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HISTORIC BUILDING ASSESSMENT OF A CRUCK-FRAMED AGRICULTURAL BUILDING AT HOLYWELL FARM, LOUGHBOROUGH, LEICESTERSHIRE



The University of
Nottingham

**HISTORIC BUILDING ASSESSMENT OF
A CRUCK-FRAMED AGRICULTURAL
BUILDING AT HOLYWELL FARM,
LOUGHBOROUGH, LEICESTERSHIRE**

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SUMMARY

- An historic building assessment report by Trent & Peak Archaeology was commissioned by Anthony Short & Partners in conjunction with Ward Cole, and ultimately on behalf of owners Richard and Susan Smith. It is in relation to the forthcoming restoration of an agricultural building at Holywell Farm, south-west of Loughborough. The building, used until recently as an animal shed, is unusual in that it contains two cruck frames.
- The site of Holywell Farm, situated south-west of Loughborough, is believed to date back to at least the 12th century when it may have been the site of a *hospitium*, a refuge for travellers, with a spring with reputed healing properties. Records of Garendon Abbey refer to the Hermitage of the Holy Well in 1180 and mention an attached dairy farm in 1240. Research into the later history of the site has yet to be carried out.
- Until the late 19th century the listed farmhouse was still set within a moated area. This building is possibly built around an original one-roomed stone building of 13th century date, later extended in the 15th century and again in the Tudor period. The building was later extended at its south end and the present fabric largely dates from the late 18th century – early 19th century.
- The agricultural buildings, west of the farmhouse, include a single-storey animal shed with housing for 9 cows, brick-built with a modern asbestos roof. The building is 2-bays long and approximately 10m long and 4.4m across. The walling consists of brick, built off a rough stone base which is up to 0.45m high. Most of the outer walling consists of 18th century bricks laid in Flemish bond. Four other areas of brickwork can be distinguished, possibly indicating an earlier infilling and later rebuilds.
- The interior of the building has two cruck frames still in position, one at the east end, the other centrally placed, 4.85m (16ft) beyond the first. Differing in appearance to some extent, they are largely intact, apart from two missing wind-braces. The centrally-placed cruck has adjoining assembly marks III showing, indicating that the building is likely to have once extended westwards an extra bay and been 15m (48ft) long. Original wall-plates show it originally had timber posts and mud / plaster infill walling.
- In the absence of tree-ring dating (which may or may not work), dating the Holywell Farm crucks is not easy. Crucks in Leicestershire (of which 120 are now known) generally date to before 1600. A number of features here suggest a late medieval date, such as the use of halvings for jointing, the presence of so-called Type C yoked blades and the early origin of the nearby farmhouse all suggest a late medieval age for the crucks, one of which now needs urgent repair.

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1. Project background

This historic building assessment report by Trent & Peak Archaeology (TPA) was commissioned by Anthony Short & Partners in conjunction with Ward Cole, and ultimately on behalf of owners Richard and Susan Smith. It is in relation to the forthcoming restoration of an agricultural building at Holywell Farm, south-west of Loughborough (Fig. 1). Although the building has been used until recently as an animal shed it is unusual in that it contains two cruck frames of some age. Although the building is not listed the relevant planning officer in the conservation team at Charnwood District Council has requested that an assessment be made prior to the works, although no detailed brief was issued. As the assessment would of necessity include a site visit, the study may be best considered as a joint building appraisal / assessment to principally examine and comment on the age and significance of the standing building, informed by the added element of some background research into the site.

The overall study employs the methodology developed by Trent & Peak Archaeology (TPA) for use on similar projects in the region. This methodology conforms to the standard requirements of planning authorities where consent applications are made for development, re-development, building conversion or major restoration. These follow guidelines to be found in the conservation planning document *Planning Policy Statement 5: Planning for the Historic Environment* (PPS 5, Department for Communities and Local Government 2010). The methodology also accords with the Institute for Archaeologists (IfA) *Codes of Conduct and Standards* and the paper *Standard and Guidance for the Archaeological Investigation and Recording of Standing Buildings or Structures* (Institute of Field Archaeologists 2001).

The report

This report is the result of a two specific information-gathering tasks: a brief documentary search carried out at the Local Studies Library in Loughborough and a check of the catalogue of the Record Office for Leicestershire, Leicester and Rutland (ROLLR), and a site visit by the author on the 23rd June 2011, when a basic building record was made. The latter consists of external and internal digital photographic views and the negatives and prints from a black and white film (for long-term archival storage). As architects' plans exist these were used as the basis of descriptive notes taken. This report includes the original drawings supplied by Anthony Short & Partners, with some annotation added and alignments based on the Ordnance Survey maps (Figs 6, 7). There are also some historical maps showing the site.

The TPA site code is HFL.

2. Historical background

The site of Holywell Farm, situated south-west of Loughborough, is believed to date back to at least the 12th century when it may have been the site of a *hospitium*, a refuge for travellers and possibly sick people. It was run by an isolated religious community centred on a spring with reputed healing properties; the curative powers of the well were known locally up until the late 19th century. In 1180 the site was referred to as the Hermitage of the Holy Well and belonged to Garendon Abbey (of the Cistercian Order), and situated not far to the north (Williams 18; Fig. 2). Records from 1240 refer to a *vaccary* or dairy farm then attached to the hermitage. Research into the later history of the site has yet to be carried out.

An associated reference to 'haw' in its name suggests that it was enclosed. Until the late 19th century the farmhouse was still set within a moated area, traces of which still remain, with farm buildings set around a yard to the west (Figs 3, 4). The site farmhouse is Grade II listed and is possibly built around an original one-roomed stone building with a 13th century doorway that is now situated within the present building. The building was probably extended in the 15th century and again in the Tudor period, an expansion or partial rebuild attested by a prominent Tudor chimney. The building was later extended at its south end and the present fabric largely dates from the late 18th century - early 19th century.

In 1989 an archaeological evaluation was carried out to the north of the farmhouse and the line of the moat in advance of the building of a research station by British Gas. The medieval date of some earthworks adjacent to the moat was confirmed, although there was no evidence for these having been housing platforms. The finding of five Saxon pot sherds might suggest the site was of possible Saxon origin (Sharman and Mackie 1991).

3. Building description

Exterior

The outbuildings at the farm include a single-storey animal shed, brick-built with a modern asbestos roof (cover photo). The building is 2-bays long and approximately 10m long and 4.4m across. The long north side has two evenly spaced stable doors and four rectangular-shaped ventilation slits (Plate 1). The west end has three slits and a high gable window opening. The south side has a single slit, whilst the south end has only a high gable window opening.

The walling consists of brick, built off a rough stone base that projects out slightly. At the south end this base is up to 0.45m (18 inches) high. Most of the outer walling consists of bricks 2¼-2 ⅜ inches (57-60mm) thick and 9¼-9½ inches

(234-240mm) long, generally laid in Flemish bond. However, on the long south side the walling has been changed in two places. Beyond the return of the Flemish coursework (with single surviving ventilation slit) there is a noticeable crack in the wall and for a length of about 2m the brickwork is of very irregular coursework. East of this the brickwork changes again to Sussex bond (three stretchers to a single header in every course), indicating two phases of rebuild along this side (Fig. 6; Plate 2). This may have also hidden the previously exposed base of the centrally-placed cruck which still shows on the north side.

At the east end there is a third variation in the brickwork below the position of the tie-beam on the inner face of the cruck frame, where poor quality brick pieces and full bricks up to 10¾ inches (273mm) in length have been used as infill (Plates 3-5). Yet a fourth variation appears in the gable above this infill.

The east end cruck frame has moved with the blades now displaced from their seatings just above the stone footings and the structure is now supported by scaffolding poles. The south-west corner of the building also has brickwork coming away and in danger of collapse.

Interior

On the inside of the building there is brick flooring, raised on the south side for animal standing and there is a low trough running alongside the south side. Holes in the back wall indicate the former existence of partitions set about 80 inches (2m) apart, with one at the east end half of this, allowing stalling for about 9 animals in total (Plate 6). Two drainage channels run through the lower north wall. There are a series of distinctly built ventilation slits with a narrowing at the top of the interior showing on three sides of the building (Plate 7). Rebuild of much of the south wall may have removed three others, corresponding to those on the north side.

Seated on the walling on the south side are two long wall-plate timbers, jointed together by a long scarf joint at a mid-way point. These timbers have deteriorated badly in places and in places where their undersides are exposed holes about 18 inches (0.45m) apart are visible where vertical timbers had once been fixed in (Plate 8). The north side has a modern replacement wall-plate.

Cruck frames

The interior of the building has two cruck frames still in position. As a general rule cruck-frames consist of a pair of inclined timbers known individually as blades and together as a couple (Iredale and Barrett 2002). The blades are joined into a rigid A-frame by use of a horizontal tie-beam or collar, or both. Cruck blades are generally, but not always, of a curved nature and adjoin each other or

are joined together by a connecting piece at the apex where the ridge is carried. The blades directly support longitudinal purlins and the blades support the weight of roof, with walls bearing little of the weight. The tie-beam usually extends beyond the blades to support wall-plates. Braces add further rigidity to the frame.

The two frames in the Holywell Farm building, one at the east end, the other centrally-placed, are still largely intact but for the loss of several braces. The timbers of the east one are in poorer condition due to weather exposure and are in need of treatment. The two crucks differ in appearance to some extent. The blades of the east end cruck and have more curvature and appear to rise close to the ridge purlin, although a peg-hole may indicate a former connecting yoke that supported the latter (Plate 9). A surviving wind-brace on the north side is jointed into a purlin and the back of the cruck blade (Plate 10).

The second cruck is situated centrally within the building, 4.85m or 16 feet to the west of the east end cruck. This has slightly narrower blades with less curvature and which are possibly not halved from the same part of a tree (Plate 11). Because of this relative straightness there are additional timbers known as packing pieces between the blades and the roof on both sides of the frame; the east end cruck lacks these. The wind braces are jointed between these (not the blade, as is usual) and the purlins, although the pairs are off-set to avoid weakening the packing piece (Plate 14). The cruck retains its connecting yoke at the apex, supporting a heavy diagonally set ridge-purlin, and a collar below this that extends out to and is pegged into an upper packing piece or wedge (Plates 12, 15).

The connecting of the cruck frame timbers generally appears to be by halved lap joint scarf joint, with little evidence of mortice and tenon. The longitudinal wall-plates and purlins are joined by scarf joints behind the cruck blades. There is evidence of both single and double pegging with thick pegs that may have been set at an angle to each other or skewed to give extra grip (see Plate 16).

The centrally-placed cruck has adjoining assembly marks III showing on the east side where the north side collar overlaps the cruck blade (Plate 15). Halved ends and halvings for braces in the purlins at the west end of the building indicated the former presence of a cruck at that position. As the east end cruck, with its jointing facing inwards was always an end cruck, presumably number four in sequence, the building is likely to have extended westwards an extra bay or in length or 15m or 48 feet in total length – see Figure 7.

4. Conclusions

Although claims have been made for crucks having existed in Late Roman and Saxon times based on angled post-holes, the earliest surviving crucks in Britain have been tree-ring dated to the mid-13th century (Nevell 2011). British cruck construction was possibly invented at a high social level as the most highly developed and impressive forms are found in the west midlands and the Welsh Marches in medieval halls and barns, with crucks later filtering down to lower social classes and situations (Harris 1979). However, for reasons that are still not clear, of the thousands of crucks found evenly distributed across Britain none occur within eastern or south-east lowland England.

Definition of what constitutes a cruck has varied but current thinking is that it is the relationship of structural members not curvature which is the true criterion of a cruck. Variations are recognized, with walls now seen as playing a partial load-bearing role above ground level, with the cruck blades terminating at below a quarter of the wall height from ground to top. In this sense, nearly all crucks in buildings with solid walls are of a 'raised' form (Alcock 2007). A minority of so-called middle and upper crucks spring from higher up the wall or from the wall-head.

Numbers of known cruck buildings has varied considerably. The first national catalogue by J. T. Smith in 1958 listed 450 known examples but by 1973 this had grown to 2,045. In 2009 the Vernacular Architecture Group calculated there are 4,039 surviving cruck buildings in Britain, with 9% of these tree-ring dated to 1262-1793. Most of these were late medieval in date, with 65% of them dating to before 1500. However, thousands more crucks must have existed in the past. As an instance of this, of several hundred listed in the manor of Settrington, East Riding as late as 1599 hardly any now remain (Gray 1994).

Leicestershire

An article by Webster published in 1954 on crucks in Leicestershire listed only 40 known buildings with cruck frames at that time, and of these a quarter were within Rothley (Webster 1954). Only three of the 40 were agricultural buildings and the building at Holywell Farm was not one of them. One of the three, a building at Old Hall Farm, Diseworth was built on rough stone foundation, with walls of brick that had probably replaced mud walling, considerable use of which was made in the Leicestershire. Webster noted that as a rule crucks in the county had pairs of windbraces in which one was shorter than the other, a feature noticed at Holywell Farm. Many crucks only came to light during demolition or major renovation, with others probably completely obscured by rebuilding.

More recently, the Vernacular Architecture Group has listed 120 true crucks and 14 miscellaneous others in Leicestershire, following extensive fieldwork carried out in the Midlands generally. Figure 5 shows the distribution, with Holywell Farm within a high density area in the north-west part of the county. Of the expanded number only eight are agricultural buildings and it can be assumed that most others were swept away during the enclosure movement with the widespread improvements to farm buildings.

Whilst the quality of shape, symmetry and finish of a cruck are no guide to its age (Charles in Alcock 2007), the lowest quality crucks for their carpentry are generally found in a band running from the north of England down through Leicestershire into Buckinghamshire (Alcock 2007). There is now general agreement that over the whole east Midlands area that most crucks are late medieval in date and that they were no longer made after 1600. Most cruck houses are medieval in date as their use dwindled in the 16th and 17th centuries with the increasing use of an upper floor in houses made them cramped and unsuitable. Whilst in South Yorkshire cruck barns often of 17th century date are found with non-cruck houses, dates ranging from the 15th to the end of 16th century are suggested in Leicestershire and Derbyshire (ibid).

Holywell Farm

In the absence of tree-ring dating (which may or may not work), dating the Holywell Farm crucks is not easy. Whilst the use of crucks in agricultural buildings where an upper floor was not needed may have persisted longer than in houses, the comments above of a likely date of no later than 1600 is probably correct. Indeed, there are a number of features showing in the Holywell Farm crucks that suggest a late medieval date, such as the use of halvings for jointing, which generally spans a period between the 13th – 15th centuries (Alcock 2007). Also, the Type C linking of blades, yoke and ridge-piece (yoked blades) as evident here is thought to be an early form of linking the blades at the apex of the frame (Smith in Alcock 2007). The age of the farmhouse and alterations carried out to it in the medieval and Tudor periods may, by association, also support suggestions of a late medieval date for the cruck building.

Originally, a three bay building with crucks at either end and with timber posts and mud / plaster walling, it was largely rebuilt and shortened in the 18th century, with its walling replaced by brickwork. The south end may have already been partly replaced prior to this with largely waster bricks. On two later occasions, probably in the 19th century, the south wall had to be rebuilt. In more recent times the roof has been replaced (previously having been probably thatched and then tiled) but original timberwork exposed on the outside of the building has deteriorated and brickwork has moved. Building restoration is urgently needed.

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ILLUSTRATIONS

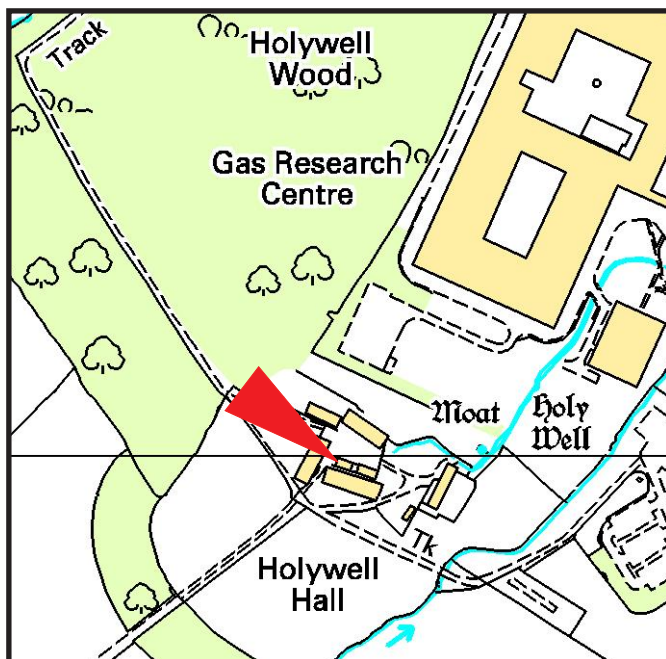
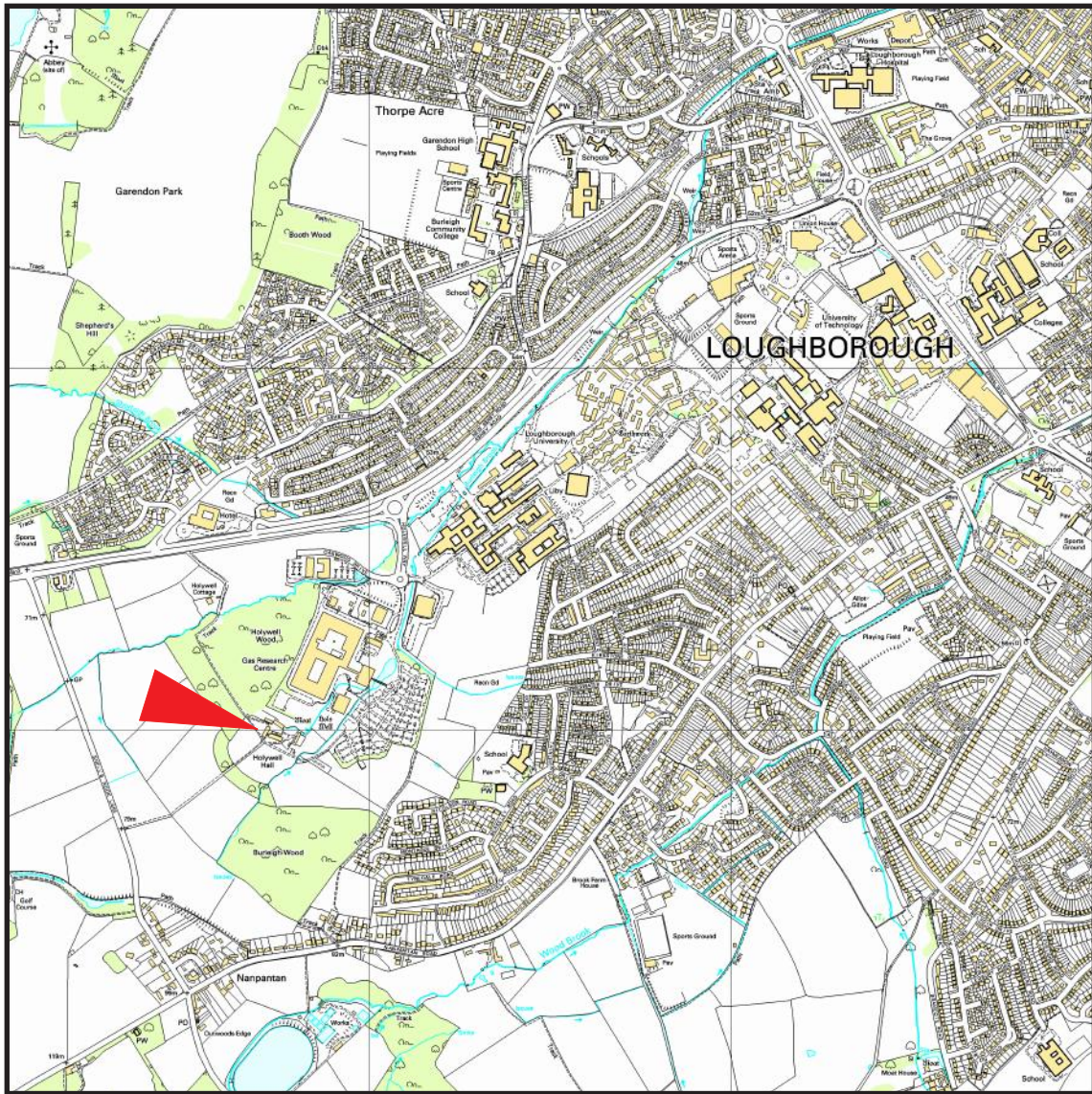


Figure 1: Above: Location of Holywell Hall (Farm) to the south-west of Loughborough, Leicestershire. Scale 1:20,000. Below: position of the barn within the farm. Scale 1:5,000.

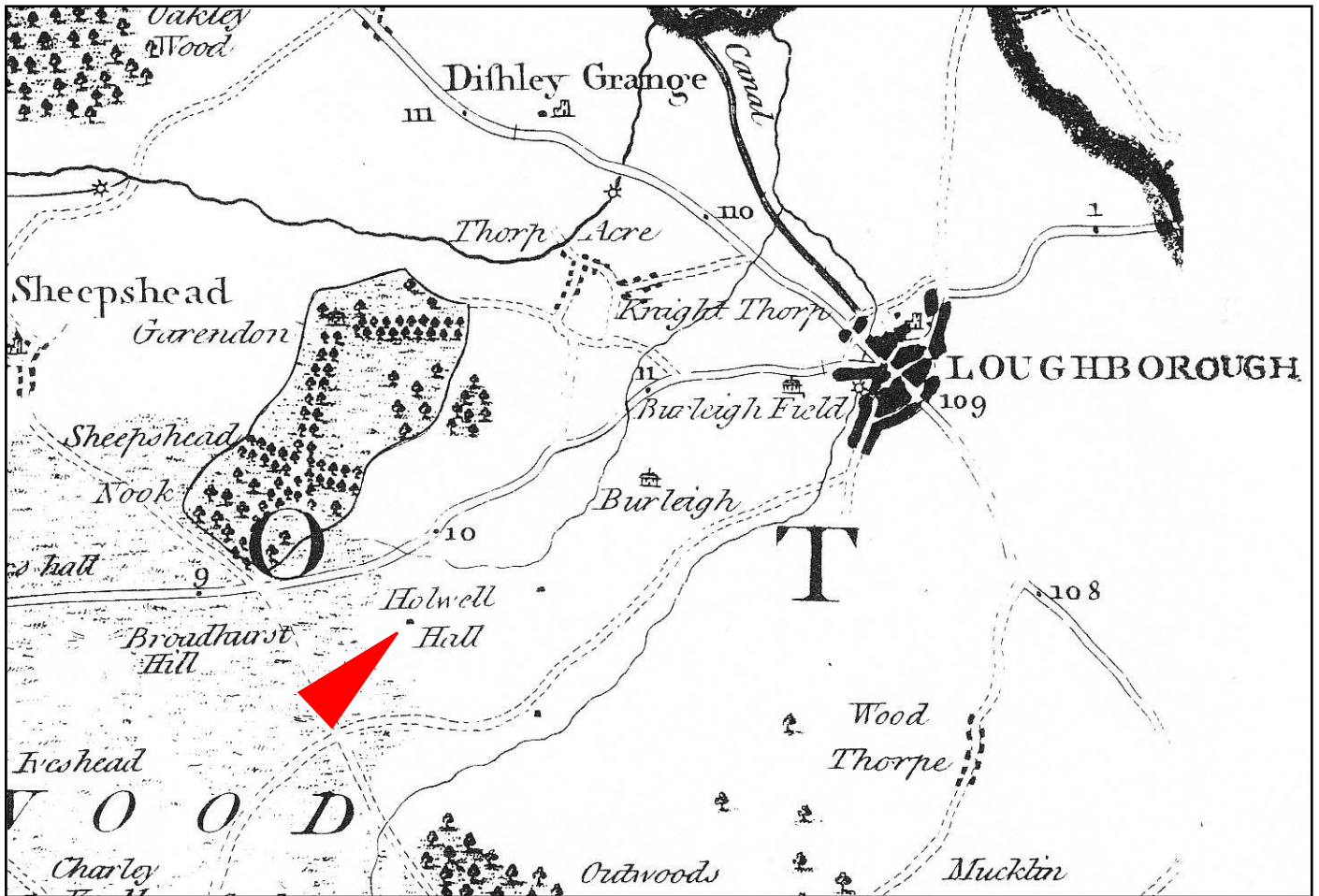


Figure 2: Holywell Hall (Farm) shown in relation to Loughborough and Garendon (site of former monastery) on Prior's map of Leicestershire of 1777 (Welding 1984).

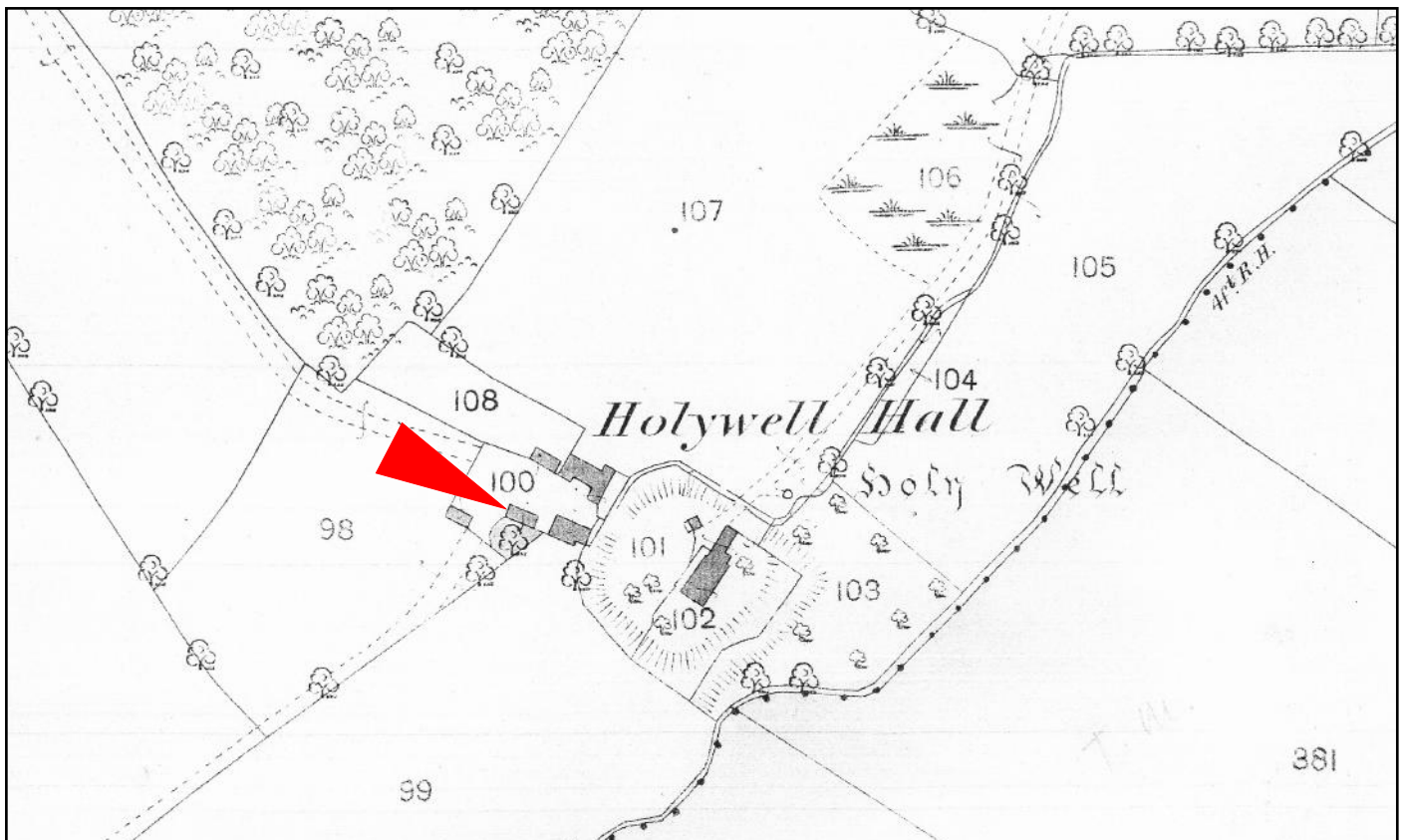


Figure 3: The barn at Holywell Hall (Farm) shown on the First Edition Ordnance Survey 25 inch scale map of 1883 (Sheet 17-11). Scale 1:2,500.

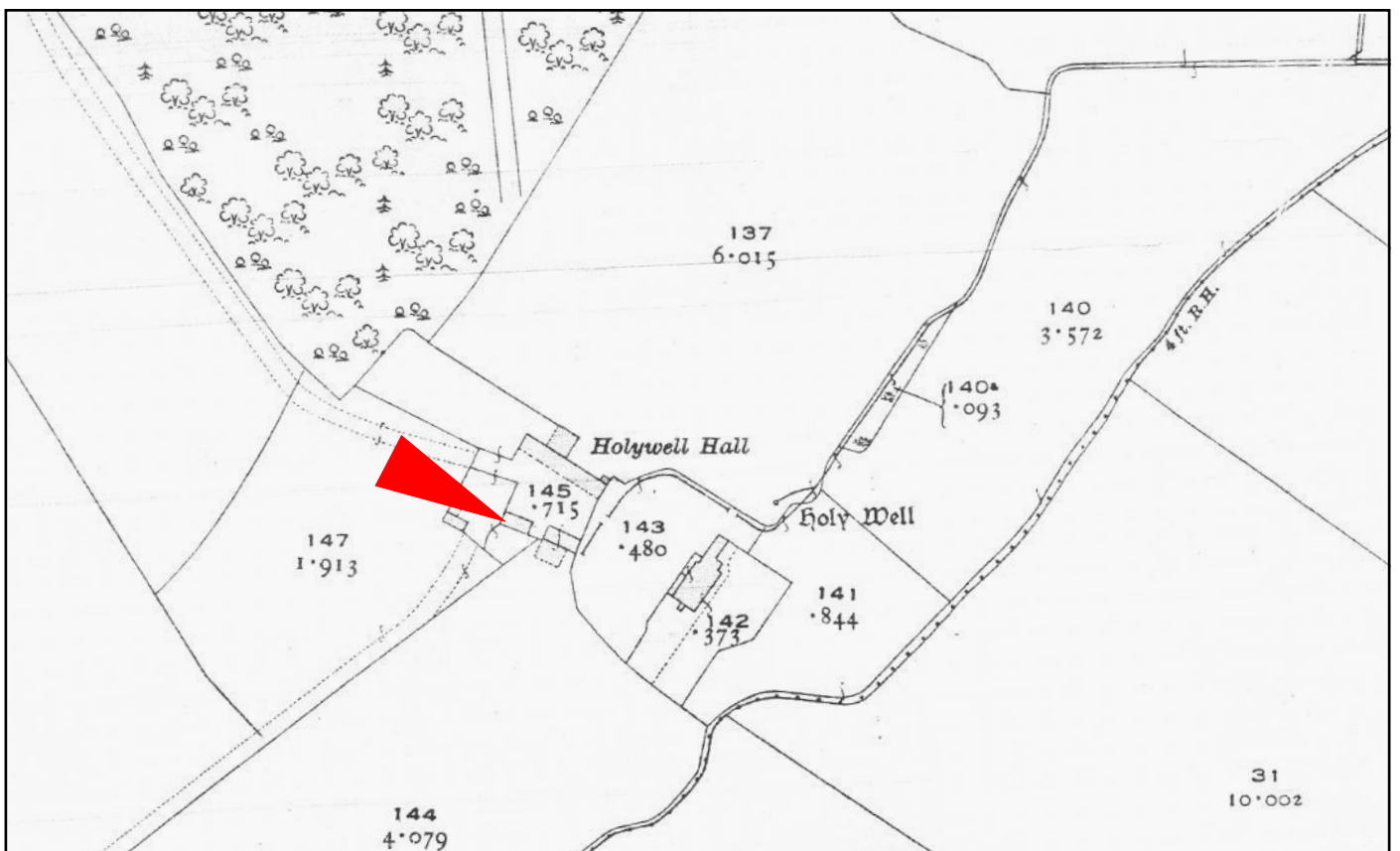


Figure 4: The barn at Holywell Hall (Farm) shown on the Third Edition Ordnance Survey 25 inch scale map of 1921 (Sheet 17-11). Scale 1:2,500.

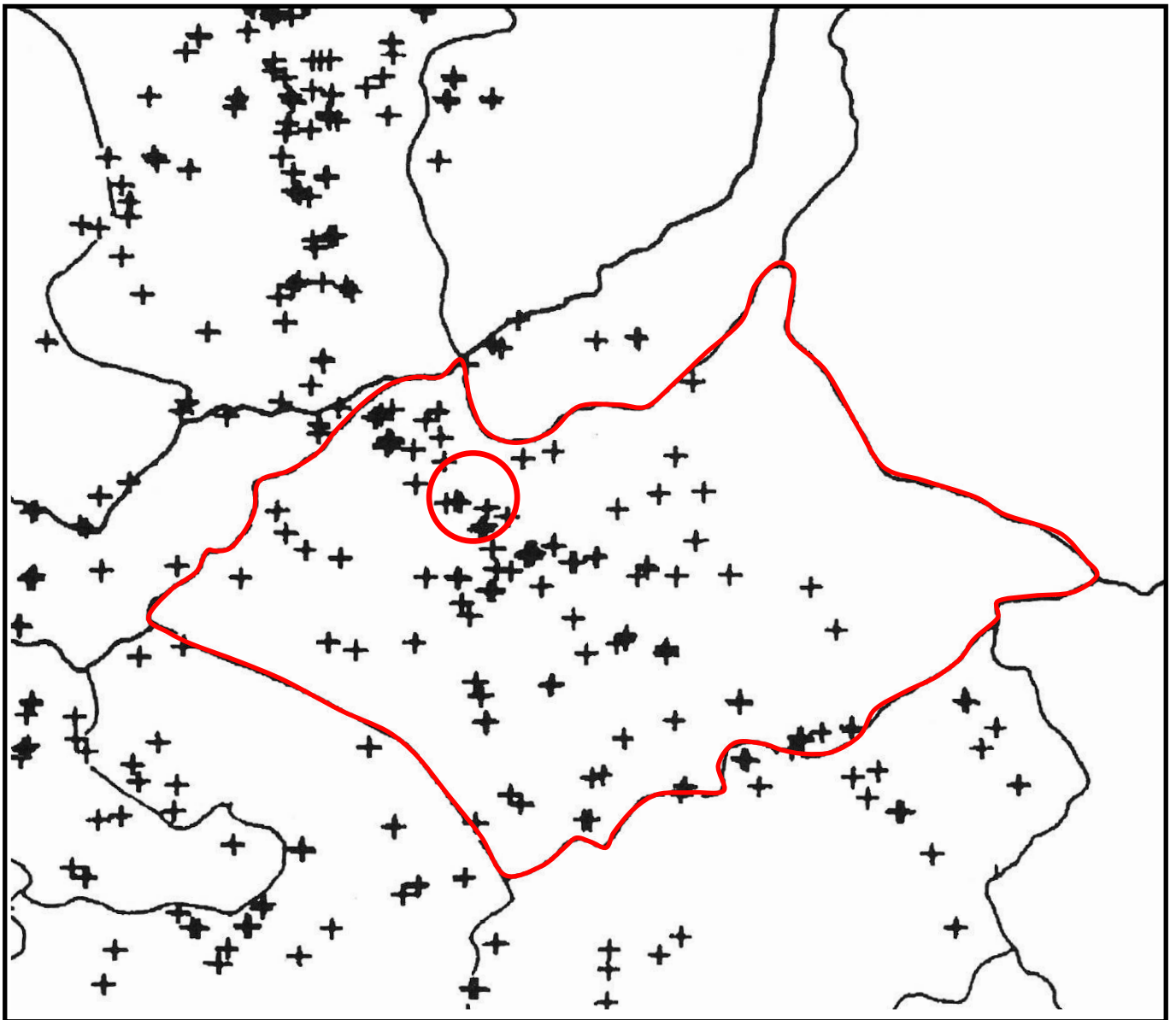


Figure 5: Distribution of known crucks in Leicestershire and Rutland (from Alcock 2007). The circle indicates the approximate area of Holywell Farm. Not at regular scale.

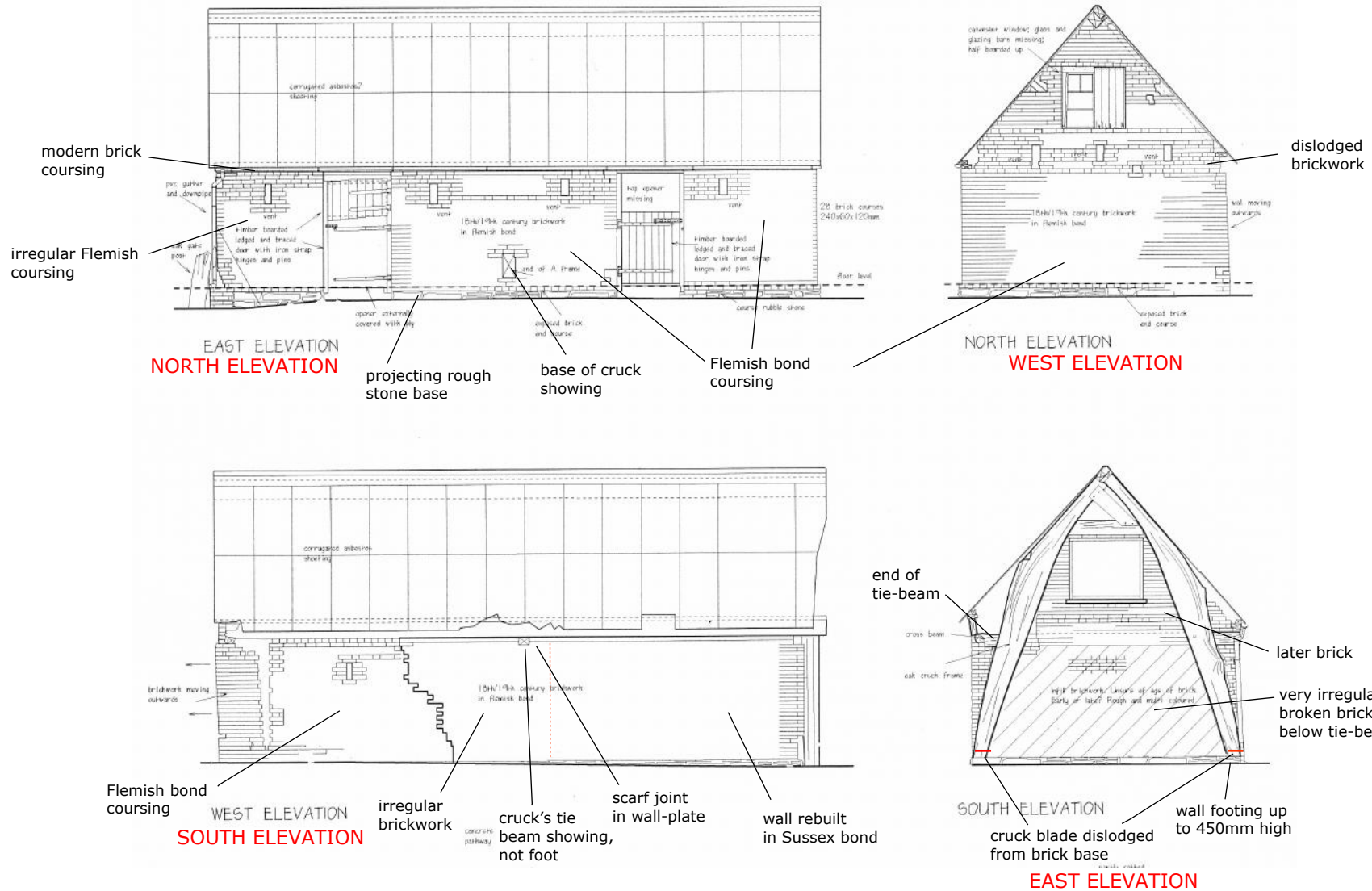


Figure 6: External elevations of the animal shed at Holywell Farm, Loughborough. Scale 1:100. Original drawings supplied by Anthony Short & Partners.

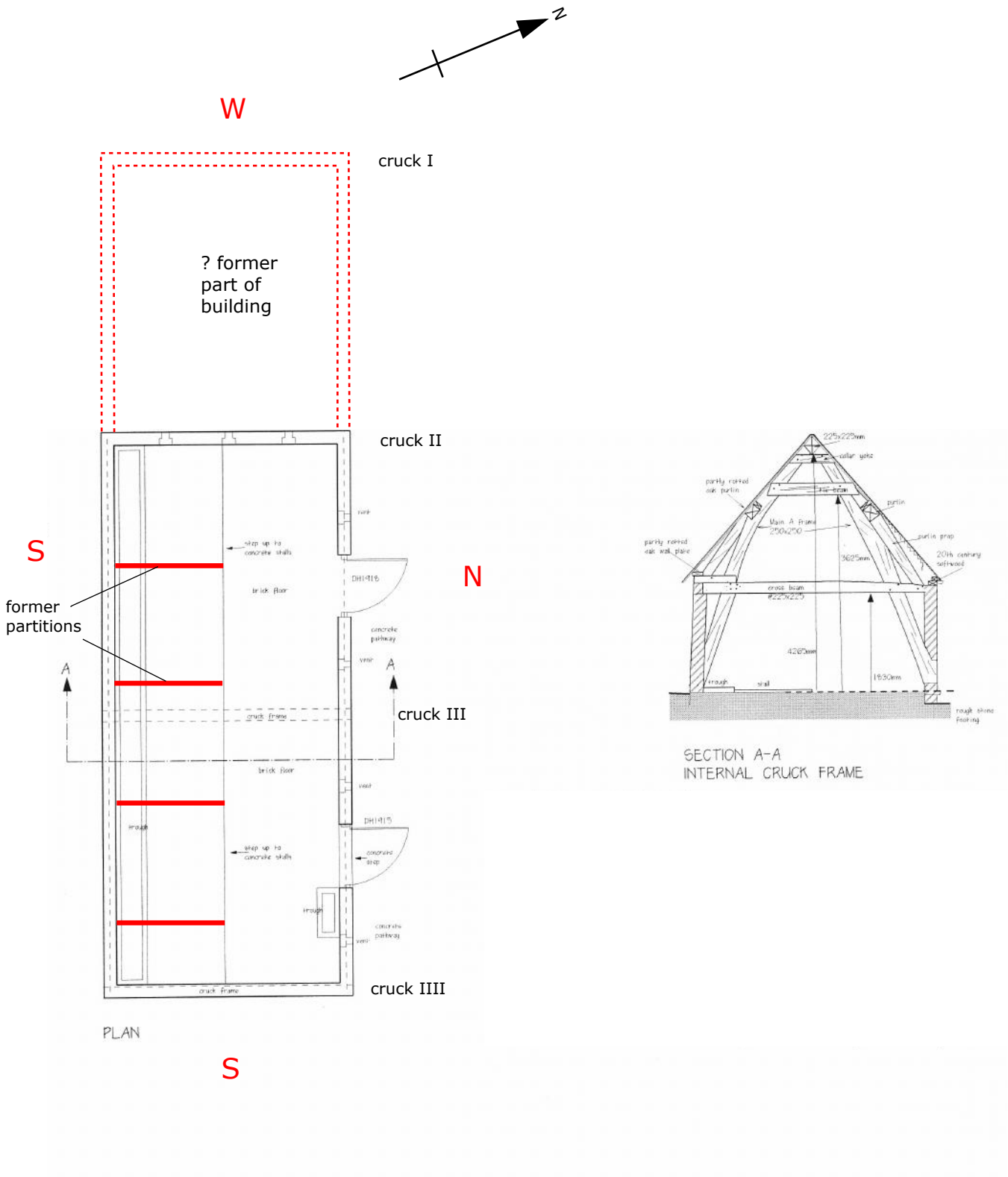


Figure 7: Plan and section across centrally-placed cruck frame within animal shed at Holywell Farm, Loughborough. Scale 1:100. *Original drawings supplied by Anthony Short & Partners.*



Plate 1: North side of the animal shed at Holywell Farm with the base of the central cruck showing just left of the vertical scale.



Plate 2: South side of the animal shed at Holywell Farm showing, to left, crack in the walling and, to right, the displaced south blade of the east-end cruck frame. The original wall-plate rests on top of the brick walling.



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Plate 4: Rubble stone base and displaced base of cruck blade showing in the north-east corner of the building

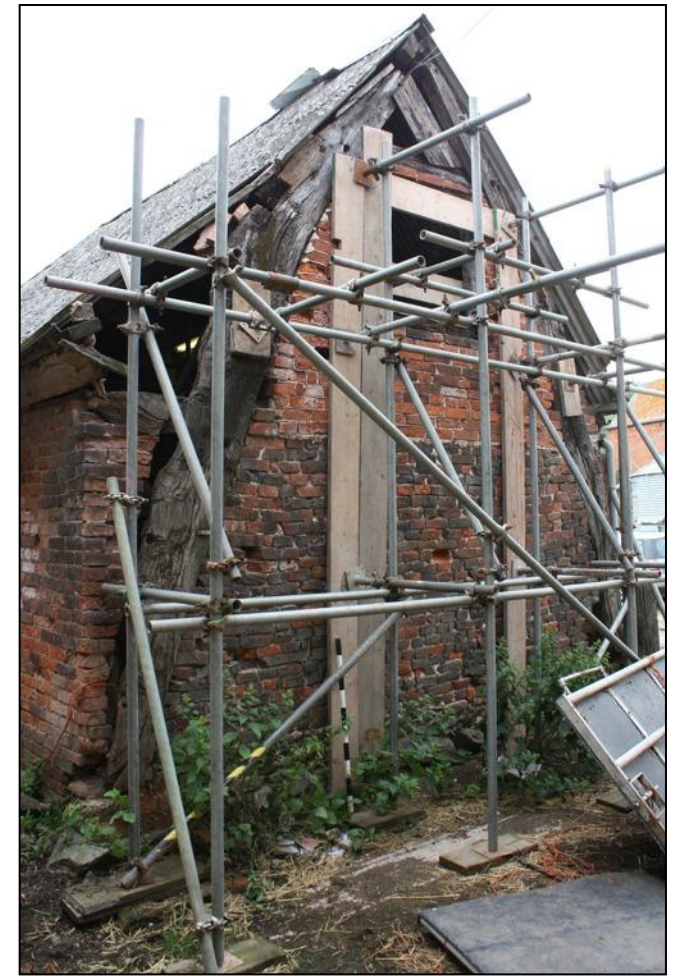


Plate 5: East end cruck frame seen from south-east angle.



Plate 6: Rear wall inside the animal shed at Holywell Farm with holes indicating the former byres.



Plate 7: One of several similarly shaped ventilation slits in the north wall.



Plate 8: Part of the wall-plate resting on the south side brick wall with holes showing on its underside, indicating former timberwork beneath it. The plate rested on the tie-beam showing to left.



Plate 9: Upper part of the east end cruck frame in the animal shed at Holywell Farm, seen from inside the building.



Plate 10: Surviving wind-brace attached to a blade of the east end cruck frame, with original collar, tie-beam and purlin also showing.



Plate 11: Centrally-placed cruck frame within the animal shed at Holywell Farm, here showing its west side.

Plate 12: West side of the upper part of the centrally-placed cruck frame, showing the ridge purlin, yoke, collar, wedge-piece and purlins.





Plate 13: View of the centrally-placed cruck frame in the animal shed at Holywell Farm , showing upper and lower packing pieces behind the blade, with a brace halved lap jointed with the lower one.

Plate 14: View of wind braces of differing length and purlins connected by scarf joint. ▼





Plate 15: Assembly marks showing on the east side of the centrally-placed cruck in the animal shed at Holywell Farm, here where the collar joints the blade. The marks III are indicated by the arrows.



Plate 16: Halving for a lap jointed brace and a halved end to a purlin at the west end of the building, indicating the former existence of a third cruck frame.