

**Building recording at
Wall Farm,
Ford End,
Great Waltham, Essex
December 2011**



**report prepared by
Chris Lister**

**commissioned by
Alun Design Consultancy Ltd
on behalf of
R E Butler and Son**

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Colchester Archaeological Trust
12 Lexden Road,
Colchester,
Essex, CO3 3NF

tel.: (01206) 541051
email: archaeologists@catuk.org

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Contents

1	Summary	1
2	Introduction	1
3	Historical background	1
4	Documentary and cartographic survey	1
5	Descriptive record	5
6	Discussion	12
7	Acknowledgements	5
8	References	15
9	Abbreviations and glossary	15
10	Archive deposition	15
11	Contents of archive	16

Appendices

Appendix 1:	selected photographs.	18
Appendix 2:	full list of digital photographic record (images on accompanying CD)	26
Appendix 3:	full list of 35mm photographic record (images on accompanying CD)	29

Figures after p 29

EHER summary sheet

List of figures

- Fig 1 Chapman and André map of Essex, 1777 (Plate XII).
- Fig 2 1839 tithe map (ERO D/CT 379) with north to the right.
- Fig 3 First edition 6" OS map, 1875 (sheet 33).
- Fig 4 Second edition 6" OS map, 1897 (Sheet 33 SW).
- Fig 5 OS New Series map, 1951 (sheet 44 SW).
- Fig 6 Site location.
- Fig 7 Block plan showing suggested phasing.
- Fig 8 Tithe map of 1839 showing land owned by William Townsend.
- Fig 9 Plan of dovecote lower storey.
- Fig 10 Plan of dovecote upper storey.
- Fig 11 Cross-section of dovecote.
- Fig 12 Barn 1, ground plan.
- Fig 13 Barn 1, structure 1b: cross-section of truss B.
- Fig 14 Barn 1, structure 1c: cross-section of truss C.
- Fig 15 Barn 1, structure 1d: cross-section of truss B.
- Fig 16 Barn 2, ground plan.
- Fig 17 Barn 2, structure 2a: cross-section of truss A.
- Fig 18 Barn 2, structure 2b: cross-section of truss A.

1 Summary

A programme of building recording was carried out by the Colchester Archaeological Trust (CAT) on a complex of three buildings at Wall Farm, Ford End, Great Waltham, Essex in December 2011. The work was commissioned by Alun Design Consultancy Ltd on behalf of R E Butler and Son. The complex includes a Grade II listed 17th-century dovecote (converted to a granary in the 18th century), an unlisted 18th-century barn with attached later structures and an unlisted 19th-century barn also with attached structures, grouped around an open farmyard. The structures surveyed at Wall Farm illustrate the development of a small Essex farm from the 17th up to the 20th century.

2 Introduction (Figs 6-7)

This is the archive report on detailed building recording of structures prior to their conversion, at Wall Farm, Ford End, Great Waltham, Essex. The work was carried out on behalf of R E Butler and Son by Colchester Archaeological Trust (CAT) in December 2011. The development site consists of a 17th-century dovecote (converted to a granary in the 18th century) and two threshing barns dated to the 18th and 19th centuries, both with attached later structures, located at Wall Farm, NGR TL 6680 1720, north-west of the village of Ford End.

A planning application (10/00772/FUL) for the demolition of modern agricultural barns, lean-to and stables building, the conversion of existing redundant agricultural buildings into two dwellings, and the conversion of a granary into an ancillary home office space at Wall Farm, was submitted to Chelmsford Borough Council in May 2011.

Given the impact of the proposed works upon the historic integrity of the farm a full archaeological condition was recommended to be attached to the planning consent. This recommendation followed Planning Policy Statement 5: Planning for the Historic Environment.

A brief detailing the required work (building recording) was written by the HEM officer (Richard Havis HEM 2011). All work was carried out in accordance with a WSI (Written Scheme of Investigation) produced by CAT in response to the HEM team brief and agreed with the HEM team (CAT 2011).

All work was carried out according to standards and practices contained in the Institute for Archaeologists *Standard and guidance for the collection, documentation, conservation and research of archaeological materials* (2008a) and *Standard and guidance for archaeological investigation and recording of standing buildings or structures* (2008), *Management of research projects in the historic environment* (MoRPHE), and *Standards for field archaeology in the East of England* (EAA 14).

3 Historical background

Wall Farm was originally a moated farmstead, possibly dating to the medieval period. The farmhouse (HER 30536) is a timber-framed and plastered house built in the 17th century. The dovecote (HER 30537) was built in the 17th century (probably at the same time as the farmhouse) located on the south edge of a large pond at the entrance to the farm. This was converted to a granary in the 18th century. The threshing barns were built during the 18th and 19th centuries, with the additional structures added in the 19th and 20th centuries.

4 Documentary and cartographic survey (Figs 1-5)

A documentary and cartographic search was undertaken at the Essex Records Office (ERO) to understand the development of the farm.

The earliest record found relating to Wall Farm is the 1777 Chapman and André map of Essex (Fig 1). This shows the farm simply called 'Walls', and there are structures in the approximate locations of Barns 1 and 2. Barn 1 is shown with a

midstrey to the east, but Barn 2 is too indistinct to make out its shape. There is no sign of the dovecote, but this probably reflects the scale of the map.



Fig 1 Chapman and André map of Essex, 1777 (Plate XII)

The first depiction of the dovecote is on the 1839 tithe map for Great Waltham (Fig 2: ERO D/CT 379). This shows the dovecote near to the pond at the north of the farmyard. A threshing barn with a central midstrey facing west onto the farmyard is shown in the approximate location of structure 1c. This may be an earlier building or possibly shows a change in the usage of the building. A rectangular structure is located roughly where structure 2a is sited. However, this is shown without a midstrey and is further north than it should be. These either represent earlier barns or cartographic errors. The Tithe Awards for Great Waltham name William Townsend as the owner and occupier of Wall Farm. At the time of the Awards, Wall Farm encompassed twelve arable fields of c 58 acres and seven meadows of c 9 acres. In addition to this, William Townsend owned fields previously associated with Coppdock Farm, two arable fields of c 9 acres and five meadows of c 7 acres, as well as two sets of cottages rented out to William Wood and George Porter and a strip on Smitherley Common (Fig 8).



Fig 2 1839 tithe map (ERO D/CT 379) with north to the right.

The first edition 6" Ordnance Survey map of 1875 (Fig 3) provides greater building detail than the earlier sources. In addition to the dovecote, this map shows a long range of buildings aligned north-west to south-east on the east side of the farmyard and a shorter range aligned north to south on the west side. The range to the east extends from the road to the edge of the brick wall enclosing the garden of Wall Farm House. The northernmost structure in this range appears as an angled building which coincides with evidence for a demolished brick building at the north end of Barn 1. The rest of the range is depicted as a continuous rectangle with what looks like a midstrey projecting to the east. This clearly represents structures 1b-d, with the midstrey forming part of structure 1c. There is no indication of the small extension to the south of structure 1d. A free-standing structure can be seen in the field to the east, close to structure 1d.

The range to the west shows a rectangular building, wider to the north than to the south. This is probably structure 2a, the midstrey barn, with the lean-to 2d forming the wider end of the rectangle. There is an L-shaped building to the north, but this is on the south edge of the pond and too far to the west to be any of the outbuildings associated with Barn 2. A further structure is shown to the south of Barn 2, the remains of which were visible during the survey in the form of low brick walls surrounding concrete slabs.

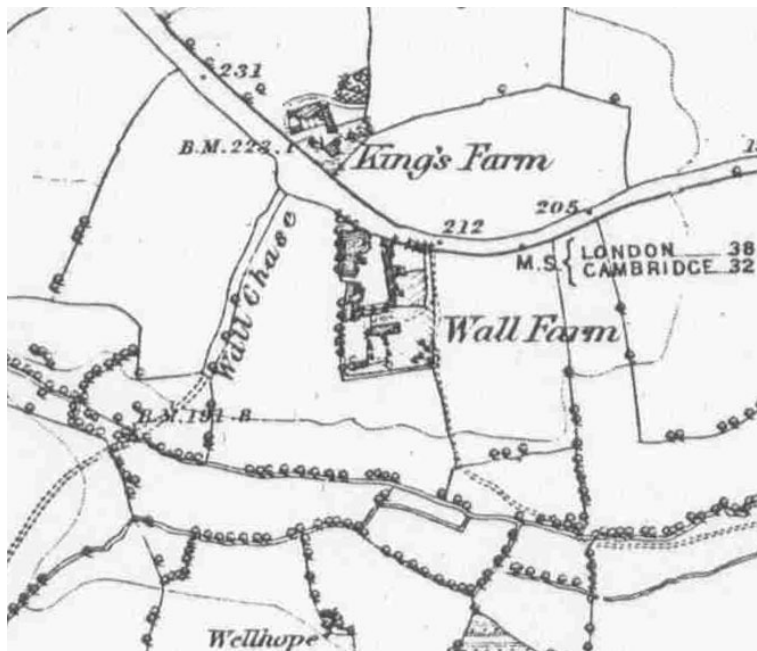


Fig 3 First edition 6" OS map, 1875 (sheet 33).

The second edition 6" Ordnance Survey map of 1897 (Fig 4) is a lot clearer. The range to the east is shown the same as on the 1875 map, although the free-standing building to the east of structure 1d is no longer present. However, significant change has taken place in the western range. The L-shaped building at the south edge of the pond has been removed and extensions added to the north of structure 2a. These take the form of a rectangular structure on the same north-south alignment and a structure perpendicular to the range. These additions are structures 2b-c. The structure to the south of Barn 2 is still present.

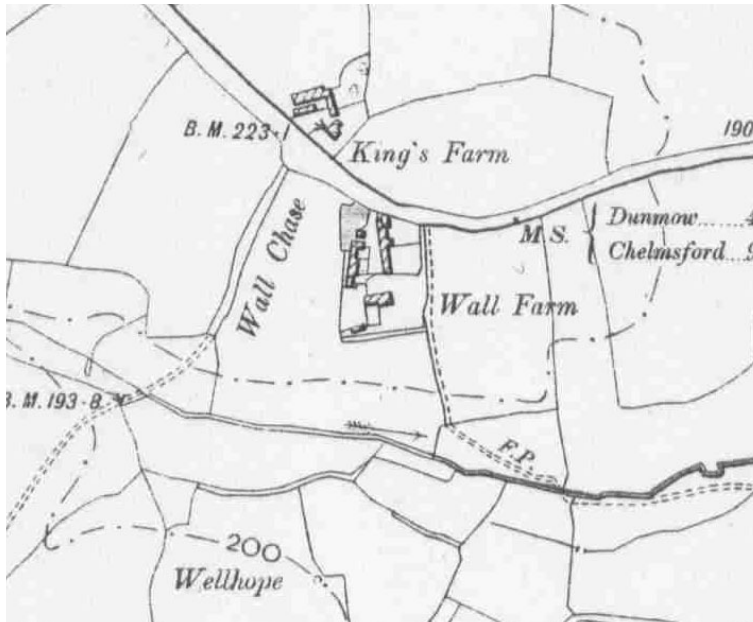


Fig 4 Second edition 6" OS map, 1897 (sheet 33 SW).

The Ordnance Survey New Series map of 1951 (Fig 5) shows little change to the 1897 map. Barn 1 is the same, with the brick outbuilding to the north of structure 1b yet to be demolished. Structure 1d, at the south end of the range, is shown with a small square projection in the centre of the east wall. This was not present at the time of the survey but the remains of a larger structure can be observed projecting east from the corners of structure 1d. This survives as two breezeblock walls, originally with a mono-pitch roof that extended from the eaves of structure 1d (Plate 4). The front appears to have been open and it may have been a shelter shed for livestock. The north wall of this has been incorporated into structure 1a. It is likely that this structure, which must post-date 1951, replaced the smaller structure shown on the 1951 map. Barn 2 appears the same, including the structure to the south.

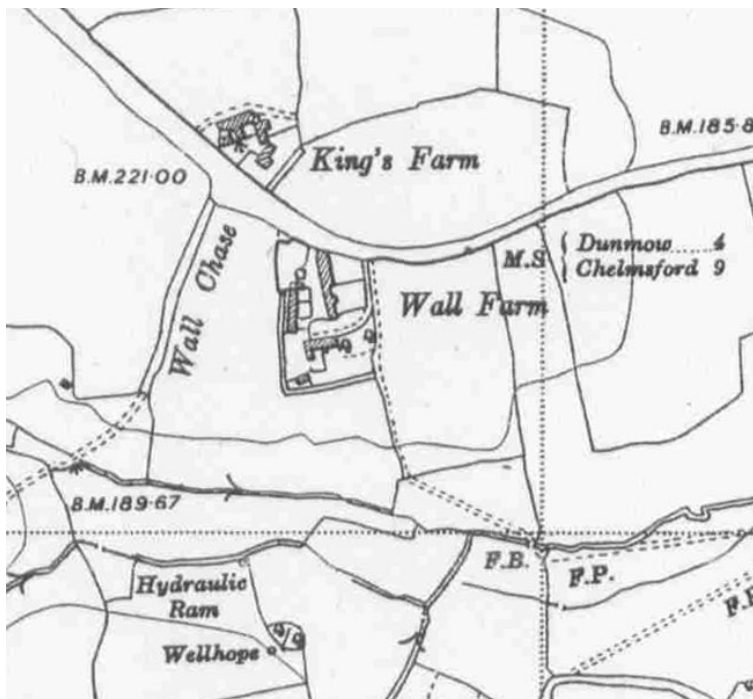


Fig 5 OS New Series map, 1951 (sheet 44 SW).

5 Descriptive record

Wall Farm is located on the B1008 between Ford End and Barnston, in the agricultural heartland of Essex. It is surrounded by open farmland.

The farm buildings are a combination of brick and timber-framing, arranged on either side of the farmyard with Wall Farm House to the south. Originally the farm was contained within a moat but the north side of this appears to have been filled in before the buildings were constructed. The barns and outbuildings were surveyed to English Heritage Level 3.

17th-century dovecote, converted to granary in the 18th century (Figs 7, 9-11)

This building is a two-storeyed 5m by 5m square structure with a red brick-built lower storey and a timber-framed upper storey with brick nogging (Plate 1), located north of Barn 2 on the edge of the dry pond. The bricks of the lower storey are un-frogged with dimensions of 110mm by 220mm by 58mm, quite weathered and laid in irregular bond with a lime mortar. There is a plinth just under half of the height of the lower storey. The bricks used for the nogging in the upper storey are more orange than red with dimensions of 110mm by 220mm by 65mm and are laid with a grey mortar. The timber-framing has been obscured by the application of a cement render held on vertical laths nailed to the frame. This has degraded in many places. The roof is pyramidal and covered with peg-tile.

The walls of the lower storey have brick buttresses, those to the east and west are centrally located, whilst that to the north is off-centre. The south wall has two buttresses, flanking an off-centre doorway. The outward opening door is constructed from vertical planks with two strap hinges and is secured by a single bolt – there is no handle. The timber-frame of the upper storey is of square section oak beams and posts. Corner posts rise from sill beams to wall plates with arched braces falling from the tops of the posts to the sill beams. The area between the braces is filled by irregularly-spaced studs. The sill beams of the north and west walls both have a face-halved scarf joint close to the north-west corner. The other sill beams appear to be single timbers. There is an outward opening door in the east wall, constructed of vertical planks held by two iron strap hinges and, although there is no handle, this door has a lock. Behind the door, in a recess cut into the sill beam, are two iron hooks attached to iron rings.

The interior of the lower storey has a concrete floor and the plinth has been rendered with concrete. The walls are whitewashed and there is a small window near the north end of the east wall. An identical window is located at the south end of the west wall. Both windows have been blocked with brick. A bridging beam, 22cm wide by 28cm deep, extends east to west across the building, supported on the brick walls, and carries the floor joists of the upper storey. On the north side of this, attached to the west wall, is a grain chute (Plate 2).

The interior of the upper storey is an open space with horizontal planking covering the walls. The rafters are exposed showing the laths to which the peg-tiles are attached.

Barn 1, structures 1a-d (Figs 7, 12-15)

Barn 1 is a long range of buildings aligned north-west to south-east on the east side of the farmyard and comprises four separate structures numbered 1a-d on Fig 7 (Plate 3).

Structure 1a is a 20th-century extension located to the east of the main range, extending the length of structure 1c (Plate 4). It has a shallow mono-pitch roof of corrugated iron sheeting and walls of concrete blocks covered in a concrete render. The east elevation has four metal-framed windows of eight lights below the eaves. A wooden door is located in the south elevation. The roof is supported on long rafters rising from the east wall and attached to the first purlin of structure 1c's roof. The rafters are supported by a line of six square posts extending the length of the structure and straight bracing projecting from the wall plate of structure 1c. The floor is of concrete and the structure appears to have been used for storage, rather than housing livestock.

Structure 1b is located at the north end of Barn 1 and is a rectangular timber-framed building of three bays, with an extension to its east side (Plate 5). The gabled roof is of black-painted corrugated iron sheeting which has been extended to the east at a shallower pitch to cover the extension. The north wall has unpainted breeze block infill to half the height of the posts and the entire north-east corner is constructed of red stock brick. Above the breeze block wall the frame is clad in black-painted horizontal weatherboarding. A doorway is located between the brickwork and the first post of the frame. This brickwork is a remnant of a 19th-century building, demolished in the late 20th century. The east wall of the extension is clad in corrugated iron sheeting over a timber frame. The west elevation has half-height walls of black-painted breeze blocks in the outer bays. The outer bays (1 and 3) have white-painted plaster above the breeze blocks with a metal-framed window of eight lights in each. These windows are identical to those in structure 1a. The centre bay (2) is open to the interior.

The timber frame of structure 1b has five square, machine-cut oak posts (c 20cm by 20cm), set into the ground with low concrete surrounds, supporting a wall plate. A sixth post would originally have stood at the north-east corner but this has been replaced by the brickwork of the demolished building to the north. This has had the effect of raising the wall plate at this point causing the entire roof to corkscrew slightly. Iron cramps tie the wall plate of the north elevation to the longitudinal wall plates. The centre pairs of posts both support oak tie beams, strengthened by knee braces bolted to the posts and tie beams. The terminals of the braces are nailed and several have bark attached (Plate 6). Both longitudinal wall plates have a single face-pegged scarf joint, that to the east located in bay 1 just north of truss A, that to the west in bay 3 just south of truss B. Neither longitudinal wall plate displays any evidence of studwork. The frame of the north wall has a central post single-pegged to the wall plate. This post is a re-used timber with a large mortice and peg holes in its centre. Below the wall plate are the remains of studwork, three to the west of the central post and one to the east. Mortice holes in the underside of the wall plate indicate there were originally five studs of 7-8cm width with average gaps of 38cm, either side of the central post. Straight braces fall from the central post, but these and the studwork have been interrupted by the insertion of the breeze block wall, which has removed the sill beam, and in turn sits upon a shallow brick dwarf wall. A thin timber laid on the breeze blocks acts as a pseudo sill beam and it is to this that the remaining studs are joined. Above the wall plate are eleven studs, 7-11cm in width with gaps of 28-40cm, rising to a collar beam. These have chiselled carpenters' marks on the external face, 1-11 in Roman numerals running consecutively from east to west. Above this, the apex of the gable has been crudely formed by nailing timbers to (on the east side) the end of one of the purlins and on the west side, to the principal rafter rising from the corner post. These are nailed to the end of the ridge board and form a triangle enclosing six studs. However, with the roof removed it is clear that this gable apex is a later addition as angled rafters can be seen inclining from the collar beam to form a half-hipped roof. This was most likely changed when the building was re-roofed in corrugated iron sheeting. The roof pitch has a single collar-clasped through purlin with a splayed scarf joint. The collar beams are intermediary to the trusses as well as being above them.

Structure 1c is a timber-framed, five bay barn with a gambrel roof of black-painted corrugated iron sheeting (Plate 3). Externally, the lower register is covered with black-painted horizontal weatherboarding, whilst the upper register is plastered and painted white. The frame sits on a dwarf wall of black-painted brick (dimensions 233mm by 110mm by 60mm) in a staggered English bond, and is constructed from a mix of original and re-used oak timbers. The re-use of timbers is most apparent in the posts, trusses and wall plates where more complicated joints are required. The floor of the barn is of concrete and the interior of the dwarf walls has been rendered in concrete. Bay 1, at the north end of the barn, has jowled corner posts of 20cm by 20cm scantling with sill beams of the same dimensions. The end cross frame has a central post with girding beams either side, each of 22cm by 16cm scantling. Either side of this central post, both above and below the girding beams, are four studs of 13cm by 13cm scantling with gaps of 34-40cm. All of the studs are single-pegged to

the sill beam and girding beams, but not the wall plate. The main posts and beams are single-pegged to each other. The wall plate has an iron cramp strengthening the frame at the north-east corner post. Straight plank braces fall from the top of the central post to the girding beams. Above the wall plate are ten studs of varying size and quality rising to the first collar with straight bracing falling from the fifth stud. The off-centre arrangement of these braces and the replacement studs above them suggest they are later insertions. Above the collar there are seven studs of varying size rising to the upper most collar, which is a straight timber of a similar size to those used in the lower part of the cross frame. The space above the upper collar is empty. Each of the sides of bay 1 have seven studs of 15cm by 10cm scantling with gaps of 38-48cm. These are single-pegged to both sill beam and wall plate. There are no girding beams, but straight plank bracing falls from the main posts to the centre of the sill beam. On the west side the brace falling from the corner post is on the outside of the frame, whilst that falling from truss A is attached to the inside of the frame. Both braces pass through recesses in the studwork. On the east side there is a single internal straight plank brace falling from the post of truss A but no indication of an external one.

Truss A has re-used jowled posts supporting a straight tie beam of c 25cm by 25cm scantling. The west side has a bolted knee brace and an iron cramp strengthening the joint with the principle rafter and a lightly arched brace falling from the first purlin to the tie beam. On the east side of the truss the jowled post sits upon a section of the sill beam that has been cut from the main beam and slightly raised. No knee brace is present although one appears to have been removed. A thick iron strap has been bolted to the post and tie beam to act as a brace. The arched brace present on the west side of the truss is missing from the east side. Above the tie beam the principal rafter and the arched brace come together to support the first purlin, to which is attached a lightly curved collar beam, which acts upon the roof in compression. Rafters rise from the first purlin to the apex of the roof and there are upper collars intermediate to the trusses, pegged to common rafters, which clasp the upper purlin. Both purlins extend for the length of a single bay and are then scarfed together. The roof is further strengthened by wind braces falling from just below where the principal rafters meet the first purlin, terminating at the wall plate.

Bay 2 has an entrance in the west side and is completely open to the east. The west entrance has a pair of outward opening doors held on posts inserted next to the posts of trusses A and B. These doors are split with the top third capable of independent movement. The lintel of this entrance is higher than the wall plate of bays 1 and 3 and the rafters have been shortened to accommodate it. The timber forming the lintel, although re-used, is not the original wall plate. On the east side the opening is the full width between the posts of trusses A and B and grants access into structure 1a. Inclined timbers rising from the tie beams of these trusses to the centre of bay 2, and the remains of a girding beam and a wall plate projecting from the east face of the post of truss A, indicate a midstrey has been removed from this side of bay 2 (Plate 7).

Truss B is formed by straight posts carrying a straight tie beam, virtually identical to truss A. The west side has a bolted knee brace, whilst the east has an iron strap performing this function. As with truss A there is a lightly curved brace falling from the first purlin to the tie beam, which has been removed on the east side. One difference to the detail of truss B is where the first purlin and principal rafter meet the compression collar. Here an angled knee brace has been bolted to the principal rafter and collar, with the curved brace joining directly to the purlin.

Bay 3 has six studs of 15cm by 10cm scantling with gaps of 28-40cm to the west, and five of 15cm by 10cm scantling with gaps of 42-48cm to the east. These are all single-pegged to both sill beam and wall plate. External straight plank bracing falls from the posts of truss C, passing through recesses in the studs. The sill beam of the west wall has two face-halved scarf joints, one to the north of truss C, the other 1m south of truss B. The second of these is a modern repair which has also affected the two studs closest to truss B; the first is original to the structure. The east side has a face-halved scarf joint in the sill beam just north of truss C and another in the wall plate.

Truss C has straight posts, each with a bolted knee brace, supporting a straight tie beam. Above the tie beam the arrangement of the roof timbers is identical to that of truss B, except that the curved brace rising from the tie beam meets the principal rafter at the base of the small knee brace rather than at the first purlin. There is a scratched carpenters' mark (X) on the north face of the east post and a chiselled (IXI) on the south face of the tie beam, above the west knee brace (Plate 8).

Bay 4 has six studs of 15cm by 10cm scantling with gaps of 34-40cm to the west and five of 15cm by 10cm scantling with gaps of 41-44cm to the east. These are all single-pegged to both sill beam and wall plate. External straight plank bracing falls from the posts of truss C, passing through recesses in the studs and terminating at the central studs. There is a face-halved scarf joint in the west wall plate, immediately south of truss C.

Truss D has two jowled posts, of which the one to the west is a partial replacement, scarfed to the original c 30cm above the join to the sill beam. Both have a bolted knee brace and carry a straight tie beam. There are no braces from the tie beam to the first purlin but peg holes visible in the principal rafters suggest there would have been lightly curved braces meeting the first purlin in the same manner as truss A.

Bay 5 is similar to bay 2, with an entrance in the west wall and a full width opening in the east. However, the timbers of this bay display evidence of sideways and lengthways movement, with the purlins and rafters in particular, showing signs of racking. The entrance in the west wall has a pair of outward opening doors attached to a post to the north and directly to the corner post of the structure to the south. Whereas the doors of bay 2 have additional openings above, here the space between the tops of the doors and the lintel has been infilled. As with bay 2 the wall plate has again been raised to accommodate the lintel and now sits awkwardly at an angle on the wall plate next to truss D. On the west side very few timbers remain above the opening. The wall plate from bay 4 projects past truss D but has then been sawn through. A timber has been placed on top of the wall plate (as it has on the opposite side of the barn) and this extends across the width of the bay, terminating on the top of a modern square post that forms part of the south cross frame of structure 1c. However, the cross frame at the south end of structure 1c does not exist as a true cross frame. On the west side the corner post has a bolted knee joint supporting an irregular tie beam rather than the squared timbers associated with a cross frame. This is lower than the wall plate of the east wall. There are also no indications of girding beams in the corner post which should be present if the south end was like the north cross frame. The corner post on the east side is a much later insertion, whose sole purpose is to provide support for the corner of the structure. Although the tie beam is on top of the timber that sits on the wall plate this projects eastwards and is not properly jointed. There is no framing below the tie beam, and no dwarf wall, nor are there mortices to receive the studs of a frame. Instead the building is open to the interior of structure 1d. Above the tie beam are two collars following the pattern of the other trusses. Vertical modern timbers have been attached to the collars but these serve only as anchor points for the sheeting that has been inserted in the gap between the two structures.

Structure 1d is an oak timber-framed building covered in horizontal black-painted weatherboarding and roofed with peg-tile, that abuts the south end of structure 1c (Plates 3-4). It is predominantly constructed of original timbers with some re-used timbers present. It has a small extension with a mono-pitch roof projecting from the eaves of the south end. The structure comprises four bays (excluding the extension) with joggled girts and is open to the interior of structure 1c. The timber-frame sits on a dwarf wall of red brick laid in English bond, most of which is obscured by the concrete floor of the interior and made-up ground externally. Bay 1, to the north, has jowled corner posts but no tie beam. The post to the east has been joined to the tie beam of structure 1c by a tree limb nailed to it. Further support is provided by five horizontal braces nailed to the post and a vertical tree limb set into the concrete floor. The frame is held by a collar that is double-pegged to the principal rafters and clasps scarfed through purlins. The principal rafters rise to a ridge board and are further strengthened by a nailed yoke immediately below the ridge board. The west

wall of bay 1 has a girding beam with four studs below and four above. The stud closest to the corner post is split by an ogee brace that falls from post to girding beam. The girding beam is single-pegged to the posts and the studs are all single-pegged to both sill beam and wall plate. The east wall has a girding beam with five studs of 15cm by 7cm scantling with gaps of c 37cm above and a straight brace that falls from the corner post to the base of the central stud, cutting the two studs closest to the corner post. Below the girding beam the wall has been rendered with concrete and no timbers are visible.

Truss A has jowled posts supporting a curved tie beam with no braces. The principal rafters rise from the heads of the posts to a ridge board at the apex of the roof. A straight collar is double-pegged to the principal rafters at just over half the height of the truss, and clasps a through purlin in either pitch.

The west wall of bay 2 has a single-pegged girding beam with four studs below and five above. An ogee brace falls from truss A to the girding beam. These are all single-pegged to sill beam and wall plate. Where the ogee brace cuts the studs, two are left above the curve and only one below it. The three full length studs are much narrower than the others. The wall plate has a face-halved scarf joint with a single iron bolt and no visible pegging. The east wall has four studs with a straight brace falling from the post of truss A to a girding beam which cuts the two studs closest to truss A. Below the girding beam the timber-frame has been replaced by a breezeblock infill. There is a face-halved scarf joint in the wall plate, double-pegged and with a strengthening iron bolt.

Truss B has straight posts on either side with a curved tie beam at the wall plate and an additional beam extending across the structure just above the girding beams. The space between these two beams has six studs and an ogee brace falling from either post to the lower beam (Plate 9). The ogee braces are double-pegged to the posts and single-pegged to the lower beam. The studs are single-pegged to the beams and ogee braces. Above the tie beam are seven studs rising to the principal rafters past a collar that clasps the purlins and is double-pegged to the principal rafters. The middle stud is off-centre to the ridge line. The frame was covered with laths and plastered creating a central division to the structure; however no trace of any studwork below the lower beam could be found and it appears to have originally been open. This was subsequently closed with a breezeblock wall.

Bay 3 has an inserted entrance in the west wall, which has cut through the girding beam and removed a significant amount of the studwork. What is left suggests there were four studs both above and below the girding beam, with an ogee brace falling from the post of truss C to the girding beam. All the joints are single-pegged. The east wall has a girding beam with four studs below it and four above with a straight brace falling from truss C cutting the two studs closest to truss C. Again, all the joints are single-pegged. The braces in either wall are in mirror symmetry with those on the other side of truss B, a pattern continued in bay 4.

Truss C is different to A and B. Here the wall plate crosses the straight posts as is normal, but the tie beam does not in turn rest on it. Instead, the curved tie beam is placed between the posts roughly 40cm below the bottom of the wall plate. There is no readily apparent reason for this, although this may explain why strengthening iron ties have been inserted through the wall plates above this truss and in bay 1. The principal rafters then rise to the ridge board with a collar double-pegged to them in the same manner as the other trusses.

Bay 4, which is not as deep as the others, has also had some alterations. The west wall has a girding beam with three studs below it. Between the post of truss C and the first stud, a small hatch has been inserted. Above the girding beam an ogee brace falls from the corner post to the girding beam, cutting two studs. Where the ogee brace meets the girding beam a third stud rises but this has been sawn through and a four-light window inserted. A modern timber forms the north side of this window and an original stud is located just to the north of this. The east wall has a straight brace falling from the corner post to a girding beam with four studs above the brace and three below. Peg holes in the girding beam indicate there were originally five studs below it, of which only three survive. The corner posts of the cross frame are both jowled and support a wall plate, with no bracing. This may have been removed when the extension was added. The three sides of this have sill

beams on dwarf walls, with closely spaced studwork passing through straight braces that fall from the corner posts, to side beams and a wall plate that are the same height as the girding beams of the main structure. An additional horizontal timber is nailed to both of the main structure's corner posts. This has 'H Swallow 1918' painted on one side. Three inclined re-used timbers are nailed to the top of this, projecting at a 45 degree angle to a purlin that carries the rafters of the mono-pitch roof to the extension.

Barn 2, structures 2a-d (Figs 7, 16-18)

Barn 2 is a long range of buildings aligned north to south on the west side of the farmyard and comprises four separate structures numbered 2a-d on Fig 7 (Plate 10).

Structure 2a is a rectangular timber-framed barn of three bays with a midstrey to the east, clad in horizontal black-painted weatherboarding with a gabled roof of corrugated iron sheeting (Plate 11). Apart from the eaves and the apex of the gable (which is weatherboarded) the south wall is covered in a concrete render. The frame sits upon a dwarf wall of red brick (dimensions 230mm by 110mm by 70mm) laid in irregular bond with a lime mortar. The corner and intermediate posts vary in size, from 12cm by 18cm scantling to 15cm by 20cm, with only the corner posts of the north frame being a matched pair. The floor is of concrete throughout the barn and the interior of the dwarf wall has been rendered with concrete.

The sill beam of the south wall appears to be original, although it comprises three sections of unequal length. In cross-section the beam is of 17 by 15cm scantling. The south wall has eight studs of varying dimensions (ranging from 11cm by 10cm scantling to 12cm x 12cm) with gaps of 39-50cm. Straight bracing falls from jowled corner posts on each side of the frame, cutting the studs. Several of the studs have been repaired with modern timber or are missing sections below the braces. The surviving timbers of this end frame appear to be original to the barn but are clearly re-used from an earlier structure. The re-used wall plate has exposed mortises in between the studs as well as the remains of sawn-through tenons, and is joined to the south-west corner post by an iron cramp. The studs are single-pegged to the wall plate. The south-west corner post has a scratched carpenters' mark (II), whilst the south-east corner post has an incised mark (III).

With the exception of the truss posts the entire west wall of structure 2a has been replaced. Re-used railway sleepers, sitting on a re-built brick dwarf wall, have been substituted for a sill beam and all the studwork is of modern timber. The wall plate is original but has been strengthened by additional timbers and has a scarf joint in bay 2. The section of the wall plate in bay 1 indicates it originally had six single-pegged studs. The east wall of bay 1 has a replacement wall plate and studs, but pegs in the surviving sill beam indicate this frame originally had six studs.

Truss A has a square-section, straight tie beam supported by knee braces bolted to angular jowled posts, of which the one to the west is re-used. The west post has a scratched carpenters' mark (IIV), the east post has a chiselled (IIII).

Truss B has jowled posts similar to those of Truss A, joined by a square-section, straight tie beam. The east side of bay 2 is open to a midstrey, attached to the main barn with original cross-braces and supports. The midstrey has a gabled roof of corrugated iron sheeting. The corner posts are jowled with straight plank braces rising to a flying wall plate. The lower section of the corner post to the north is missing. The posts that supported the midstrey doors (missing) are straight, square-section posts, although the southern of these has been removed. Two iron pintles are set into the remaining doorpost to the north, whilst two additional pintles have been attached to the corner post on the south side of the midstrey. The surviving doorpost retains evidence for the threshold leap (a board inserted across the midstrey entrance during threshing to keep the grain in the barn (Plate 12)). The curved flying wall plate above the midstrey entrance has seven surviving studs rising to a curved collar beam and spaces for two more. Above the collar beam are spaces for five studs, only one of which remains in situ. The sides of the midstrey sit on dwarf brick walls, originally with three studs rising from a sill beam to a mid-rail with two studs above. All are single pegged timbers of 14 x 8cm. The south side of the midstrey has an inserted door in the lower register which has removed two of the

three studs and moved the third. On the north side the mid-rail has been repaired and strengthened with an iron strap.

The east side of bay three has six studs with average dimensions of 13cm by 8cm scantling with gaps of 44cm, and original arched plank bracing falling from the wall plate to the posts. The north wall of structure 2a has jowled corner posts with very angular cuts around the heads of the posts, a straight, square-section wall plate and eight studs. The studs, which are single-pegged to the wall plate, are of 13cm by 9cm scantling with an average gap of 39-48cm. The east corner post has a chiselled carpenters' mark (II) and the west corner post has a scarf joint in the lower third of the post, probably contemporary with the replacement of the west wall. A similar scarfed post can be found on the west side of truss B.

All of the rafters and collars above the wall plates and tie beams have been replaced by modern timbers, although a single collar-clasped through purlin to either pitch may have been copied from the original roof design.

Structure 2b extends north from the main barn (structure 1a) and is a small timber-framed building, supported on dwarf brick walls, with a gabled roof of corrugated iron sheeting (Plates 10 and 13). It has a raised concrete floor which is level with the top of the sill beams. The building is divided into two bays by a centrally located truss carried by jowled posts with a curved tie beam with chamfered edges.

The north wall has five studs of 14cm by 9cm scantling with gaps of 51-54cm, and two jowled corner posts. Above the wall plate are six posts rising to a collar beam with three upper posts, the central one of which directly supports the ends of the principal rafters. The west walls of bays 1 and 2 both have five studs of 13cm by 9cm scantling with gaps of 48-53cm. These are a mix of modern and re-used timbers and display some carpenters' marks. From south to north, the third stud is marked with a (III) which appears to be either badly chiselled or cut with a knife, the next timber is a replacement, the next is a re-used timber with no carpenters' marks, the truss post has no marks, the second timber of bay 2 has what appears to be (VXX), the next timber is possibly marked (IIXX) but is partially obscured and the last marked stud has (XXIII). The wall plate of the west wall is formed from a single timber.

Bay 1 has an entrance south of the truss post and three studs of 13cm by 8-9cm scantling with gaps of 45-49cm. The middle stud has been cut down and a rail inserted between the outer studs to form a crude window. North of the truss post bay 2 has five studs with the same scantling and gaps. The east wall plate is formed from two timbers joined over the truss post. All of the studs are single-pegged to the wall plate.

Structure 2c is an L-plan stable block with irregularly bonded red stock brick walls to the west, north and east and timber fronting facing south onto the farmyard (Plate 14). In the 20th century the elevations facing the farmyard were walled with a combination of breezeblock and horizontal weatherboarding. The original elevations were most likely a series of four stable doors with weatherboarding surround. This was attached to five machine-cut posts topped with pillows supporting the wall plate. The floor throughout is of concrete and the entire space has been sub-divided by half-height brick walls. The roof is of machine-cut timbers with nailed collar clasped purlins, covered in slate. A concrete base and weathering on the exterior of the east wall suggest a small mono-pitch roofed building has been removed.

Structure 2d is a timber-framed lean-to on the east side of bay 3 of structure 2a that extends north across part of 2b (Plate 15). It has an entrance in its north elevation and is constructed from machine-cut timbers. The roof is of corrugated iron sheeting and extends from the eaves of bay 3 in structure 2a and from the ridge line of structure 2b at a slightly shallower pitch. The north wall stands on a brick dwarf wall, whilst the east wall has a single, centrally located brick pier providing support.

6 Discussion

The buildings at Wall Farm raise more questions than the evidence can perhaps answer. The exact ages of the barns in particular are quite difficult to accurately state but the following discussion will attempt to provide a chronology for each of the three buildings surveyed.

The dovecote is the only structure on the farm that is contemporary with the farmhouse. The building itself is a symbol of social change in the 17th century as the keeping of doves or pigeons in the medieval period was usually restricted as a manorial right (*Historic Farmsteads, Preliminary Character Statement: East of England Region* 2006, 64-67) their meat and eggs both a delicacy and an important winter foodstuff, whilst their droppings were a source of rich fertilizer and an active ingredient in medicine (Lake 1989, 39). By the 17th century manorial control had lessened and thousands of dovecotes were built between 1650 and 1750 when grain was relatively cheap. Dovecotes were also often included as a decorative feature on a farm. The siting of the dovecote by the edge of the pond would have been aesthetically pleasing, and visitors to the farmhouse would have had to pass by it on arrival. However, rising grain prices and a decline in the popularity of pigeons in the late 18th century saw many dovecotes converted to other functions. The one at Wall Farm was converted to a granary at this time and the conversion has removed any evidence for nesting boxes or original fittings.

Typically entrances to dovecotes were low to discourage the birds from flying out of them. The entrance in the south wall is not particularly low and was probably increased in height when the building was converted. The two small windows in the lower storey are contemporary to the dovecote, but these were probably for internal illumination rather than points of egress for the birds. The interior would have been open to both storeys with nesting boxes lining the walls. There is no surviving evidence for a potence (a central pivoted post with arms supporting a revolving ladder to provide access to the nesting boxes) and as the structure is square rather than round, the collection of eggs and squabs may have been achieved by a mobile ladder instead. If the structure had a cupola surmounting the roof, for the birds to fly in and out of, this too has disappeared.

The conversion to a granary saw the dovecote fitted with a large-section bridging beam supporting a series of joists and lapped floorboards, creating a loft with a strong load-bearing floor. The timber frame of the upper storey was breached in the east wall and a door inserted. The interior of the loft was close-boarded with horizontal planking and there were no obvious indications of grain bins. The sill beam beneath the door was slightly recessed and had two large iron hooks mounted into the timber. As there was no external staircase to this granary, these probably held a plank ramp in position whilst sacks of grain were hauled up to the loft. With no apparent grain bins and little room for them anyway, the grain was most likely stored in the sacks and then poured down the grain chute when required.

Air circulation, to prevent the grain spoiling, was important. This was typically achieved in granaries by ventilated openings, such as louvers, shutters or sliding grilles. No such measures were apparent in the loft, but these may have been destroyed when the lath and plaster infill of the upper storey frame was replaced with brick nogging.

Barn 1 is difficult to date. Although the outbuildings of the barn can be chronologically dated by reference to the cartographic sources, there is greater ambiguity when attempting to date the main body of the barn, structure 1c. Although this is clearly the oldest part of the barn it is difficult to state whether or not it is the structure depicted on the Chapman and André map of 1777, or a later replacement. This is because the two earliest depictions (the Chapman and André map of 1777 and the tithe map of 1839) differ. Both show a barn with a central midstrey, but the Chapman and André map has the midstrey projecting east, whilst the tithe map has it projecting to the west. This could be explained as the tithe map representing a different building of a later date, but the fact that the Ordnance Survey map of 1875 shows a barn with a midstrey to the east (as on the Chapman and André map) suggests that the tithe map is inaccurate and that structure 1c dates to 1777 or

earlier. However, there are further problems with structure 1c dating to the 18th century. If it is assumed that only the orientation is incorrect on the tithe map then we must still reconcile the fact that both early maps show a barn with a single midstrey (suggesting three bays) with the evidence that structure 1c has five bays and only one midstrey. An immediate interpretation of this is that the three bay barn has been extended to the south. Evidence for this interpretation being accurate comes from the width of the bays and scarf joints. Bays 1-3 are each of differing width, with bay 1 4.35m wide, bay 2 3.85m wide and bay 3 3.5m wide. Although some minor difference in width would be expected, the end bays at least, should be closely matched. This difference can be accounted for when the timbers around truss C are examined. Scarf joints are located in the sill beams immediately north of the posts of truss C and in both wall plates. The joint on the east wall plate is to the north of the truss post but the one on the west wall plate is south of the truss post. If the wall plate on the west side represents the true width of the bay this would make bays 1 and 3 equal sizes, flanking a slightly smaller central bay with midstrey. It would also indicate that the south cross frame has been completely removed and replaced with the two straight posts and tie beam of truss C. Further evidence to support this removal of timbers comes from the post on the east side of truss B. This displays no indication of the tenons which would have been necessary for the midstrey frame (unlike the post of truss A) and so must be a replacement. The original cross frame was probably moved to the end of the extended barn.

If the premise that an original three bay threshing barn has been extended is accepted then the resulting layout must be questioned. Five bays with a midstrey at bay 2 is an odd layout for a threshing barn and could suggest there is a missing sixth bay and a missing midstrey at bay 5. The lack of dwarf wall in the east side of bay 5 might indicate the presence of a second midstrey, which in turn would suggest a sixth bay to the south. Such an extension would have doubled the size of the original barn, which may have occurred as result of William Townsend's acquisition of the Coppdock's fields in the early 19th century.

However, as the 1875 Ordnance Survey map shows structure 1d, this theoretical six bay barn could not have existed for very long. An explanation for this can be found when the moat is examined. The infilling of the northern section of the medieval moat was completed before the construction of the farm buildings (as shown by the Chapman and André map) but enough of the moat survives to suggest that the junction of structures 1c and 1d is on top of the northern section. It is possible that soft ground at this point caused a collapse of the fifth and sixth bays and the south midstrey. This is not merely conjecture, bay 5 shows evidence of movement and racking, and the lack of timbers above the opening to the midstrey suggests a complete collapse. The south end of structure 1c does not have a cross frame but instead has a post and truss arrangement acting as a cross frame, and is open to structure 1d. This theory solves some problems associated with structure 1d. If structure 1d is considered on its own, then the building suffers from apparently having no original entrances. The doorway in the west wall of bay 3 is a later insertion and raises the question of how this building was accessed. It would appear that, instead of rebuilding the south end of structure 1c, a new building was erected. This new building, structure 1d, was squatter and less affected by sideways movement than the taller barn. The elaborate studwork of truss B was probably an attempt to reduce further risk of movement. Therefore, access to structure 1d was through open end of the main barn, structure 1c. It is also likely that the south end of the building was originally an entrance, although the lean-to extension has removed any trace of this. This extension can be tentatively dated to 1918 by the painted timber forming part of the frame.

Structure 1b was built between 1839-75, possibly as part of the rebuilding of the main barn, but more likely as an independent endeavour. The open sides of the three bays indicate the structure was a cart shed, with the lean-to extension to the east and the infilled walls of the north and west sides being 20th-century alterations. The map evidence suggests the cart shed had a short life before it was altered to accommodate the angled brick building to the north.

The large barn to the east of the main range, structure 1a, was built after 1951. It was the construction of this that was the cause of the removal of the north midstrey.

The large open interior suggests this space may have been used for the storage of farm machinery.

Following these theories gives us a rough chronology for Barn 1. In the 18th century the barn was already established as a three bay threshing barn. Sometime after 1839 it was extended but suffered structural collapse soon after. The smaller barn, structure 1d was built to the south after this collapse and a cart shed, structure 1b, was built to the north of the original barn. After 1951 a large shed was attached to the east side and small lean-to extensions added to structures 1b and 1d.

The earliest phase of Barn 2 is also difficult to date. The Chapman and André map of 1777 is too indistinct to make out detail but does suggest a building in the approximate location of structure 2a. This is probably the building shown on the tithe map of 1839. The accuracy of this source has already been questioned and it is unlikely that the structure shown forms part of Barn 2. Although Barn 1 is shown facing the wrong way it is, nonetheless a detailed depiction. If the structure to the west is drawn to a similar level of detail, then it is shown without a midstrey and incorrectly orientated. The building shown on the tithe map is unlikely to be the three bay threshing barn. As structure 2a appears on the 1875 Ordnance Survey map this gives the building a date range of 1839-75. The lean-to (structure 2d) also appears on this map and was probably added shortly after the threshing barn was completed. However, as the lean-to covers part of structure 2b (built between 1875-97) it must have been extended after 1875. It is possible that the original extent of the lean-to was no further than the brick pier shown on Fig 16.

The small two bay shed, structure 2b, and the L-plan stable block, structure 2c, were also built between 1875-97, with the shed being the earlier of the two structures.

The number of farm buildings that were constructed at Wall Farm between 1839-97 reflect the prosperity and productivity of the 'High Farming' years of the 19th century. The expansion of the 18th-century threshing barn and the erection of the new threshing barn and outbuildings in the 19th century are a direct result of the increased yields harvested by Victorian farmers using new techniques and equipment. The number of re-used timbers found in both barns is illustrative of the thrifty nature of the Victorian farmer and points to the fact that Wall Farm was probably moderately prosperous rather than a wealthy holding. The fact that the majority of the structures built in the 19th century were timber-framed rather than brick-built, shows how traditional farming ideas co-existed with the new ways of thinking.

The threshing barns and the dovecote in particular, are the most significant structures on the site. They provide a visible link to Essex's agricultural past that has all too often been swept away in the drive for modernization. Surviving dovecotes are not particularly common in Essex and Wall Farm provides a glimpse of farming history that is often unseen. Sadly the conversion of the dovecote to granary and the alterations to the threshing barns has lost many of the original features. However, enough of Wall Farm survives to illustrate the development of a small Essex farm, from the 17th century up to the 20th century.

7 Acknowledgments

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The building recording was carried out by Chris Lister.

The project was monitored by Richard Havis on behalf of Essex County Council Historic Environment Branch.

8 References

Note: all CAT reports, except for DBAs, are available online in .pdf format at <http://cat.essex.ac.uk>

Brunskill, R.W	1994	<i>Timber Building in Britain</i>
CAT	2011	<i>Written Scheme of Investigation for Archaeological Investigation at Leaden Hall Farm Barns, Leaden Roding: Building Recording and Detailed Monitoring and Recording.</i>
DoE	2010	<i>Planning Policy Statement 5: Planning for the Historic Environment</i>
EAA 14	2003	<i>Standards for field archaeology in the East of England</i> , East Anglian Archaeology, Occasional Papers, 14 , ed by D Gurney
English Heritage	2011	<i>Listed Buildings Online</i> http://www.english-heritage.org.uk/ibonline
Harris, R.	2009	<i>Discovering Timber-Framed Buildings</i>
Harvey, N.	1984	<i>A History of Farm Buildings in England and Wales</i>
Havis, R.	2011	<i>Brief for historic building recording at Wall Farm Barn, Ford End, Great Waltham, Chelmsford</i> , Essex County Council brief
IfA	2008	<i>Standard and guidance for archaeological investigation and recording of standing buildings and structures</i>
IfA	2008a	<i>Standard and guidance for the collection, documentation, conservation and research of archaeological materials</i>
Lake, J	1989	<i>Historic Farm Buildings</i>
MoRPHE	2006	<i>Management of research projects in the historic environment</i> (English Heritage)
University of Gloucestershire	2006	<i>Historic Farmsteads, Preliminary Character Statement: East of England Region</i>

9 Abbreviations and glossary

CAT	Colchester Archaeological Trust
context	specific location on an archaeological site, especially one where finds are made
EHER	Essex Historic Environment Record, held by the ECC
feature	an identifiable thing like a pit, a wall, a floor; can contain 'contexts'
girding beam	horizontal beam in a wall, roughly half way between sill beam and wall plate
HEM	Historic Environment Management Team
IfA	Institute for Archaeologists
joggled	where horizontal timbers are staggered rather than continuous
jowl	the enlarged head of a main post which permits the tie beam, wall plate and post to be jointed together
layer	distinct or distinguishable deposit of soil
medieval	period from AD 1066 to Henry VIII
modern	period from the 19th century onwards to the present
natural	geological deposit undisturbed by human activity
NGR	National Grid Reference
post	in wall frames vertical members which rise the full height of the frame, being either main posts at the bay divisions or intermediate posts within the bay
post-medieval	after Henry VIII to around the late 18th century
purlin	longitudinal roof timbers, intermediate between wall plate and ridge, carried by roof trusses and giving support to rafters
scantling	a term denoting the cross section-of a timber

10 Archive deposition

The paper and digital archive is currently held by the Colchester Archaeological trust at 12 Lexden Road, Colchester, Essex CO3 3NF, but it will be permanently deposited with Chelmsford Museum under accession code CHMRE 2011.263.

11 Contents of archive

One A4 document wallet containing:

1 Introduction

- 1.1 Copy of ECC brief
- 1.2 Copy of WSI produced by CAT
- 1.3 Risk assessment
- 1.4 Copies of existing plans and elevations (3 A4 sheets)

2 Site archive

- 2.1 Digital photographic record.
- 2.2 Digital photographic contact sheet.
- 2.3 Colour 35mm photographic record.
- 2.4 Colour 35mm photographic contact sheet.
- 2.5 Attendance register
- 2.6 Site photographic record on CD

3 Research archive

- 3.1 Monitoring (client) report

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Distribution list

R E Butler and Son

Alun Design Consultancy Ltd

Richard Havis, Essex County Council Historic Environment Management team officer

EHER



Colchester Archaeological Trust

12 Lexden Road,
Colchester,
Essex CO3 3NF

tel.: (01206) 541051

email: archaeologists@catuk.org

checked by: Philip Crummy
date: 02/03/12

Appendices
Appendix 1
Selected photographs



Plate 1 17th-century dovecote.



Plate 2 17th-century dovecote, lower storey interior showing blocked window and grain chute.



Plate 3 Barn 1, (left to right) structures 1b-d.



Plate 4 Barn 1 showing (from left to right) structure 1d with lean-to extension and remains of later shelter shed, and structure 1a projecting from the east side of structure 1c.



Plate 5 Barn 1, structure 1b with lean-to extension to the left and infill of the west bays.



Plate 6 Barn 1, structure 1b; detail of hanging knee brace of truss B, with bark attached.



Plate 7 Barn 1, structure 1c; evidence for midstrey to the east of bay 2.



Plate 8 Barn 1, structure 1c; carpenters' marks on truss C above hanging knee brace.



Plate 9 Barn 1, structure 1d; truss C with ogee braces.



Plate 10 Barn 2, (left to right) structures 2a-c, with structure 2d in the foreground .



Plate 11 Barn 2, structure 2a; threshing barn with lean-to 2d to the right.



Plate 12 Barn 2, structure 2a; remains of threshold leap in surviving midstrey doorpost.



Plate 13 Barn 2, structure 2b; exposed timber frame showing curved and chamfered tie beam.



Plate 14 Barn 2, structure 2c; L-plan stable block with dovecote to the right.



Plate 15 Barn 2, structure 2d; lean-to covering the exterior of structure 1a and partially covering the exterior of structure 1b.

Appendix 2

Full list of digital photographic record (images on accompanying CD)

- 001.jpg Wall Farm general shot - view south.
- 002.jpg Wall Farm general shot - view south.
- 003.jpg Wall Farm general shot - view south-east.
- 004.jpg Barn 1 structure 1b - view south-east.
- 005.jpg Barn 1 structures 1b and 1c - view south-east.
- 006.jpg Barn 1 structures 1b-d - view north-east.
- 007.jpg Barn 1 structures 1c and 1d - view south-east.
- 008.jpg Barn 1 structures 1c and 1d - view north-east.
- 009.jpg Barn 1 structure 1d - view east.
- 010.jpg Barn 1 structure 1b - view south-east.
- 011.jpg Barn 1 structure 1a and 1b - view south.
- 012.jpg Barn 1 structures 1a and 1b - view south-west.
- 013.jpg Barn 1 structures 1d and 1a - view north-west.
- 014.jpg Barn 1 structure 1d - view north-west.
- 015.jpg Barn 1 structure 1a timber-framing - view south-west.
- 016.jpg Barn 1 structure 1a interior, showing plank cladding and plastering of external wall to structure 1c - view north.
- 017.jpg Barn 1 structure 1c showing remains of removed midstrey - view south-east.
- 018.jpg Barn 1 structure 1b interior - view south-east.
- 019.jpg Barn 1 structure 1b interior - view north-east.
- 020.jpg Barn 1 structure 1b after removal of modern roofing and wall infill - view north-east.
- 021.jpg Barn 1 structure 1b timber-frame and inserted brick wall - view south-east.
- 022.jpg Barn 1 structure 1b, detail of collar-clasped purlins - view north-west.
- 023.jpg Barn 1 structure 1b, bolted knee brace supporting tie beam - view north-east.
- 024.jpg Barn 1 structure 1b north end, carpenters' marks (III) - view south-east.
- 025.jpg Barn 1 structure 1b north end, carpenters' marks (IIV) and (IIIV) - view south-east.
- 026.jpg Barn 1 structure 1b north end, carpenters' marks (IIV) and (IIIV) - view south-east.
- 027.jpg Barn 1 structure 1c west wall, northern barn doors - view south-east.
- 028.jpg Barn 1 structure 1c west wall, southern barn doors - view south-east.
- 029.jpg Barn 1 structure 1c, interior with structure 1d in the background - view south-east.
- 030.jpg Barn 1 structure 1c, interior - view north-west.
- 031.jpg Barn 1 structure 1c, north wall timber-frame - view north-west.
- 032.jpg Barn 1 structure 1c, north wall timber-frame, upper register - view north-west.
- 033.jpg Barn 1 structure 1c, bay 1 west wall timber-frame - view south-west.
- 034.jpg Barn 1 structure 1c, bay 1 east wall timber-frame - view east.
- 035.jpg Barn 1 structure 1c, bay 2 interior of barn doors - view south-west.
- 036.jpg Barn 1 structure 1c, bay 2 opening to removed midstrey - view north-east.
- 037.jpg Barn 1 structure 1c, bay 3 west wall timber-frame - view south-west.
- 038.jpg Barn 1 structure 1c, bay 3 east wall timber-frame - view north-east.
- 039.jpg Barn 1 structure 1c, bay 4 west wall timber-frame - view south-west.
- 040.jpg Barn 1 structure 1c, bay 4 west wall timber-frame - view north-east.
- 041.jpg Barn 1 structure 1c, bay 5 interior of barn doors - view south-west.
- 042.jpg Barn 1 structure 1c, bay 5 east wall opening to removed midstrey - view south-east.
- 043.jpg Barn 1 structure 1c, bay 5 gable timbers - view south-east.
- 044.jpg Barn 1 structure 1c, bay 1 first purlin and rafters - view south-west.
- 045.jpg Barn 1 structure 1c, roof detail - view south.
- 046.jpg Barn 1 structure 1c, bay 2 first purlin and rafters showing re-used timbers and angled bracing- view south-west.
- 047.jpg Barn 1 structure 1c, truss B- view north-west.
- 048.jpg Barn 1 structure 1c, remains of midstrey to bay 2 - view north-west.
- 049.jpg Barn 1 structure 1c, carpenters' mark (IXI) on tie beam of truss C - view north-west.

- 050.jpg Barn 1 structure 1c, carpenters' mark (IXI) on tie beam of truss C and bolted knee brace - view north.
- 051.jpg Barn 1 structure 1c, scratched carpenters' mark (X) on post of truss C - view south-east.
- 052.jpg Barn 1 structure 1c, peg supported additional top plate carrying rafters - view west.
- 053.jpg Barn 1 structure 1c, bay 1 east wall showing remains of external planking and plaster - view north-east.
- 054.jpg Barn 1 structure 1d, bay 4 with extension in the background - view south-east.
- 055.jpg Barn 1 structure 1d, bays 3 and 4 with modern alterations - view north.
- 056.jpg Barn 1 structure 1d, hatch in wall of bay 4 - view east.
- 057.jpg Barn 1 structure 1d, door to bay 3 - view east.
- 058.jpg Barn 1 structure 1d, bay 1 west wall timber-frame with ogee brace - view south-west.
- 059.jpg Barn 1 structure 1d, bay 1 east wall timber-frame with render and straight brace - view north-east.
- 060.jpg Barn 1 structure 1d, bay 2 west wall timber-frame with ogee brace - view south-west.
- 061.jpg Barn 1 structure 1d, bay 2 east wall timber-frame with straight brace and breeze block infill to lower register - view north-east.
- 062.jpg Barn 1 structure 1d, bay 3 west wall timber-frame with doorway and ogee brace - view south-west.
- 063.jpg Barn 1 structure 1d, bay 3 east wall timber-frame with straight brace - view south-east.
- 064.jpg Barn 1 structure 1d, bay 4 west wall timber-frame with ogee brace and later hatch and window - view south-west.
- 065.jpg Barn 1 structure 1d, bay 4 east wall timber-frame with opening in lower register - view north-east.
- 066.jpg Barn 1 extension to structure 1d - view south.
- 067.jpg Barn 1 extension to structure 1d - view south.
- 068.jpg Barn 1 extension to structure 1d - view south-east.
- 069.jpg Barn 1 extension to structure 1d, graffiti - view south.
- 070.jpg Barn 1 structure 1d, dividing timber-frame with ogee braces - view south-east.
- 071.jpg Barn 1 structure 1d, dividing timber-frame with ogee braces - view north-west.
- 072.jpg Barn 1 structure 1d, detail of ogee brace in dividing timber-frame - view north-east.
- 073.jpg Barn 1 structure 1d, detail of ogee brace in dividing timber-frame - view north-west.
- 074.jpg Barn 1 structure 1d, detail of peg tiles hooked over laths.
- 075.jpg Barn 1 structure 1c, original animal trap.
- 076.jpg Remains of buildings to the north of Barn 1 - view north-east.
- 077.jpg Barn 2 structure 2a - view west.
- 078.jpg Barn 2 - view north-west.
- 079.jpg Barn 2 with lean-to structure 2d in the foreground - view south-west.
- 080.jpg Barn 2 structure 2a, midstrete - view south-west.
- 081.jpg Barn 2 structure 2c with the dovecote in the background - view north-west.
- 082.jpg Barn 2 - view south-west.
- 083.jpg Barn 2 structure 2c - view south-east.
- 084.jpg Barn 2 - view south-east.
- 085.jpg Barn 2 structure 2a - view north-east.
- 086.jpg Barn 2 structure 2a, partially rendered south elevation - view north-west.
- 087.jpg Barn 2 structure 2a, interior - view north-west.
- 088.jpg Barn 2 structure 2a, interior of midstrete - view north-west.
- 089.jpg Barn 2 structure 2a, north wall timber-frame - view north-west.
- 090.jpg Barn 2 structure 2a, east wall timber-frame - view north-east.
- 091.jpg Barn 2 structure 2a, south wall timber-frame - view south.
- 092.jpg Barn 2 structure 2a, east wall timber-frame and midstrete with inserted door - view north-west.
- 093.jpg Barn 2 structure 2a, tie beam of truss A with attached bark - view south.
- 094.jpg Barn 2 structure 2a, exposed timber-frame - view west.

- 095.jpg Barn 2 structures 2a, 2b and 2d, exposed timber-frame - view south-west.
096.jpg Barn 2 structure 2a, south wall timber-frame - view north.
097.jpg Barn 2 structure 2a, modern studs of west wall - view north-east.
098.jpg Barn 2 structure 2a, jowled corner post of midstrey - view north-west.
099.jpg Barn 2 structure 2a, evidence for threshold leap in midstrey? - view north.
100.jpg Barn 2 structure 2a, jowled post, bolted knee brace and tie beam of truss A – view south-west.
101.jpg Barn 2 structure 2a, inclined strut supporting flying wall plate of midstrey - view south-east.
102.jpg Barn 2 structure 2a, tie beam of truss A with attached bark - view south-west.
103.jpg Barn 2 structure 2a, carpenters' mark (IIIV) joweled post of truss A - view south-west.
104.jpg Barn 2 structure 2a, replacement railway sleepers for west wall sill beam - view north-west.
105.jpg Barn 2 structure 2a, sill beam on dwarf wall, with internal concrete render - view north-east.
106.jpg Barn 2 structure 2a, tie beam of truss B and modern roof timbers - view north-west.
107.jpg Barn 2 structure 2a, jowled post, bolted knee brace and tie beam of truss B – view north-west.
108.jpg Barn 2 structure 2a, north wall timber frame - view north.
109.jpg Barn 2 structure 2a, south wall re-used wall plate - view west.
110.jpg Barn 2 structure 2b, interior - view south-west.
111.jpg Barn 2 structure 2b, west wall timber frame - view east.
112.jpg Barn 2 structure 2b, west wall jowled central post with bracket supporting tie beam - view west.
113.jpg Barn 2 structure 2b, irregular tie beam of truss A- view north.
114.jpg Barn 2 structure 2b, collar beam pegged to principal rafter with broken clasped purlin - view north-west.
115.jpg Barn 2 structure 2b, carpenters' marks (IIXX) - view west.
116.jpg Barn 2 structure 2b, carpenters' marks (VXX) - view west.
117.jpg Barn 2 structure 2b, carpenters' marks (IIII) - view west.
118.jpg Barn 2 structure 2c, interior prior to removal of modern alterations - view north.
119.jpg Barn 2 structure 2c, interior prior to removal of modern alterations - view south-west.
120.jpg Barn 2 structure 2c, interior after removal of modern alterations - view north-east.
121.jpg Barn 2 structure 2d, interior of lean-to - view south.
122.jpg Dovecote - view north-west.
123.jpg Dovecote, south elevation - view north-west.
124.jpg Dovecote, west elevation - view east.
125.jpg Dovecote, north elevation - view south.
126.jpg Dovecote, east elevation - view south-west.
127.jpg Dovecote, door to ground floor, south elevation - view north.
128.jpg Dovecote, door to first floor loft, east elevation - view west.
129.jpg Dovecote, original iron hooks at base of loft door - view north-west.
130.jpg Dovecote, detail of original first floor timber-frame, obscured by later concrete render - view west.
131.jpg Dovecote interior showing bridging beam and loft joists, with bricked-in window and grain chute - view north-west.
132.jpg Dovecote, detail of grain chute - view north-west.
133.jpg Dovecote interior showing bridging beam and loft joists with bricked-in window and lower wall render - view north-east.
134.jpg Dovecote loft with plank cladding to interior walls - view north-west.
135.jpg Dovecote roof rafters with laths carrying peg tiles - view north-west.
136.jpg Dovecote apex of roof timbers - view north-west.

Appendix 3

Full list of 35mm photographic record (images on accompanying CD)

- 001.jpg Barn 2 structure 2a, exposed timber-frame - view west.
002.jpg Barn 2 with cladding and roofing removed - view north-west.
003.jpg Barn 1 structures 1b-d - view north-east.
004.jpg Barn 1 structures 1d and 1a - view north-west.
005.jpg Barn 1 structures 1a and 1c timber-frame exposed – view south-west.
006.jpg Barn 1 structure 1c, carpenters' mark (IXI) on tie beam of truss C - view north-west.
007.jpg Barn 1 structure 1d, dividing timber-frame with ogee braces - view south-east.
008.jpg Barn 1 structure 1d, detail of ogee brace in dividing timber-frame - view south-west.
009.jpg Barn 1 structure 2c, timber-frame – view north-east.
010.jpg Barn 1 structure 1b after removal of modern roofing and wall infill - view north – west.
011.jpg Barn 1 structure 1b, bolted knee brace supporting tie beam - view south-east.
012.jpg Barn 1 structure 1d - view south-east.
013.jpg Barn 1 structures 1b and 1c - view north-east.
014.jpg Barn 2 structure 2a, exposed timber-frame – view north-west.
015.jpg Barn 2 - view south-east.
016.jpg Dovecote, west elevation - view north-east.
017.jpg Dovecote, south elevation – view north-west.
018.jpg Wall Farm – view south.
019.jpg Barn 1 structure 1c, post, bolted knee brace and tie beam of truss C – view north-east.
020.jpg Dovecote, detail of original first floor timber-frame, obscured by later concrete render - view west.
021.jpg Barn 1 extension to structure 1d, graffiti - view south.
022.jpg Barn 2 structure 2a, exposed timber-frame - view north-west.
023.jpg Barn 1 structure 1d, dividing timber-frame with ogee braces - view north-west.
024.jpg Barn 1 general shot – view south-west.
025.jpg Wall Farm general shot – view south-east.
026.jpg Barn 1 structure 1c, bolted knee brace of truss B – view north-west.
027.jpg Barn 1 structure 1c, carpenters' mark (IXI) on tie beam of truss C - view north-west.
028.jpg Barn 1 structure 1c, bay 2 opening to removed midstrey showing valley rafter – view north-west.
029.jpg Barn 1 structure 1c, bay 2 opening to removed midstrey showing sawn midstrey wall plate - view north-west.
030.jpg Barn 1 structure 1c, peg supported additional top plate carrying rafters – view west.
031.jpg Barn 2 structure 2c, detail of bolstered post supporting wall plate – view north-east.
032.jpg Barn 2 structure 2b, carpenters' marks (VXX) - view west.
033.jpg Barn 2 structure 2b, collar beams pegged to principal rafter with broken clasped purlin - view north-west.
034.jpg Barn 2 underpinning in process – view south-west.
035.jpg Barn 2 structures 2b and 2c - view north-west.
036.jpg Barn 2 structure 2a, repaired jowled corner post to midstrey – view west.
037.jpg Barn 2 structure 2a, repaired jowled corner post to midstrey – view west.

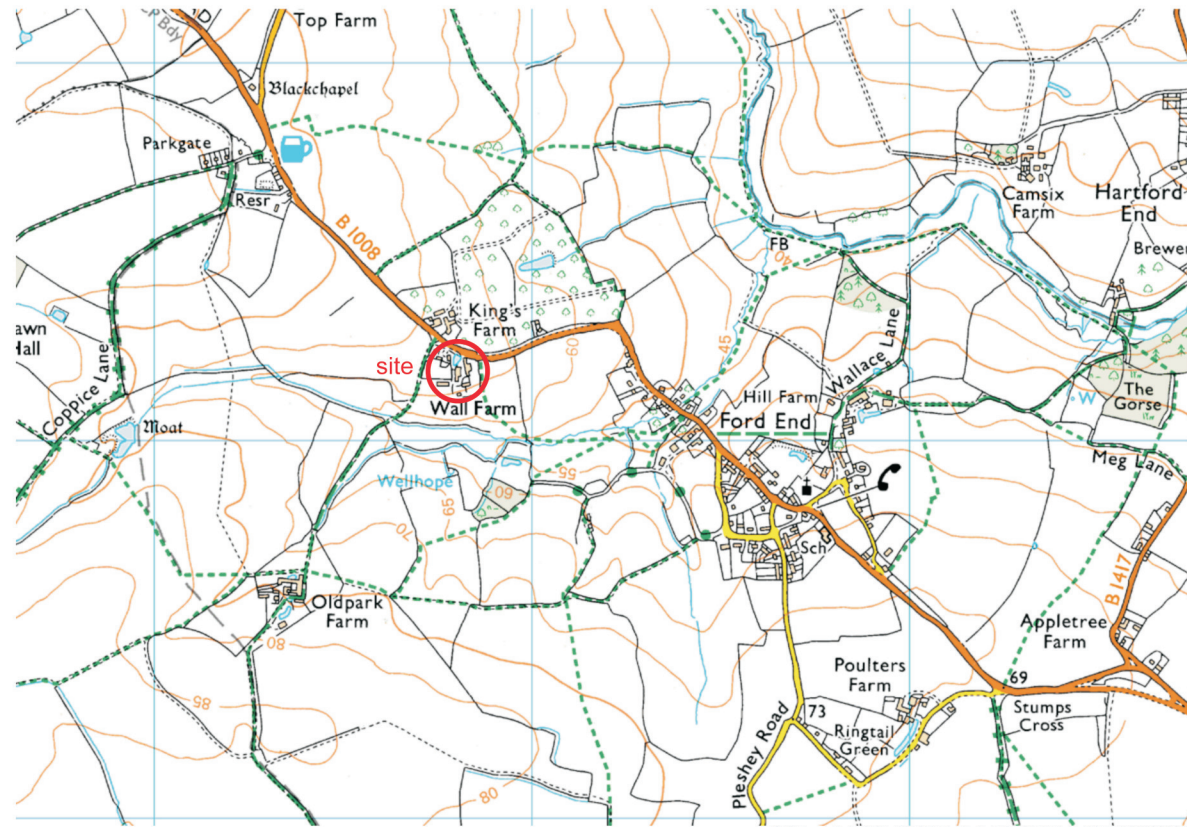
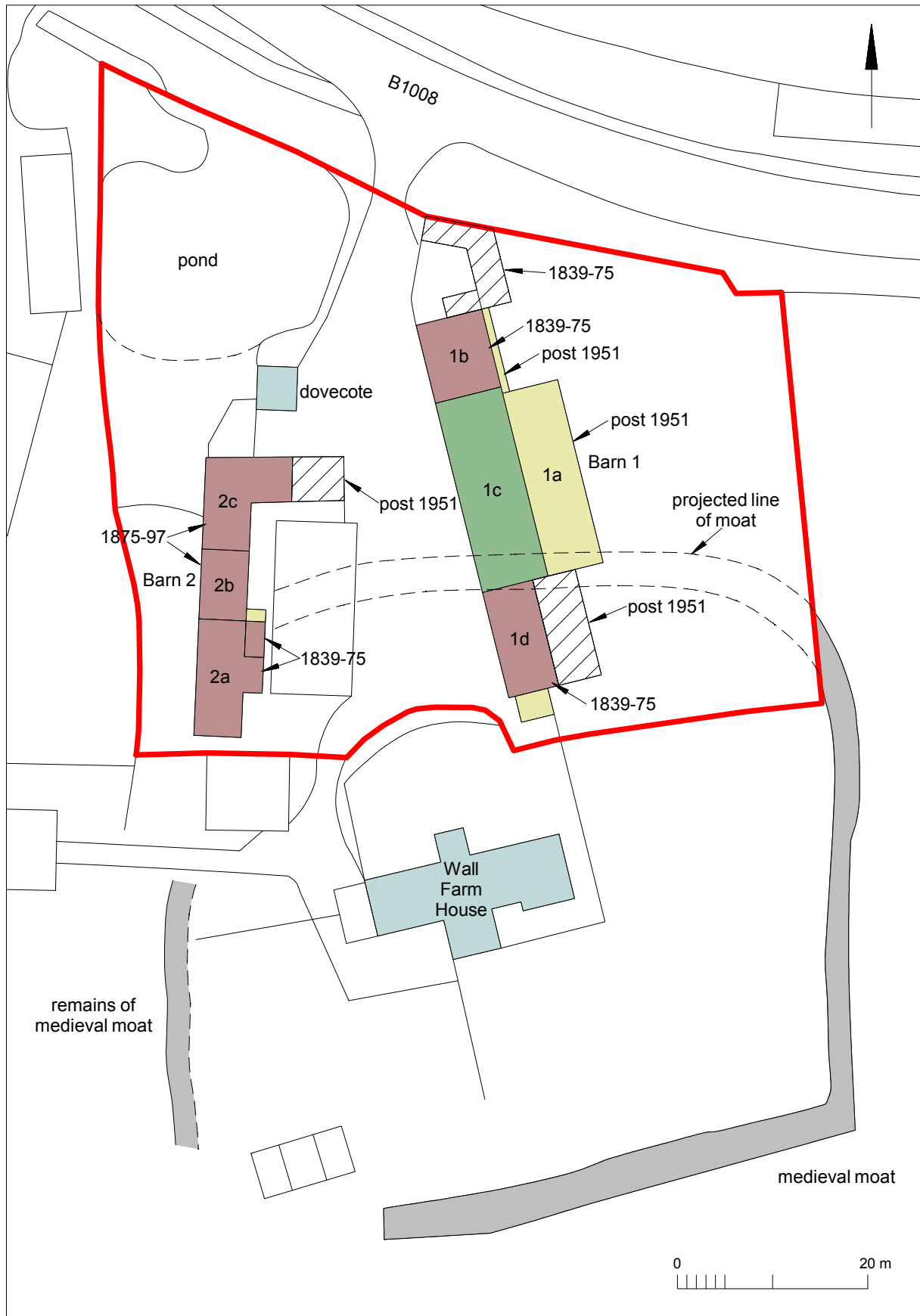


Fig 6 Site location.

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Fig 7 Block plan showing suggested phasing.

- 17th century
- ?18th century
- 19th century
- 20th century
- 19th/20th century demolished structures

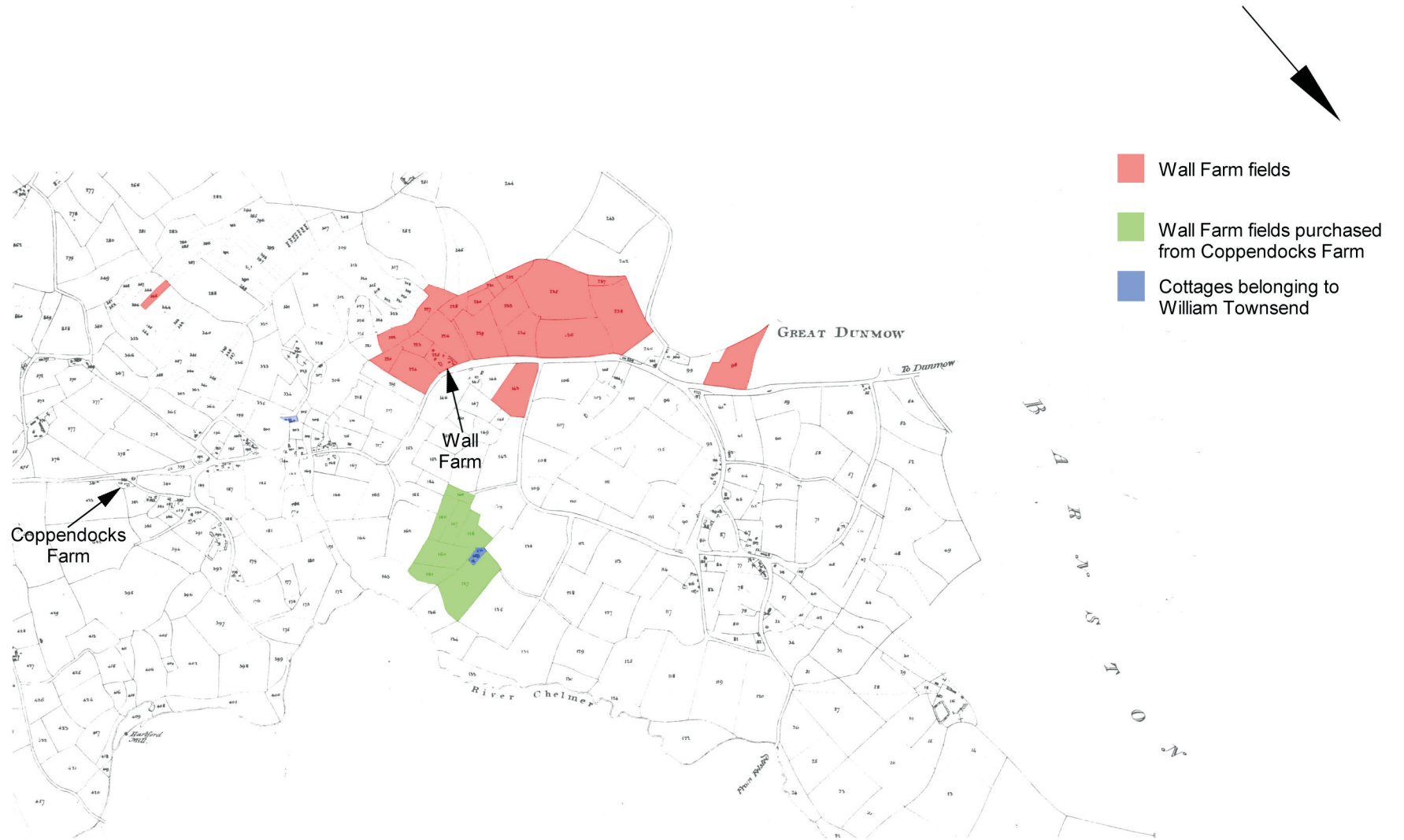


Fig 8 Tithe map of 1839 showing land owned by William Townsend.

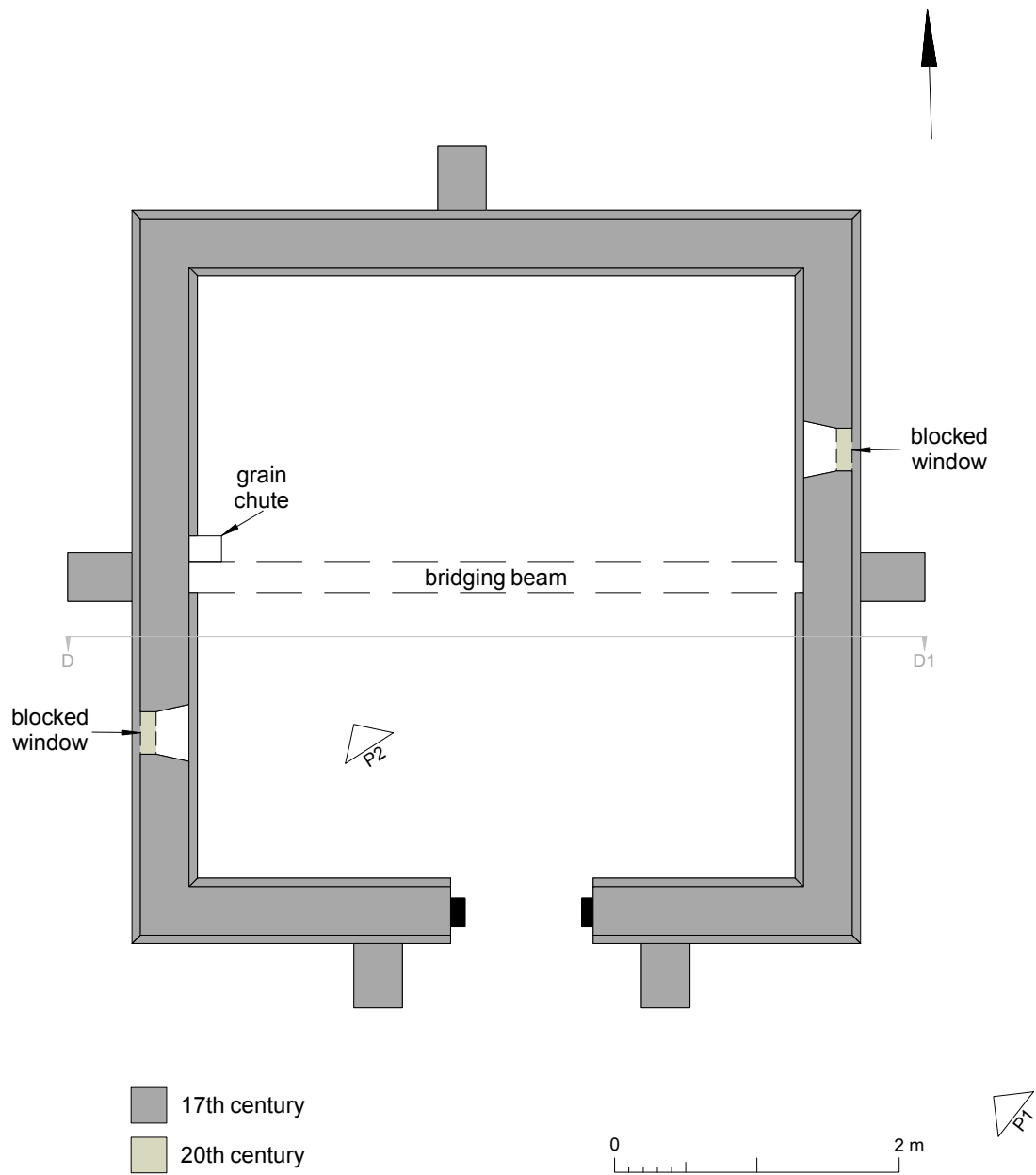


Fig 9 Plan of dovecote lower storey.

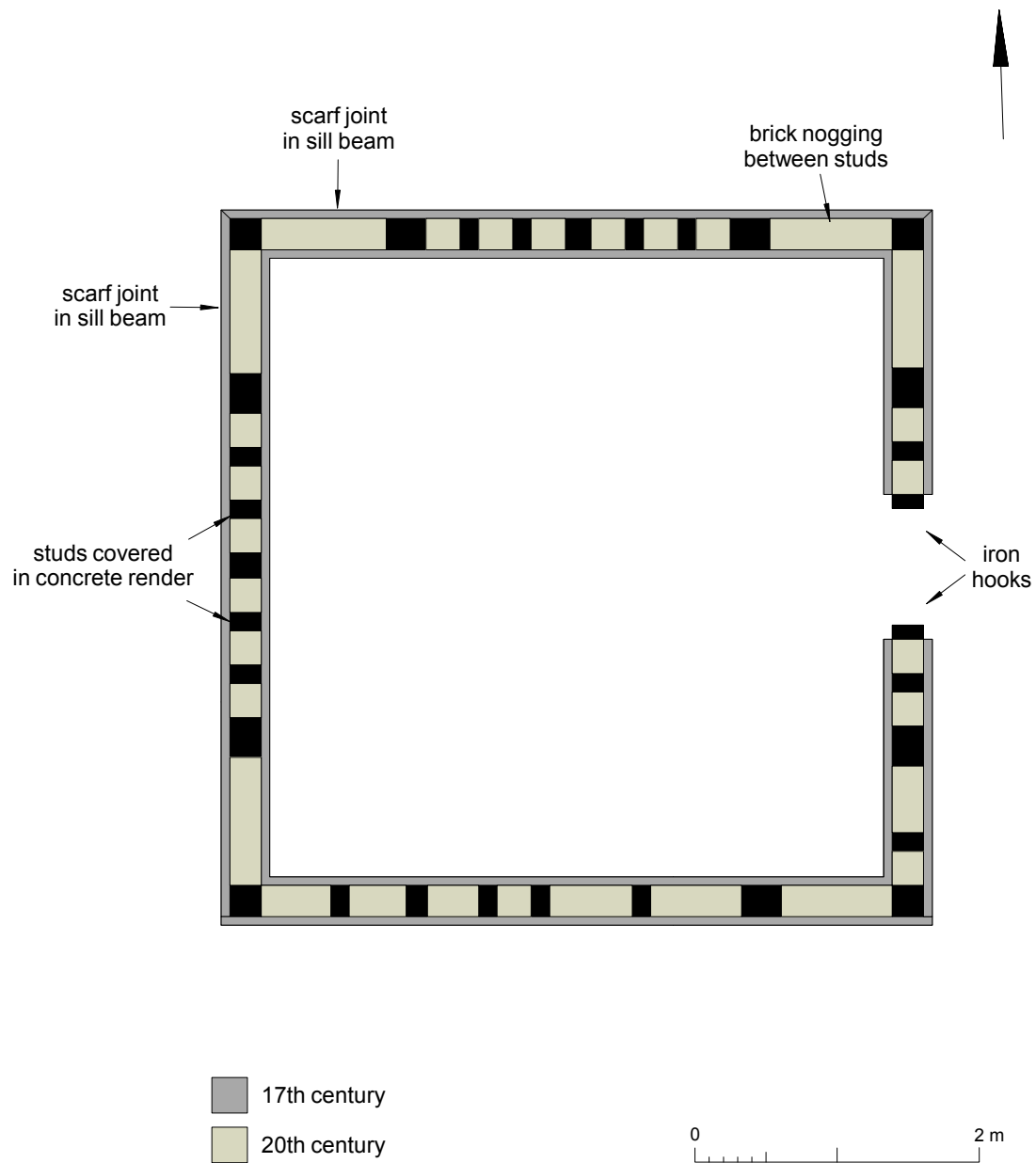


Fig 10 Plan of dovecote upper storey.

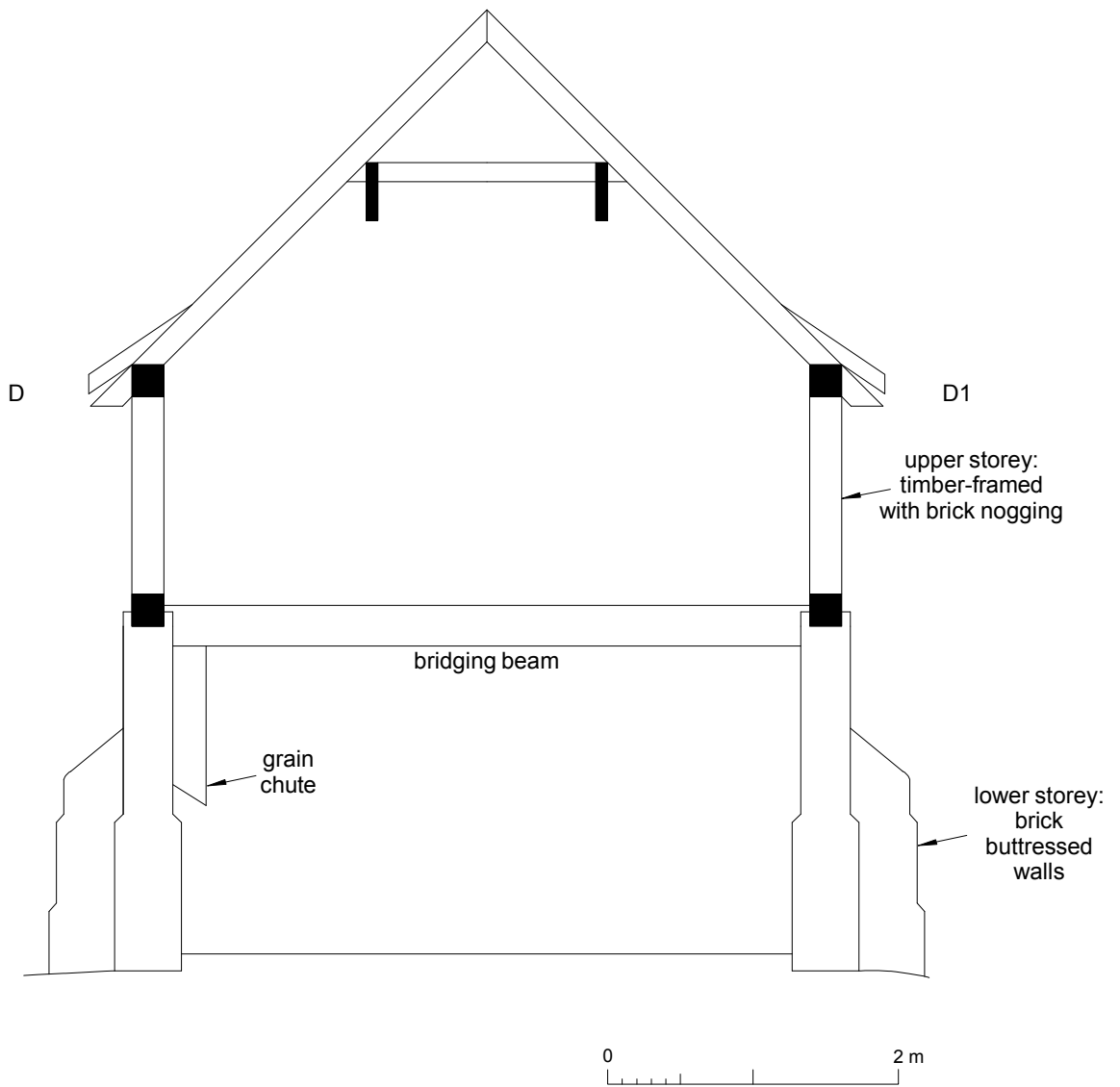


Fig 11 Cross-section of dovecote.

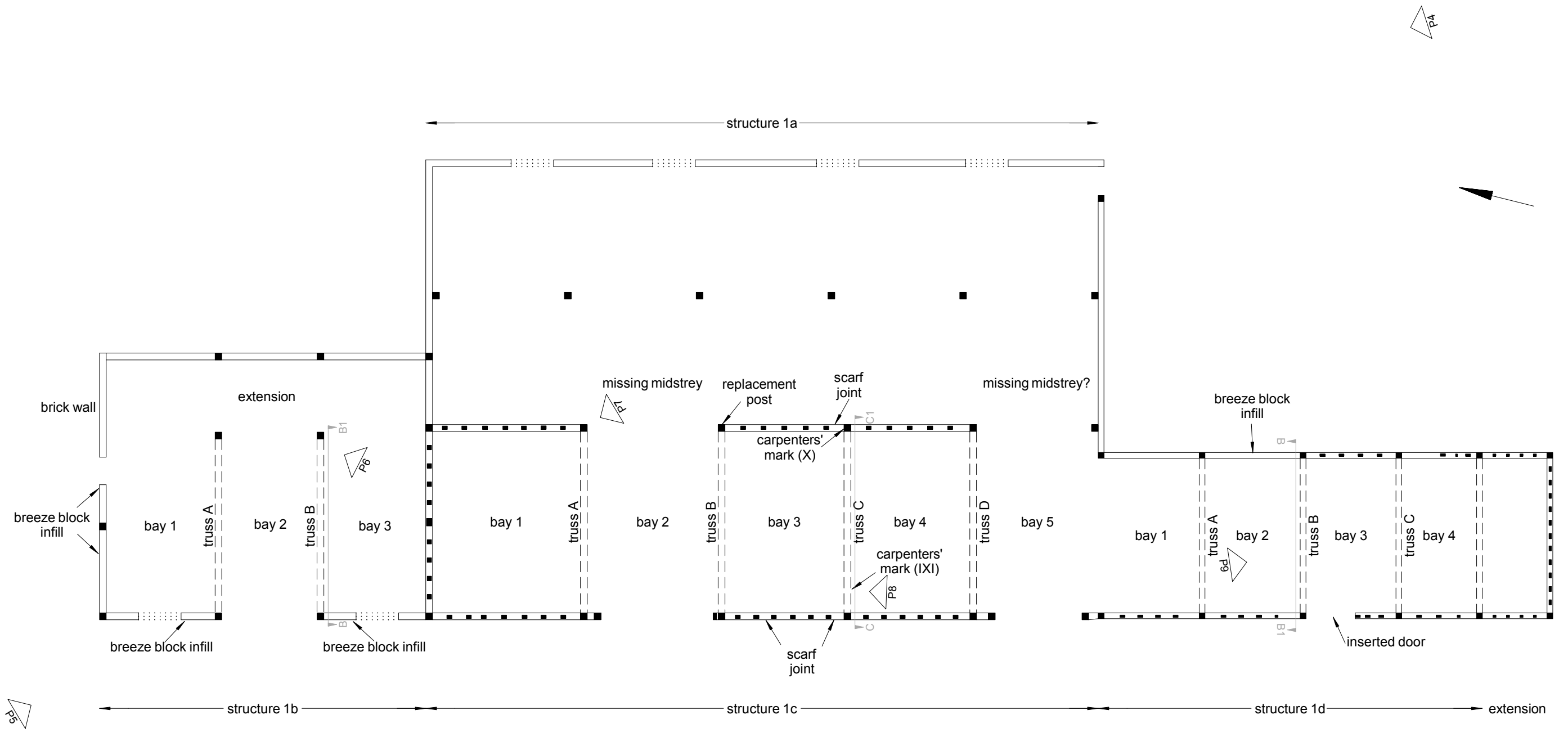
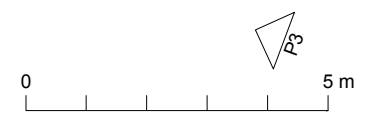


Fig 12 Barn 1, ground plan.



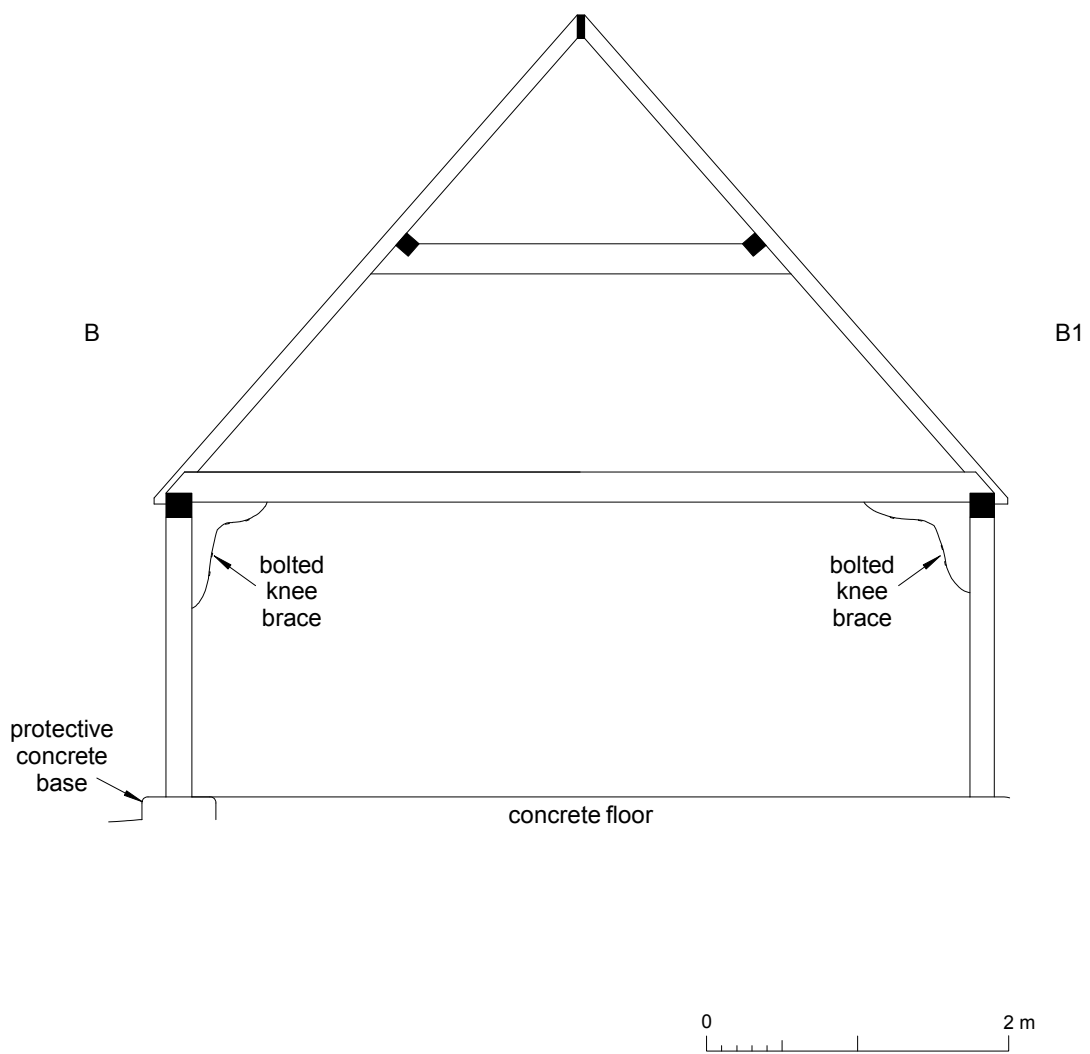


Fig 13 Barn 1, structure 1b: cross-section of truss B.

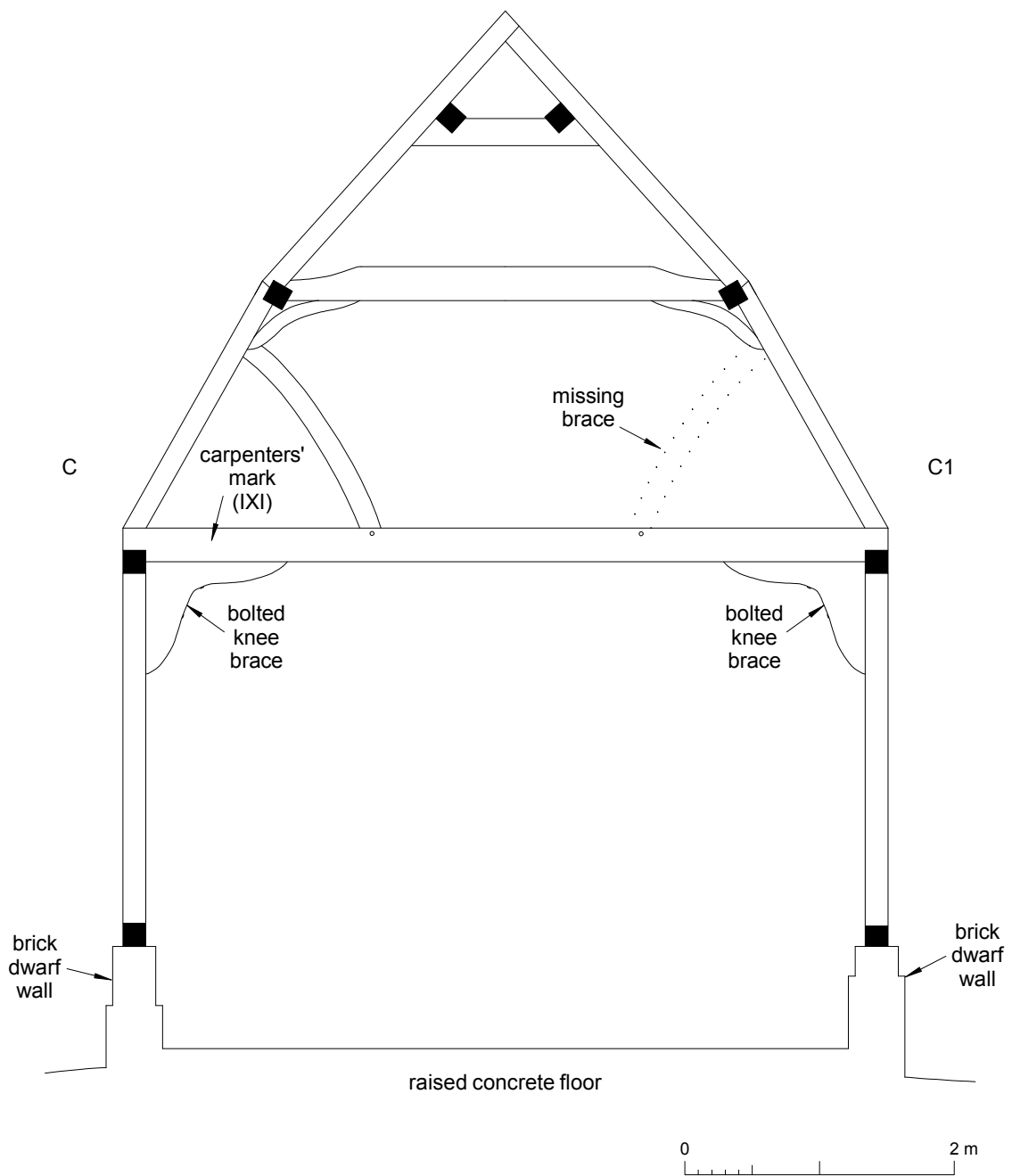


Fig 14 Barn 1, structure 1c: cross-section of truss C.

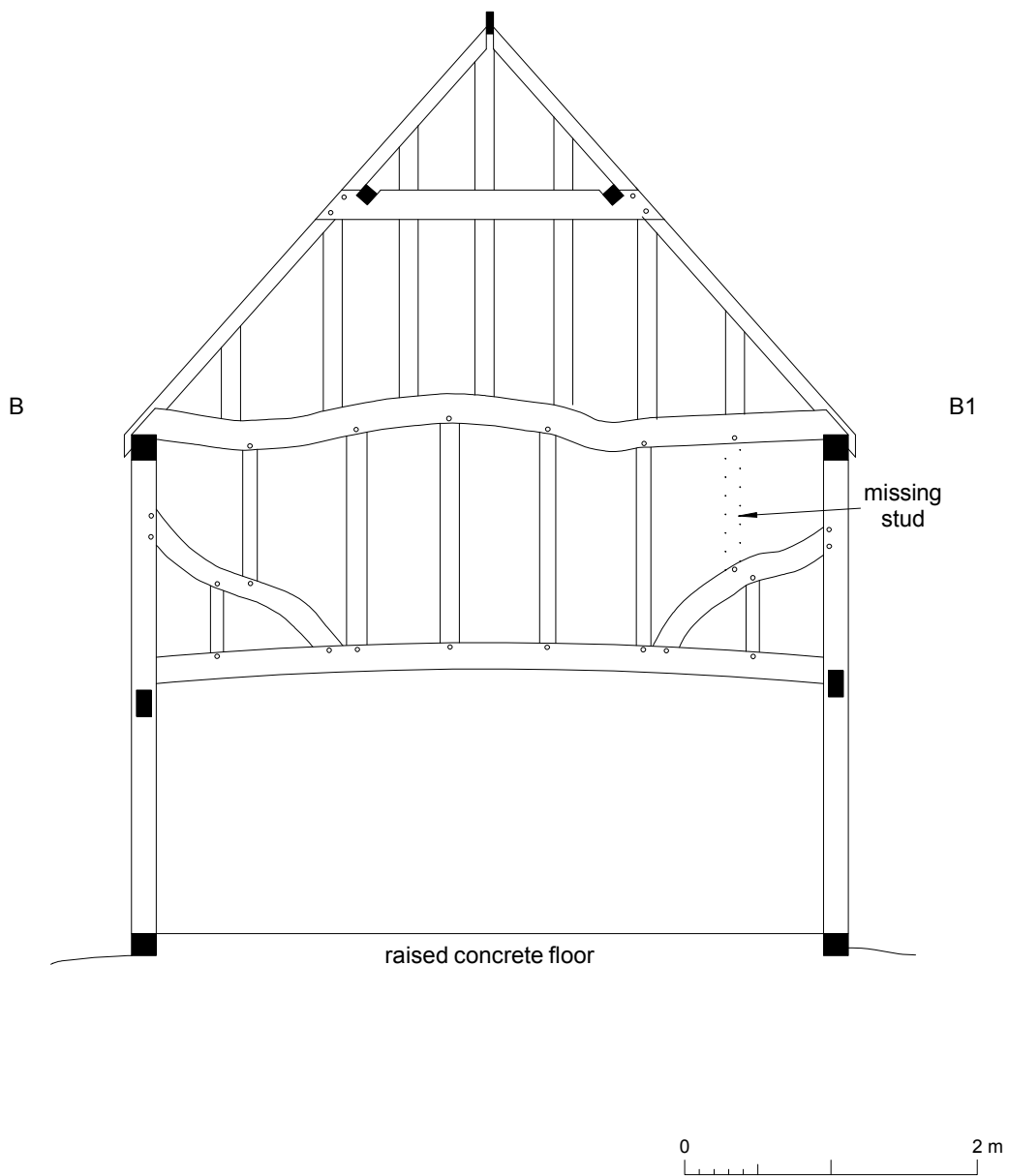


Fig 15 Barn 1, structure 1d: cross-section of truss B.

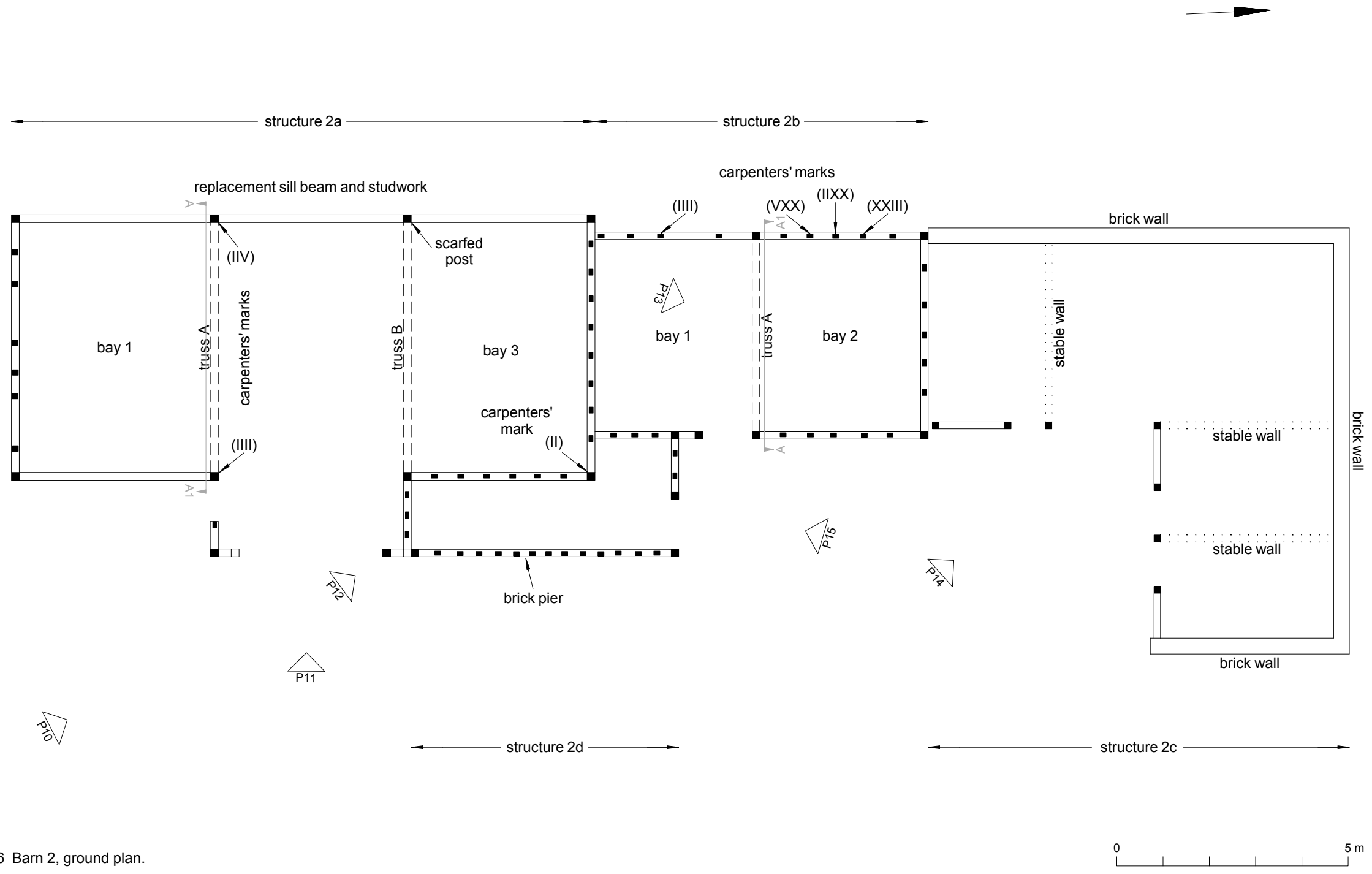


Fig 16 Barn 2, ground plan.

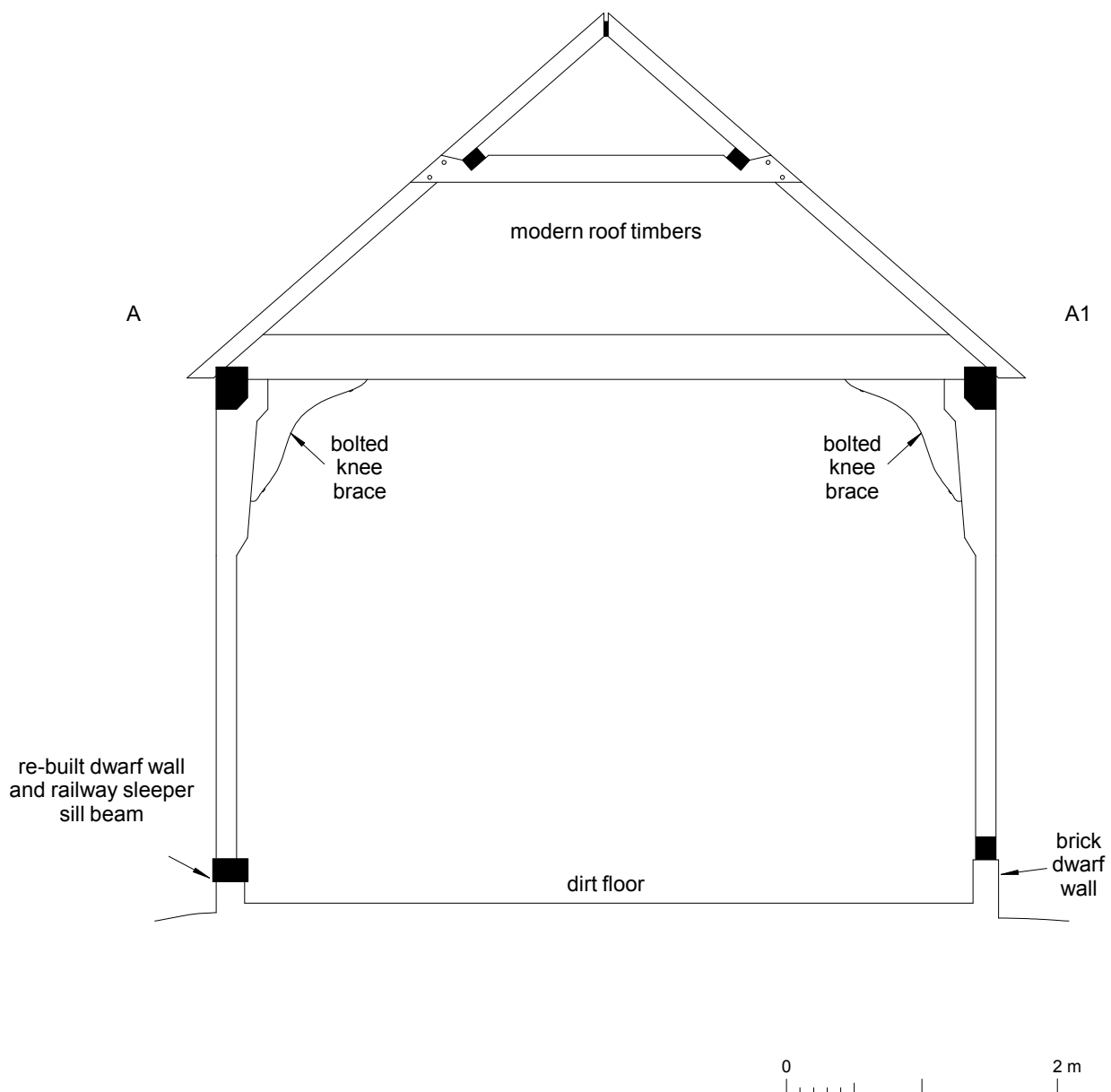


Fig 17 Barn 2, structure 2a: cross-section of truss A.

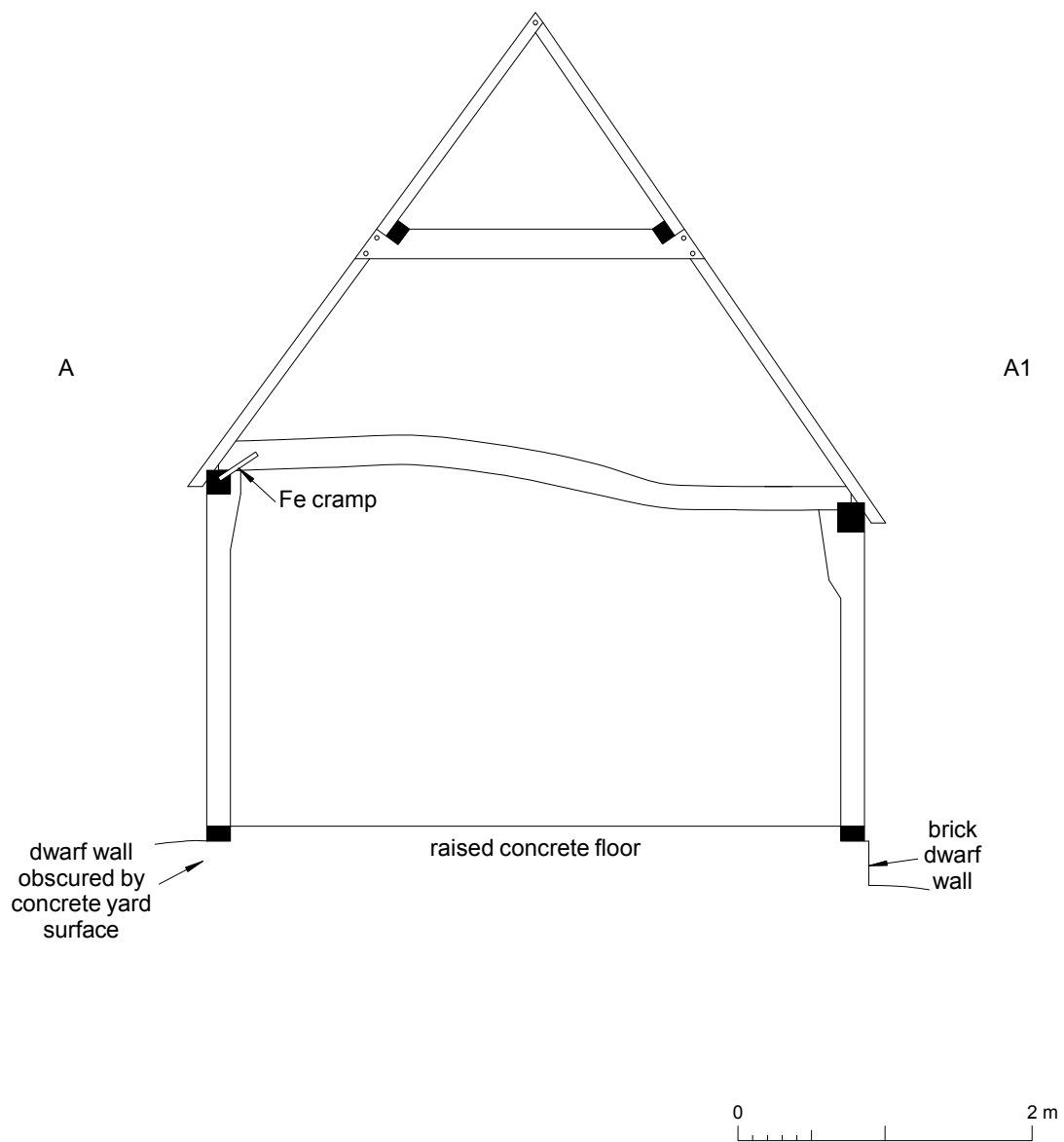


Fig 18 Barn 2, structure 2b: cross-section of truss A.

Essex Historic Environment Record/ Essex Archaeology and History

Summary sheet

Address: Wall Farm, Ford End, Great Waltham, Essex	
Parish: Great Waltham	District: Uttlesford
NGR: TL 6680 1720 (c)	Site codes: CAT project – 11/12e Museum accession – CHMRE 2011.263
Type of work: Building recording	Site director/group: Colchester Archaeological Trust
Date of work: December 2012	Size of area investigated: n/a
Location of curating museum: Chelmsford Museum	Funding source: Client
Monitored by: Richard Havis of Essex Historic Environment Team	
Further seasons anticipated? No	Related EHER numbers: 30536, 30537
Final report:	CAT Report 625
Periods represented:	17th-20th century
Summary: <i>A programme of building recording was carried out by the Colchester Archaeological Trust (CAT) on a complex of three buildings at Wall Farm, Ford End, Great Waltham, Essex in December 2011. The work was commissioned by Alun Design Consultancy Ltd on behalf of R E Butler and Son. The complex includes a Grade II listed 17th-century dovecote (converted to a granary in the 18th century), an unlisted 18th-century barn with attached later structures and an unlisted 19th-century barn also with attached structures, grouped around an open farmyard. The structures surveyed at Wall Farm illustrate the development of a small Essex farm from the 17th up to the 20th century.</i>	
Previous summaries/reports: none	
Keywords: dovecote, threshing barn	Significance: *
Author of summary: Chris Lister	Date of summary: March 2012