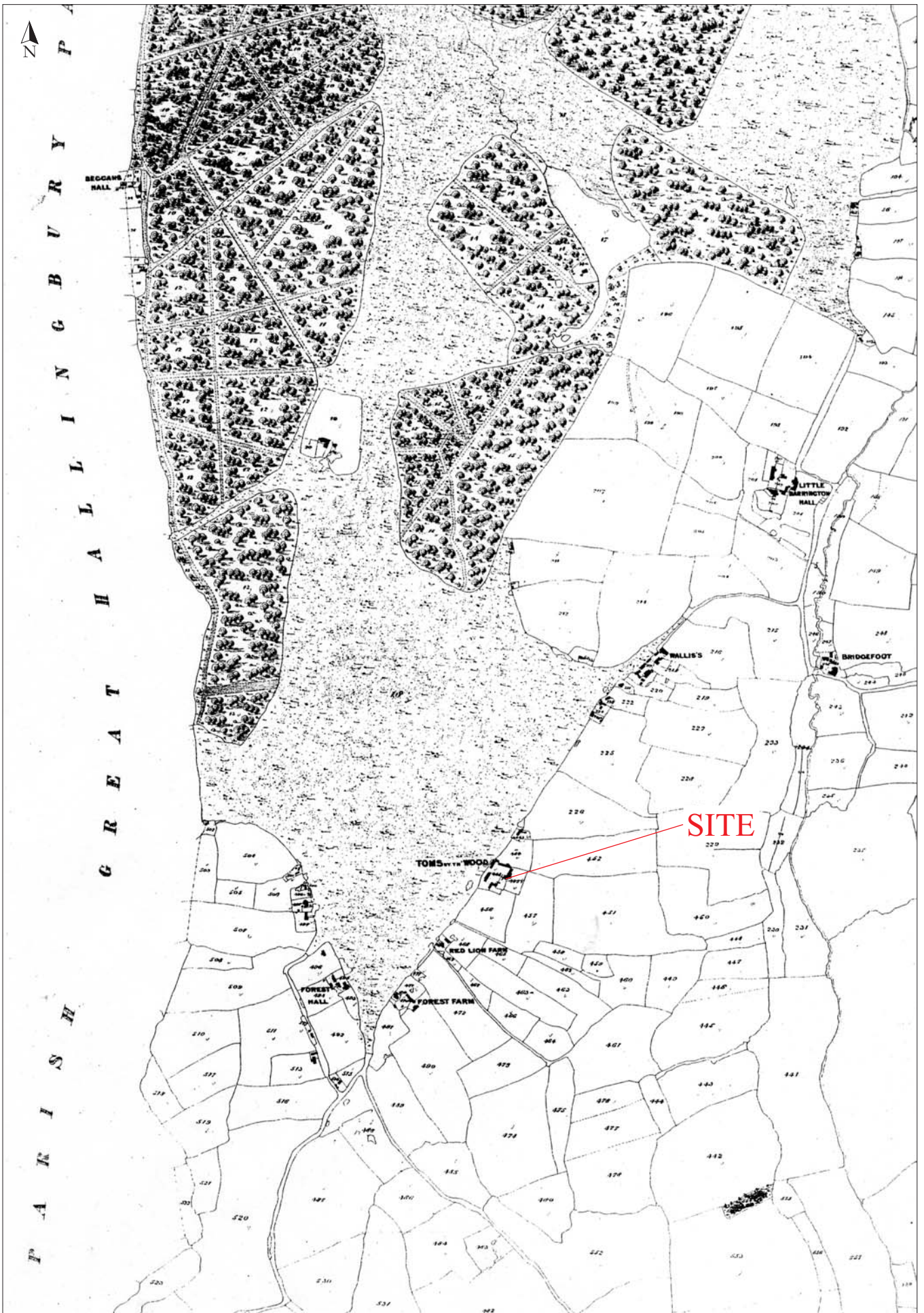
Archaeological Solutions Ltd
Fig. 3 HER Data
Scale 1:12,500 at A4



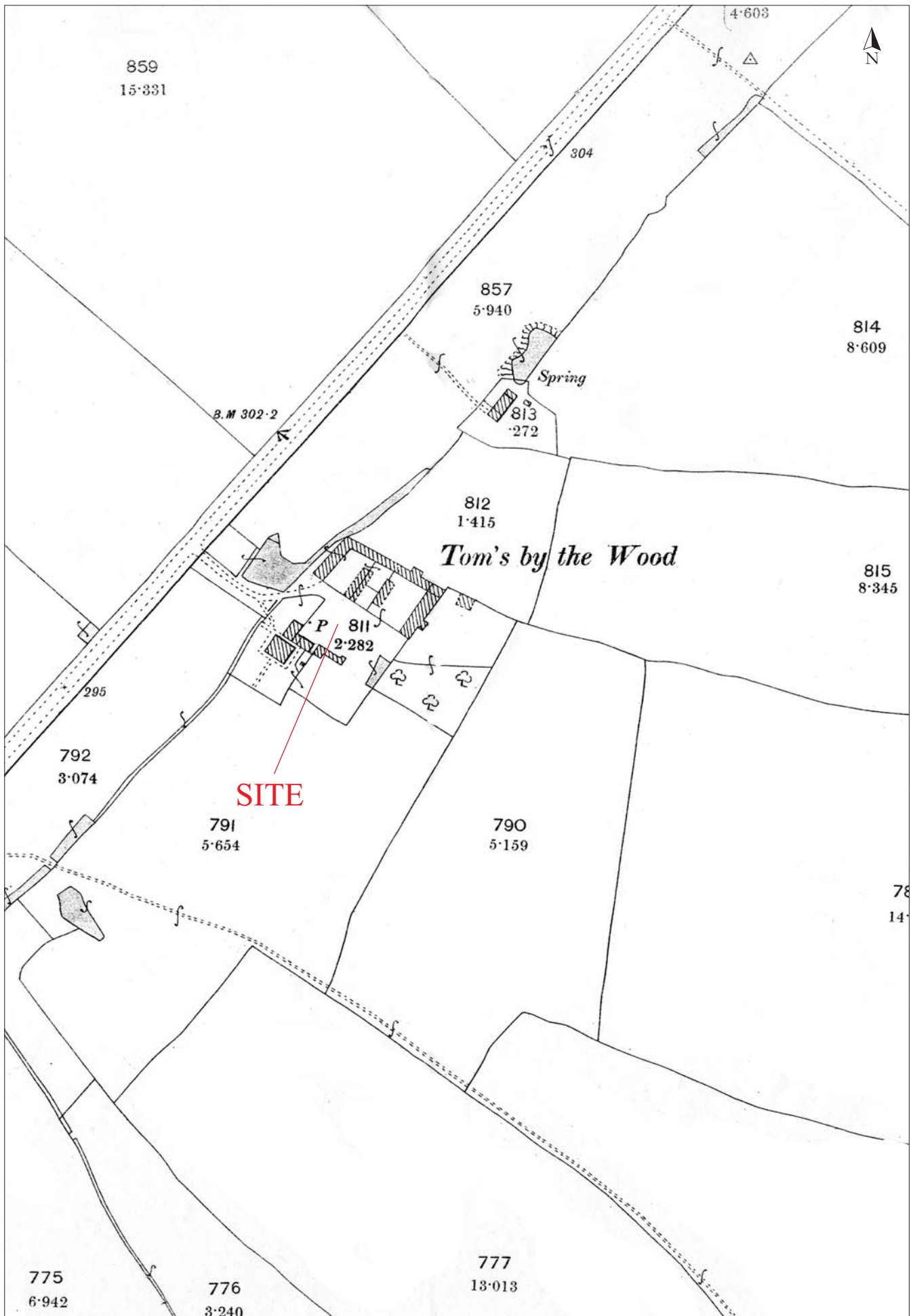
Archaeological Solutions Ltd

Fig. 4 Chapman & Andre's map of Essex, 1777

Scale unknown

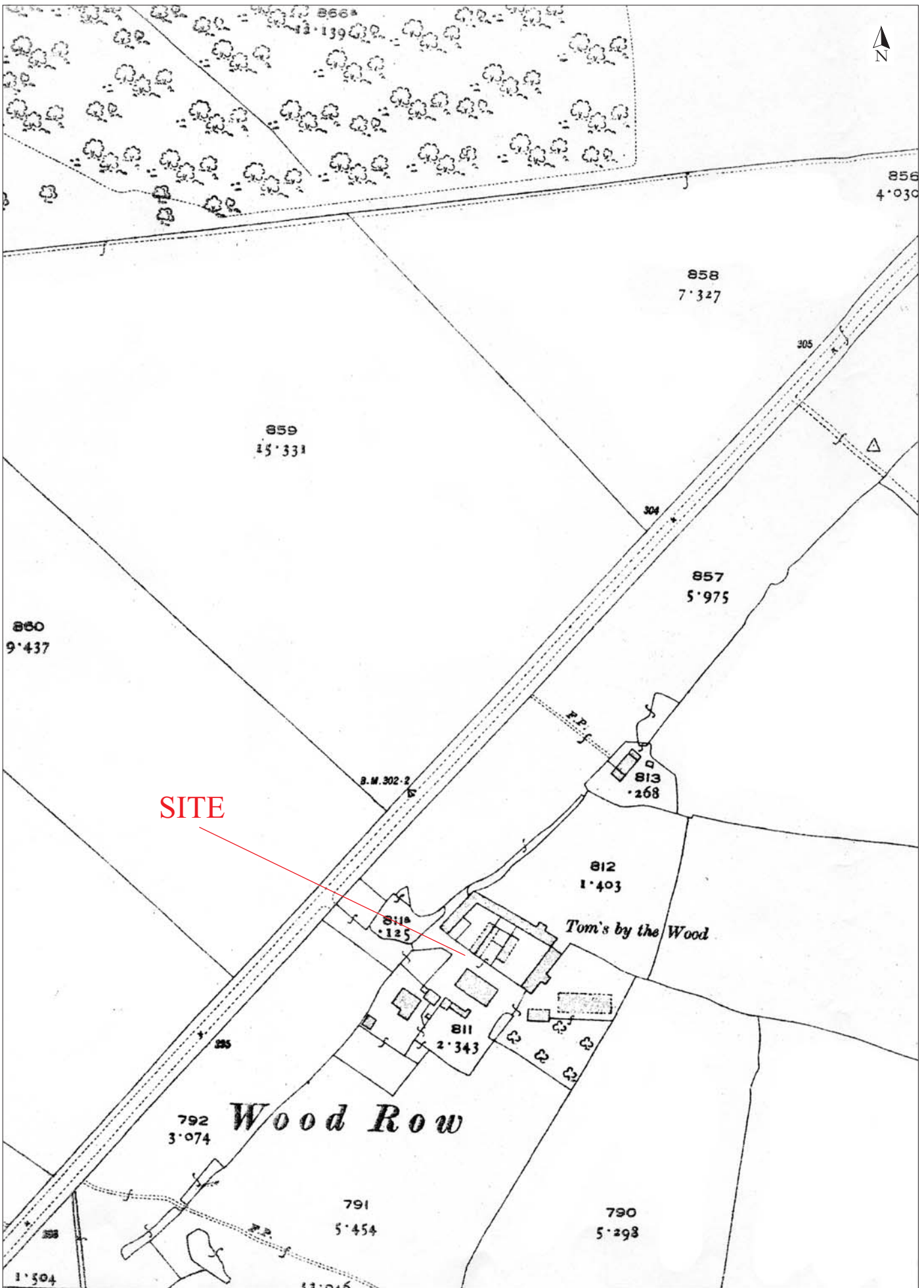


Archaeological Solutions Ltd
 Fig. 5 Hatfield Broadoak tithe map, 1858
 Scale unknown



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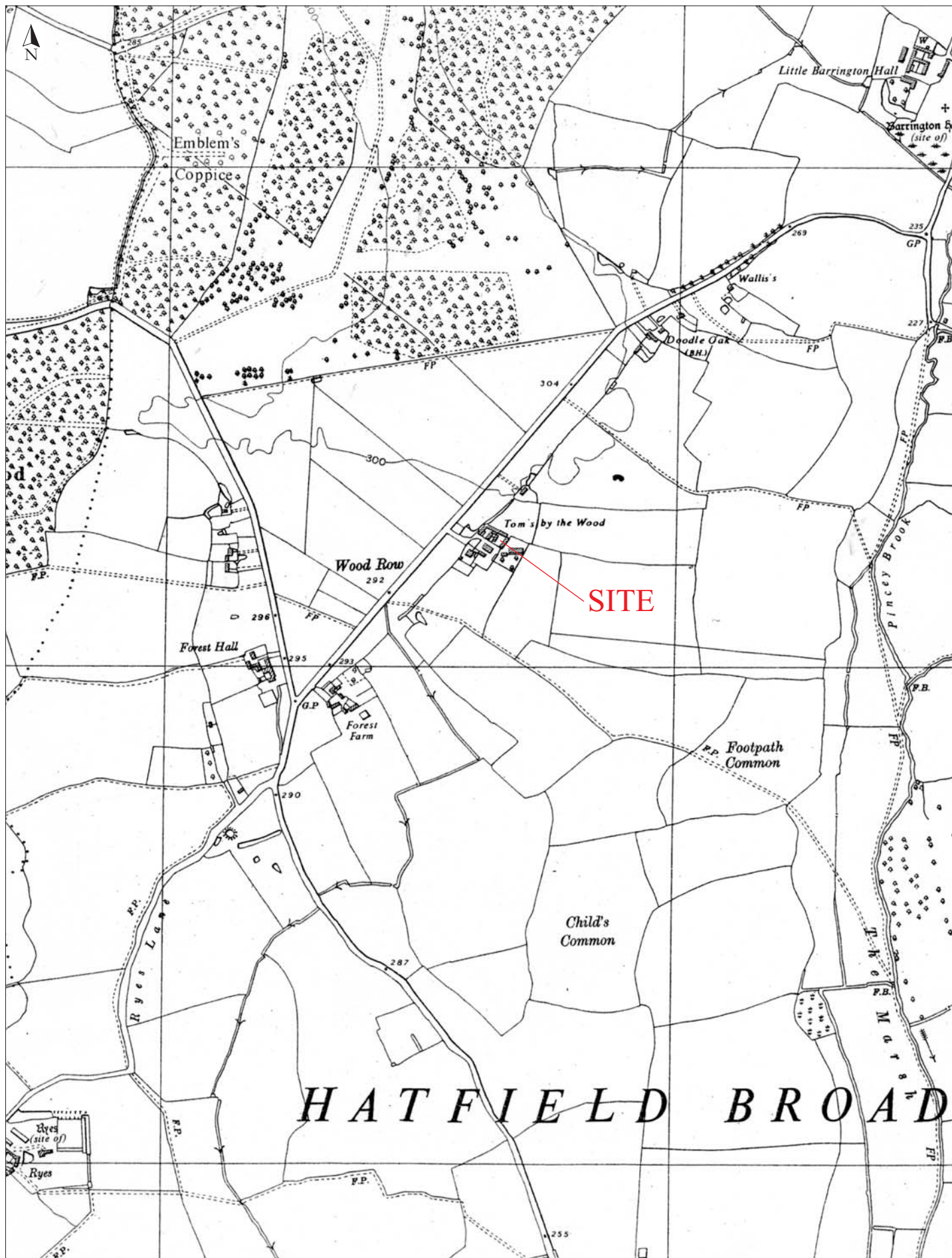
Archaeological Solutions Ltd
Fig. 6 1st edition OS map, 1897
 Scale: 25" to 1 mile at A4



SITE

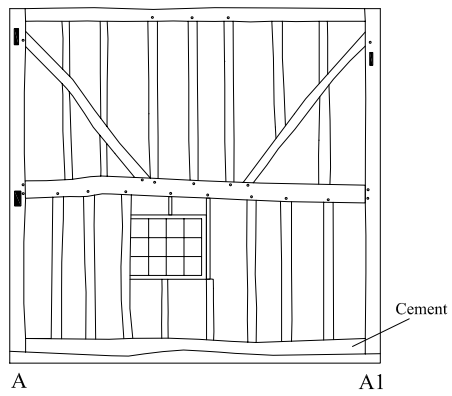
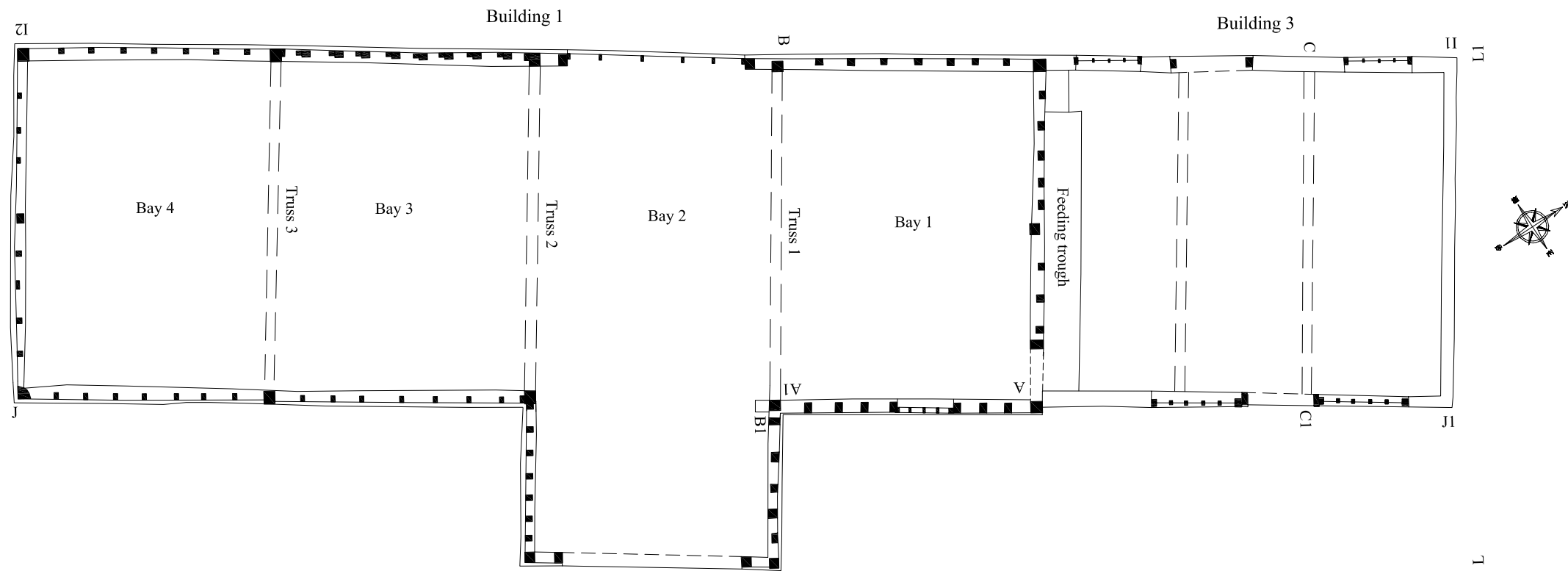
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Archaeological Solutions Ltd
 Fig. 7 3rd edition OS map, 1921
 Scale: 25" to 1 mile at A4

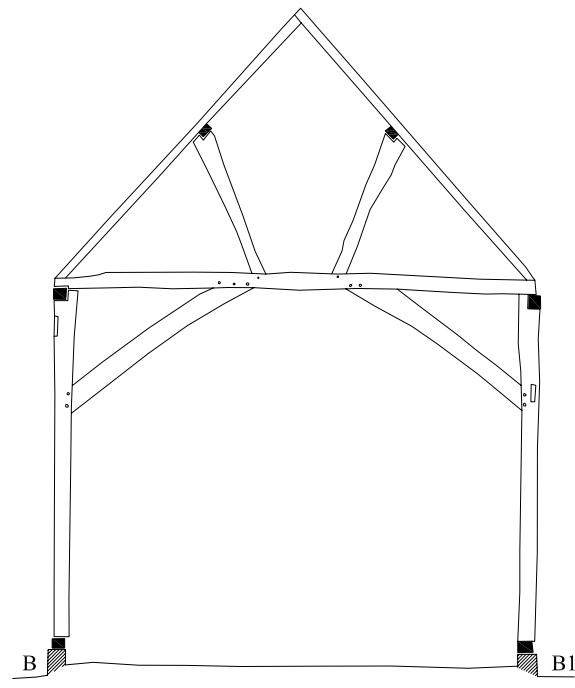


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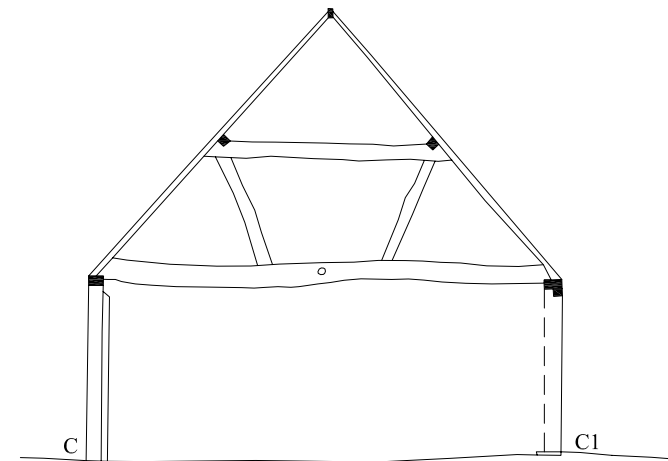
Archaeological Solutions Ltd
Fig. 8 OS map, 1960
 Scale: 6" to 1mile at A4



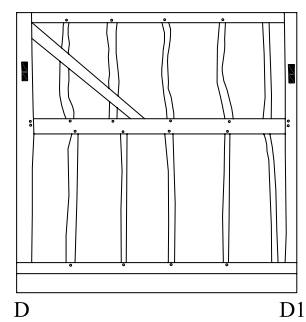
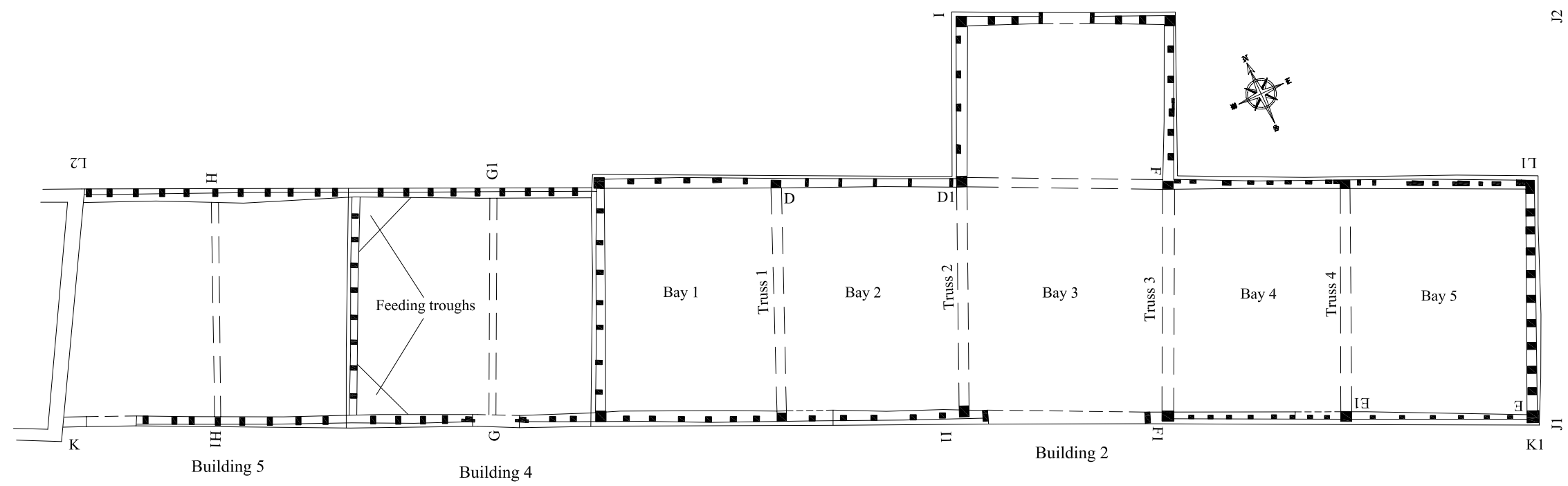
Internal elevation - south-east wall of Bay 1 (Building 1)



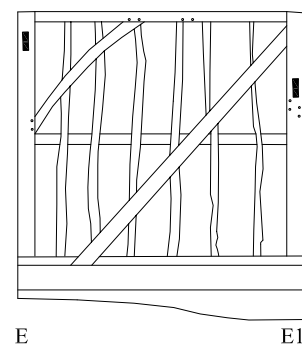
Cross-section through truss 1 (Building 1)



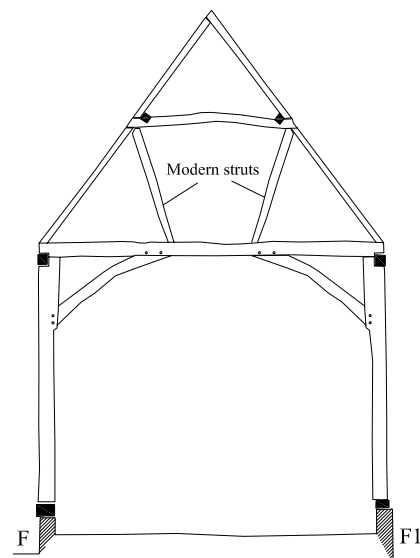
Cross-section through Building 3



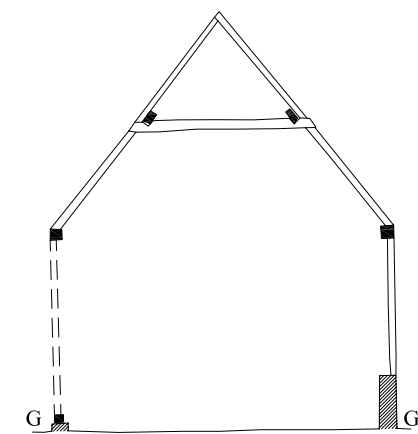
Internal elevation - north wall of Bay 2 (Building 2)



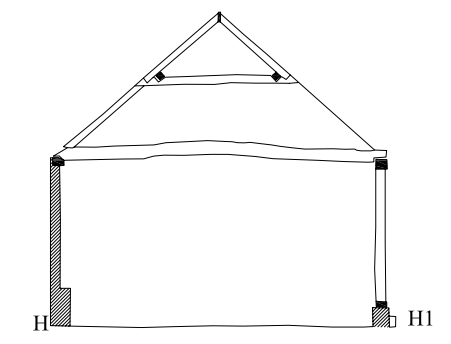
Internal elevation - south wall of Bay 5 (Building 2)



Cross-section through Truss 3 (Building 2)

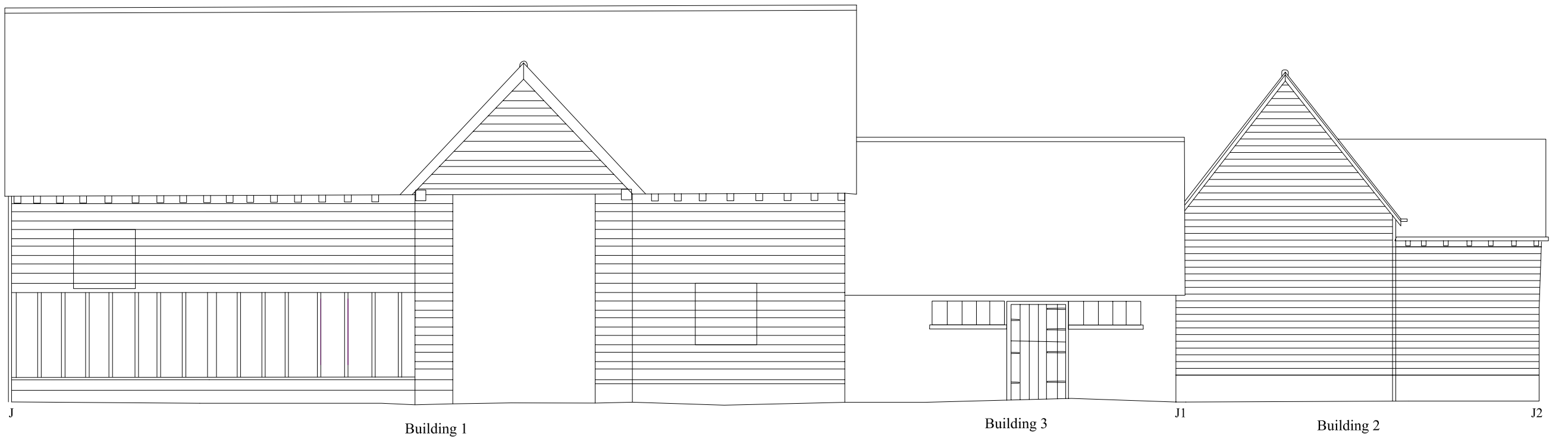
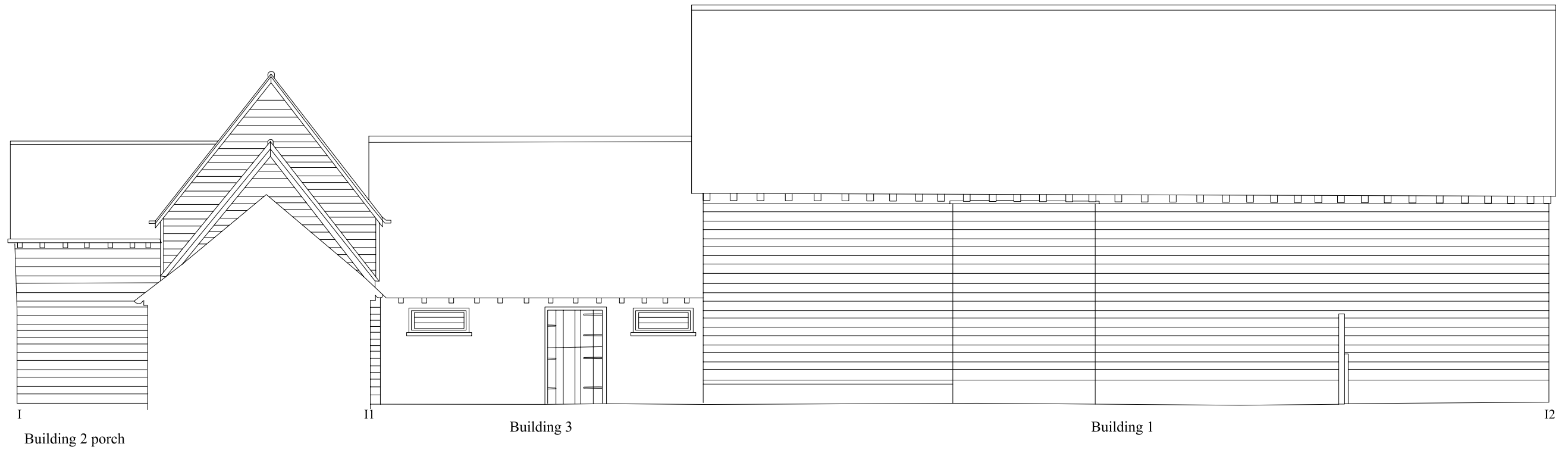


Cross-section through Building 4

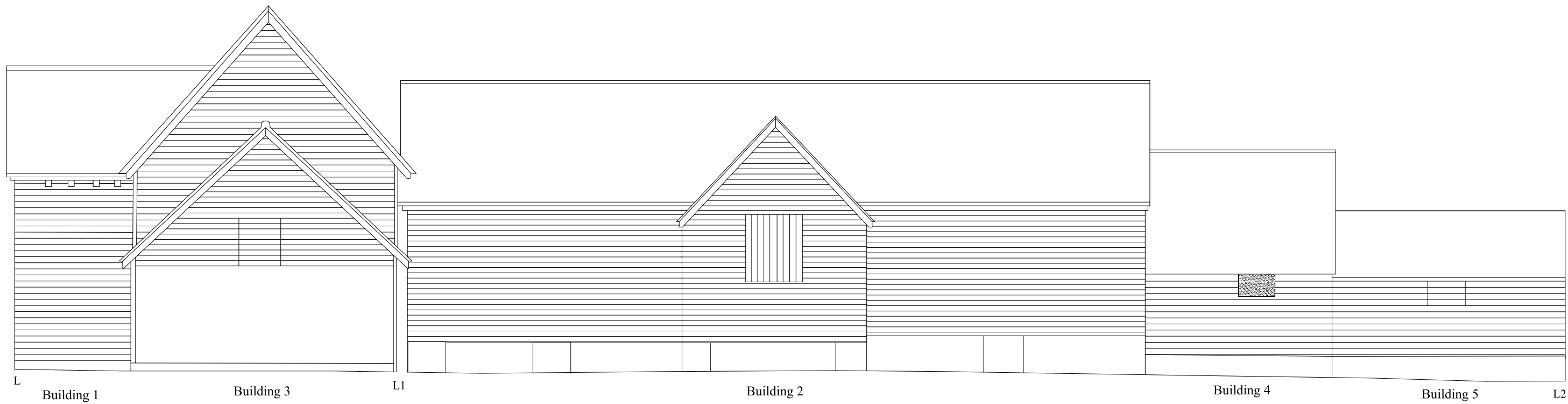
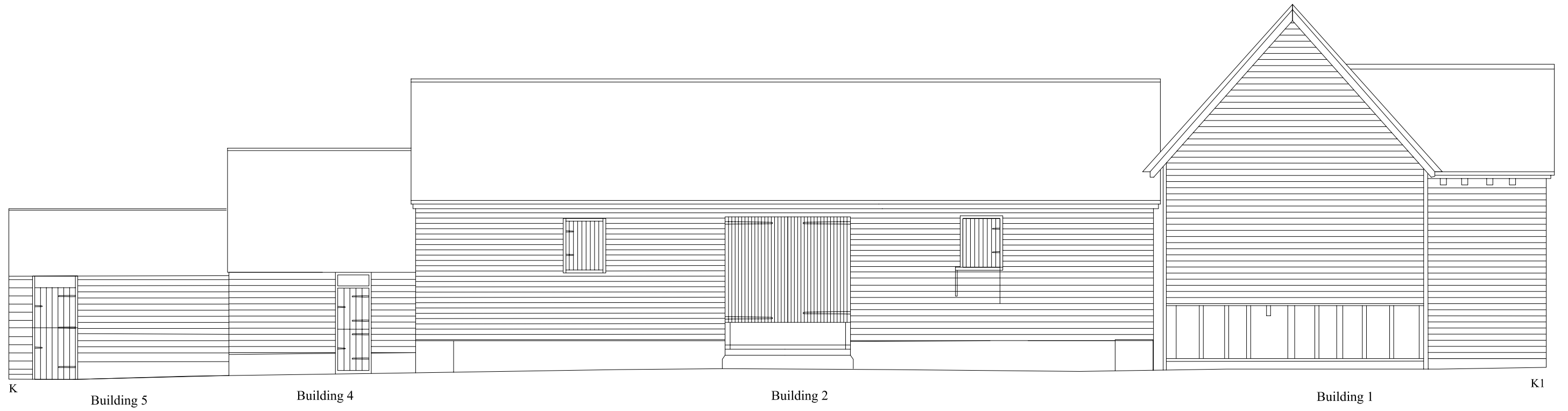


Cross-section through Building 5

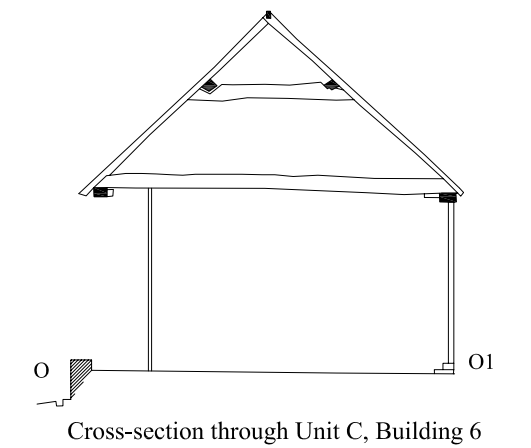
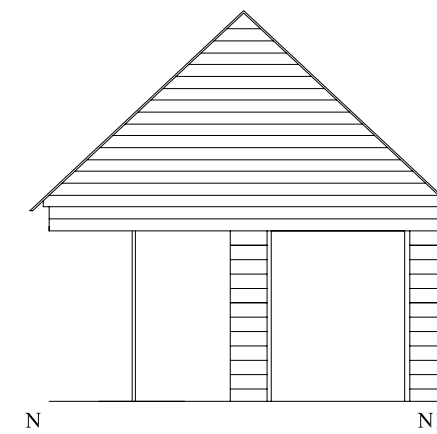
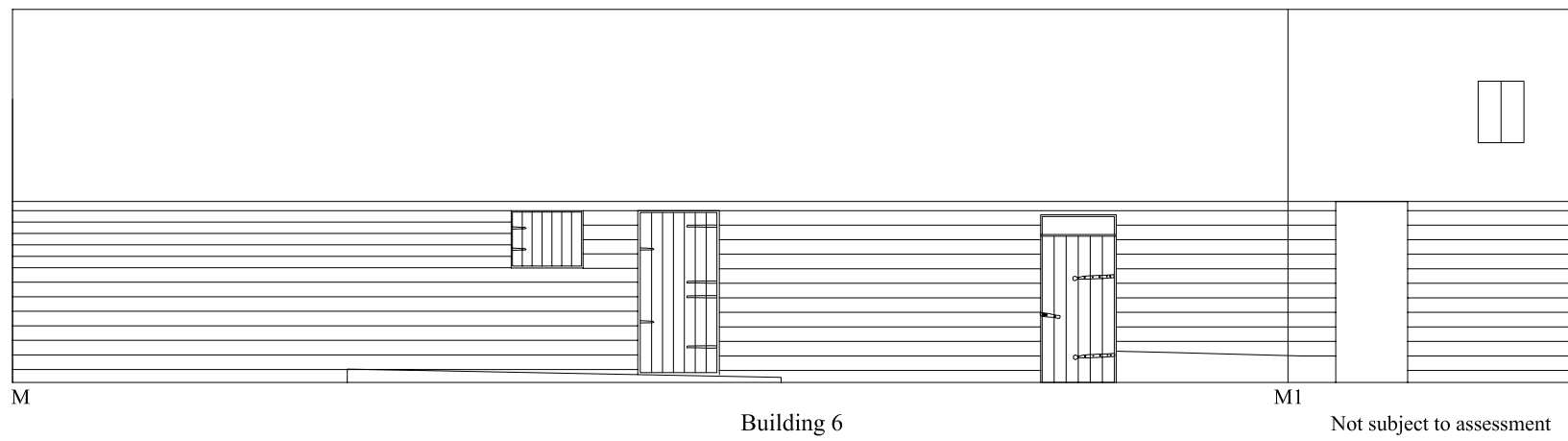
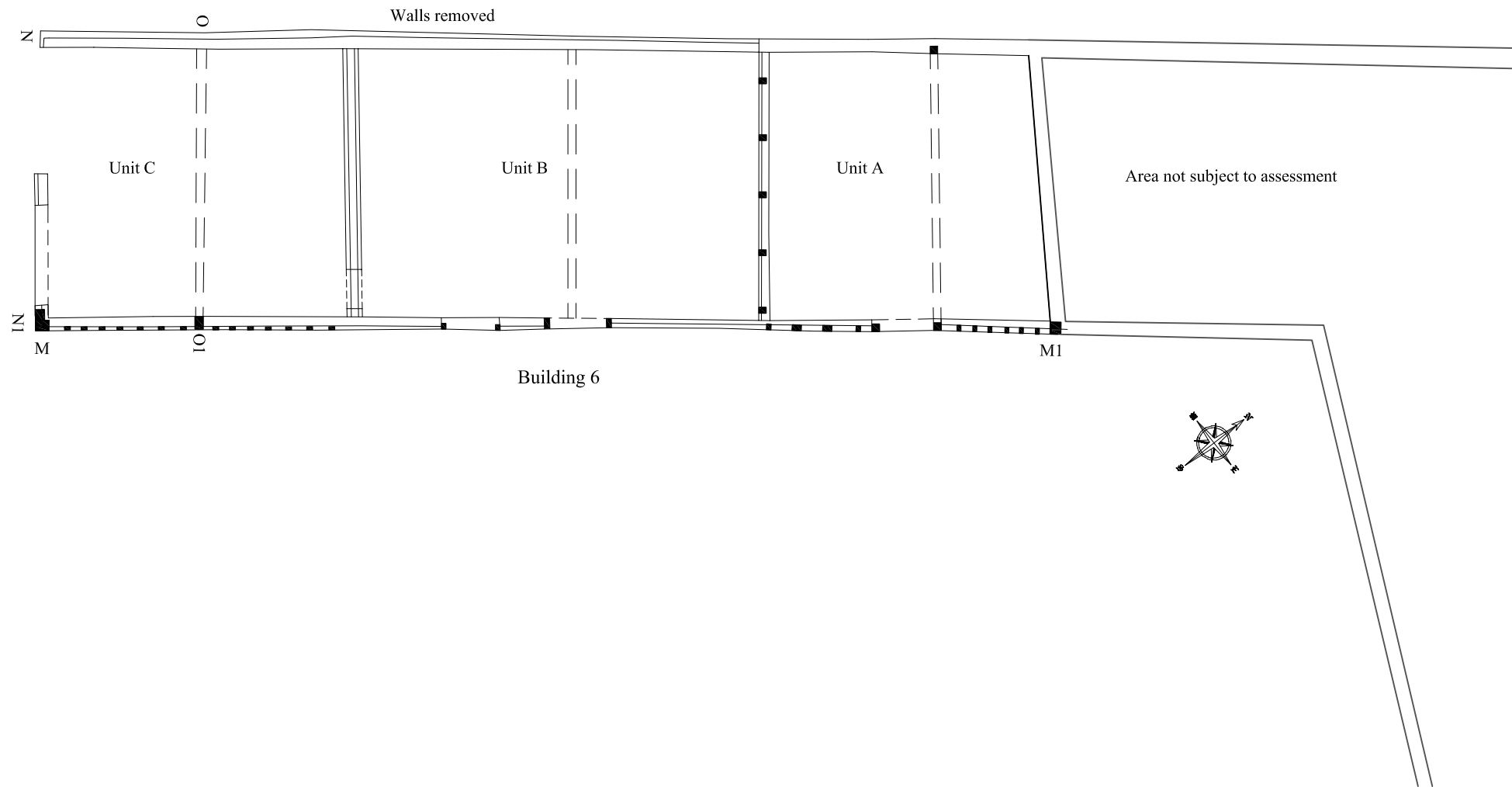




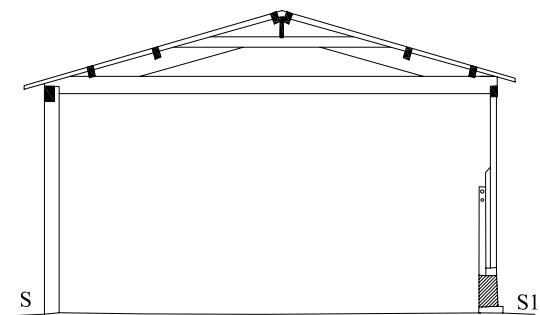
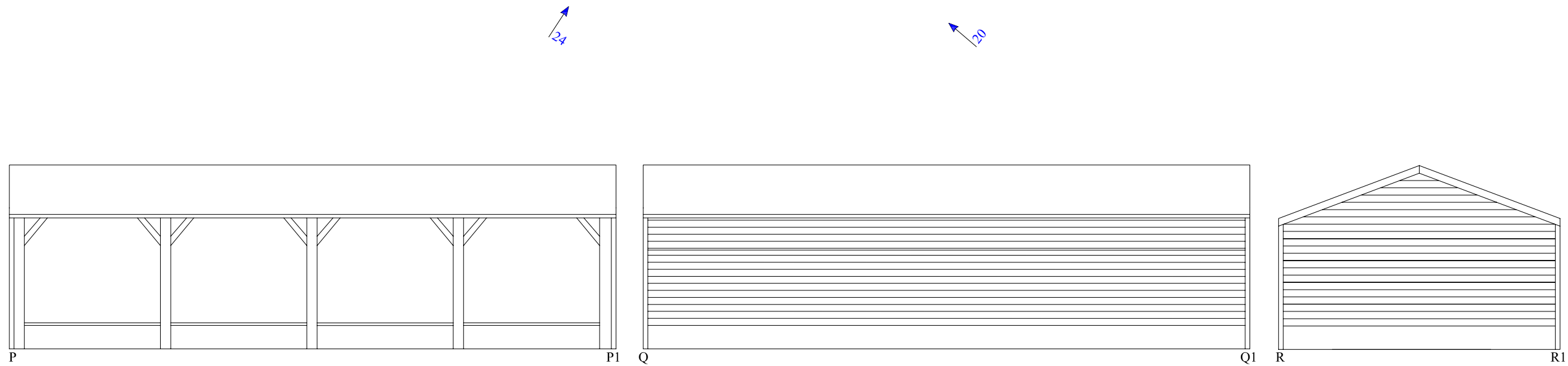
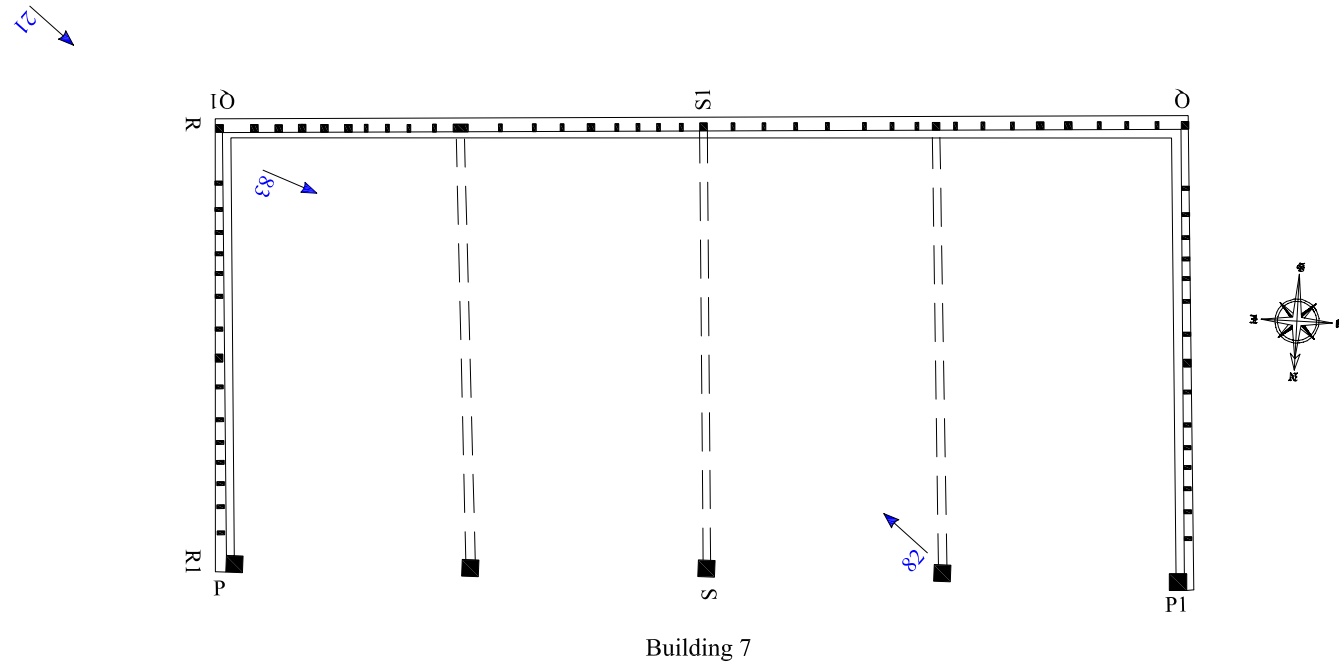
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Fig. 11 Buildings 1 and 3, elevations
 Scale 1:100 at A3



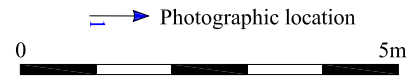
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Fig. 12 Buildings 2, 4 and 5, elevations
 Scale 1:100 at A3

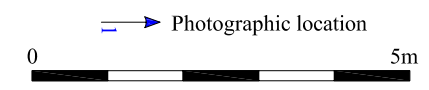
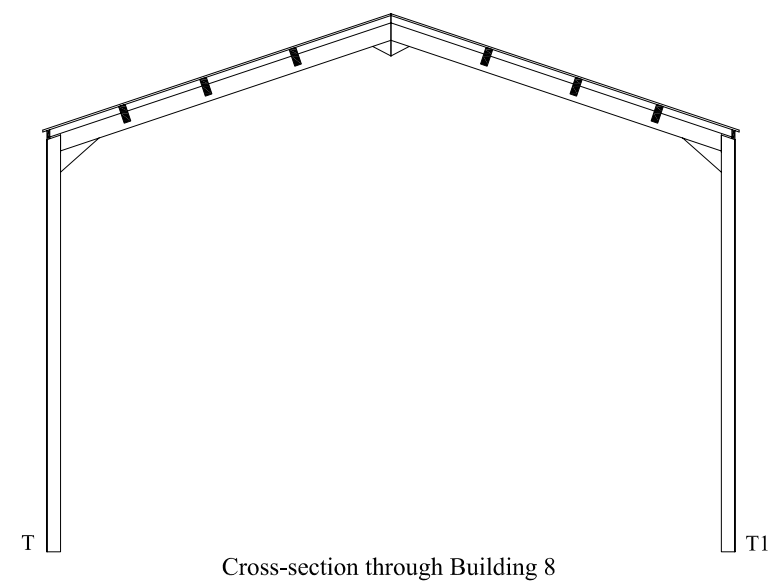
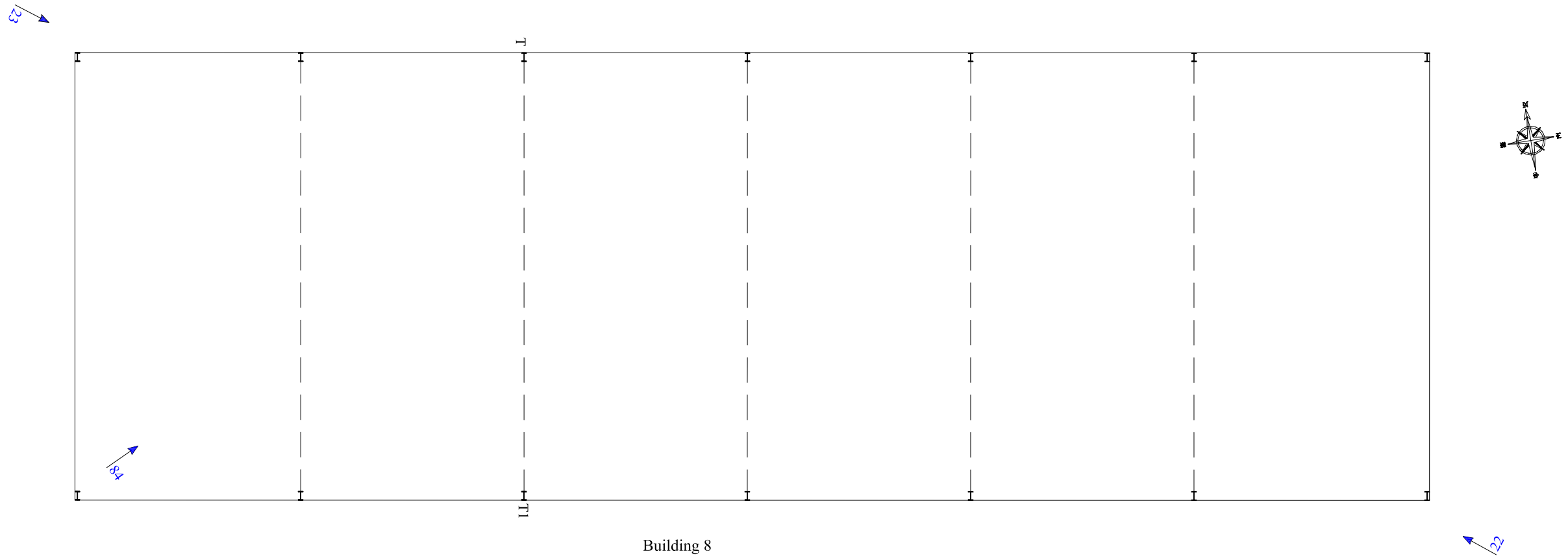


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Fig. 13 Building 6
 Scale 1:100 at A3



Cross-section through Building 7





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Fig. 15 Building 8
Scale 1:100 at A3



→ Photographic location
 0 5m

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Fig. 16 Photographic locations
 Scale 1:150 at A3