

Archaeological Services & Consultancy Ltd

HISTORIC BUILDING RECORDING ALL SAINT'S CHURCH CROYDON CAMBRIDGESHIRE

on behalf of Croydon Parish Council



Karin Semmelmann MA PIFA

September 2005

ASC: 707/CAS/1

Letchworth House
Chesney Wold, Bleak Hall,
Milton Keynes MK6 1NE
Tel: 01908 608989 Fax: 01908 605700
Email: office@archaeological-services.co.uk
Website: www.archaeological-services.co.uk



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<i>Contact name:</i>	Oliver Caroe		
<i>Telephone</i>		<i>Fax:</i>	

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<i>Primary Author:</i>	Karin Semmelmann	<i>Date:</i>	21 st Sept. 2005
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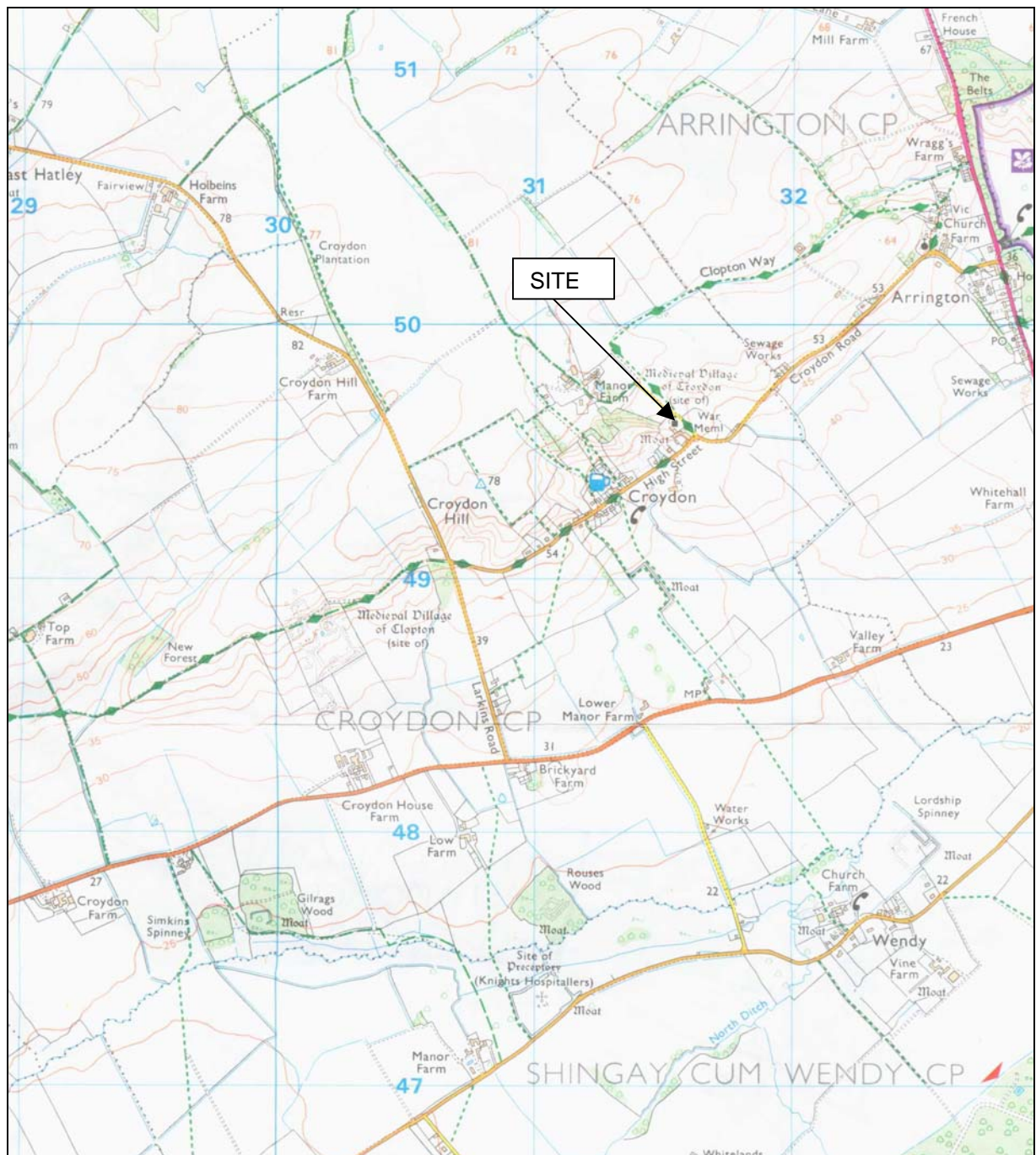


Figure 1: General location (*scale 1:25,000*)

Summary

Between July and September 2005 ASC undertook a historic building recording/watching brief at All Saint's Church, Croydon, Cambridgeshire as part of the requirements of an English Heritage Grant awarded in order to restore the nave roof. The roof is a trussed rafter type roof with additional timbers attached to the main A frame to provide catslide roofs for the aisles. The main frame, which appears to be no later than c.1300 is suffering significant racking. The building is also suffering quite extensive lateral movement due, in part, to the removal of the original tiebeams, possibly when the wagon style plaster ceiling was inserted in the post-medieval period. The first attempt to halt the subsequent spread was probably in the 18th century when two new tiebeams were inserted. Several major restoration projects have taken place since then to counter episodes of serious deterioration of the fabric.

1 Introduction

1.1 Between July and September 2005 *Archaeological Services and Consultancy Ltd* (ASC) carried out historic building recording/watching of All Saint's Church, Croydon, Cambridgeshire during remedial works to the nave ceiling (NGR TL 3154 4960: Fig. 1). The project was commissioned by Purcell, Miller, Tritton on behalf of Croydon Parish Council, and was carried out according to a Recording Specification (OC/sw/7945/20 December 2004) prepared by Purcell, Miller, Tritton (PMT).

1.2 *Project Background*

This recording project has been necessary to meet English Heritage grant aid requirements as well as those of the Diocesan council.

1.3 *Location*

All Saint's Church stands at the north east end of the village towards the top of a scarp slope on a raised platform which slopes gently to the south and east.

1.4 *Description*

The church is built of field stones, clunch and brick with clunch and freestone dressings under tiled roofs. It comprises a nave with aisles, north and south transepts, a chancel, a tower and a south porch. The earliest part of the church, the south arcade, is thought to date to c.1300. The north arcade, both aisles and their chapels were built or rebuilt in the 14th century. The tower is late 14th/early 15th century and the south porch was added in the 17th century. The chancel was rebuilt, probably by George Downing c.1685 and remodelled in 1867. Several restoration projects have taken place since the 1620s.

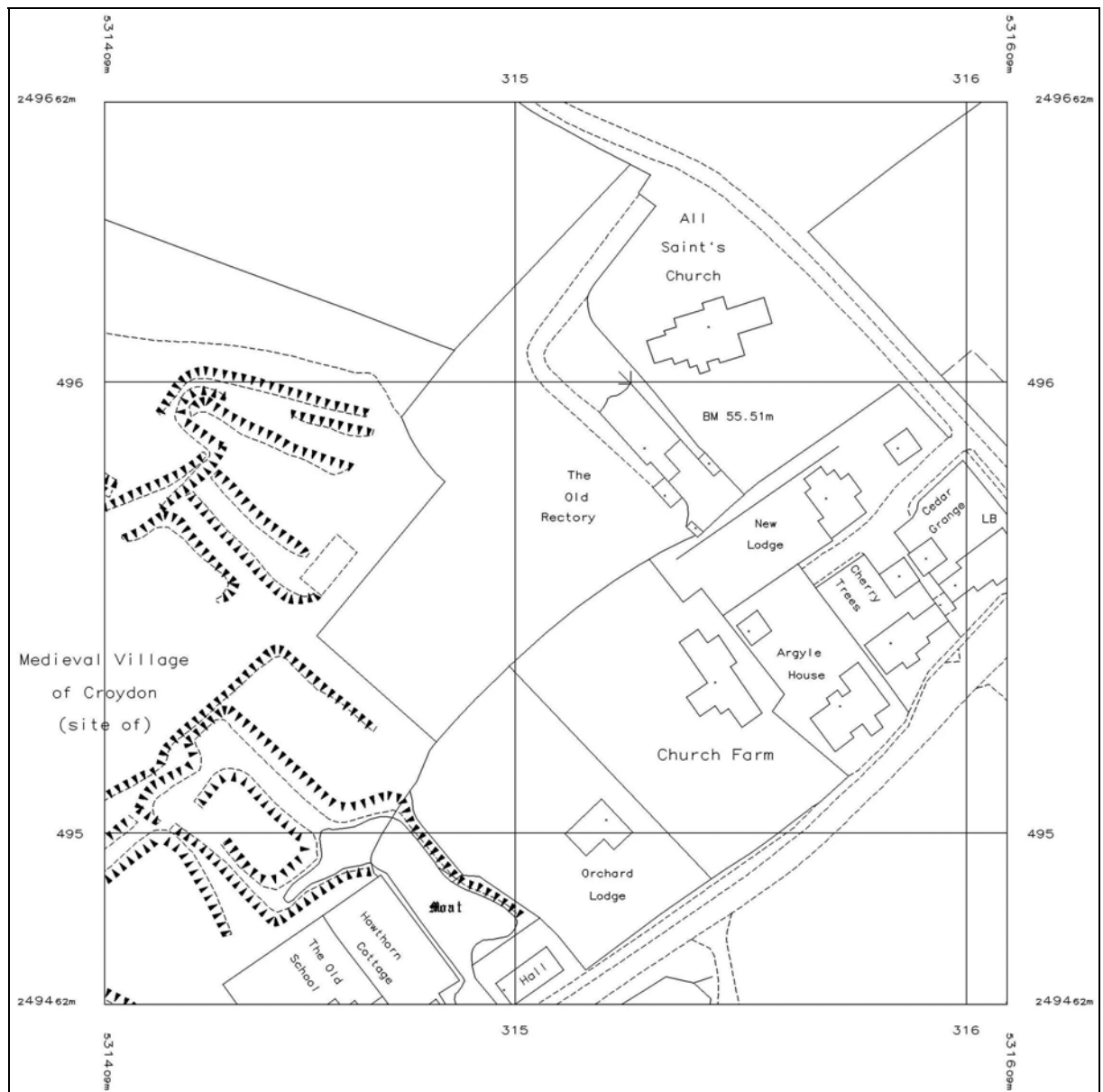


Figure 2: Site location (*scale 1:1,250*)

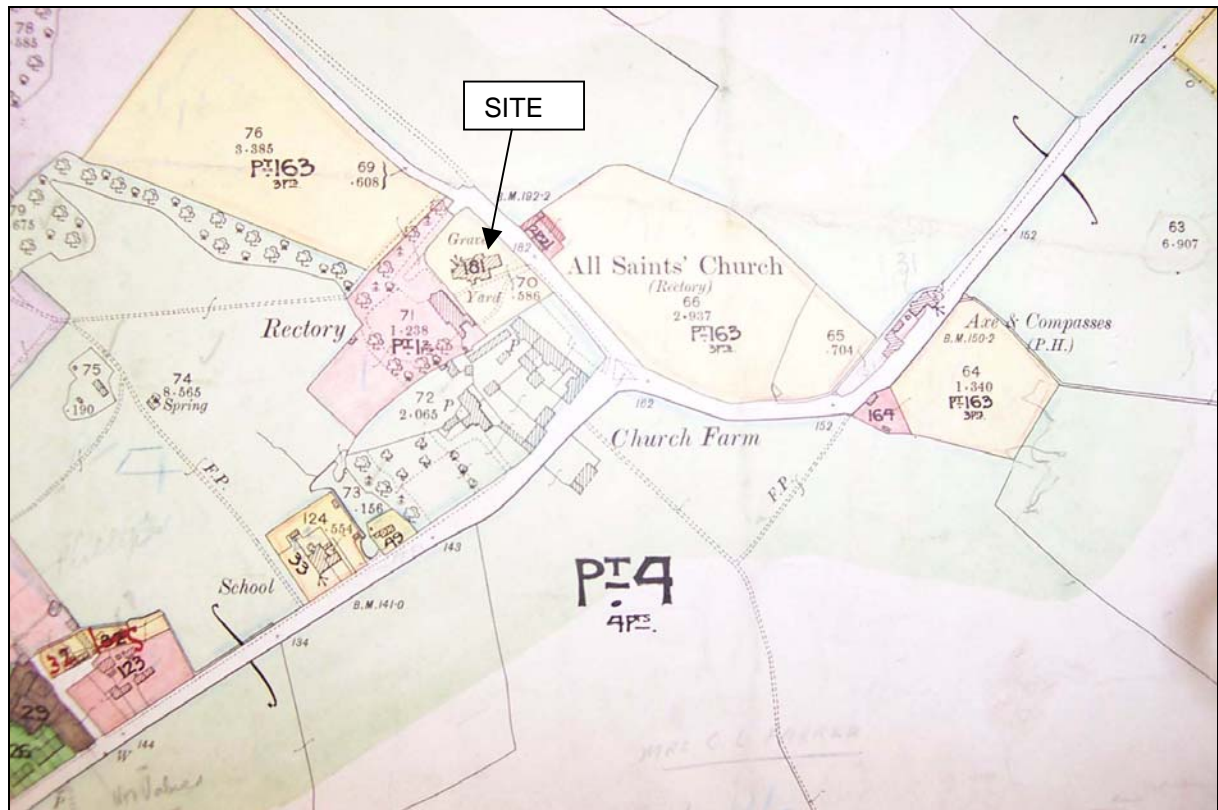


Figure 3: 1902 Ordnance Survey Map (*Not to scale*)

2 Aims & Methods

2.1 Aims

As described in the *Recording Specification* the aims of the building assessment were:

- To meet English Heritage grant aid requirements to record
- To define and evaluate historical/architectural/archaeological significance
- To guide the nature and extent of the proposed works
- To record significant fabric to be removed
- To inform decisions to be made during the works (for example on timber repairs)
- To produce a record of alterations

2.2 Standards

The survey conforms to the project design, to the relevant sections of the Institute of Archaeologists' *Code of Conduct* (IFA 2000) and *Standard & Guidance Notes* (IFA 2001), to the Royal Commission on the Historical Monuments of England's *Recording Historic Buildings: a Descriptive Specification*, 3rd Edition (RCHME 1996), to the Association of Local Government Archaeological Officers East of England Region *Standards for Field Archaeology in the East of England* (ALGAO 2003), and to the relevant sections of ASC's own *Operations Manual*.

2.3 Methods

The work was carried out according to the *Recording Specification* which required:

- That photography would be the primary record, referenced to drawings
- A record of significant alteration, adaptations or sequence evidence be made
- That the record would make outline comparisons of technique/typology with similar buildings, based on published materials, so that a statement of significance could be offered by way of conclusion
- A preparation of a report based on the above

3 Historical Background

General

- 3.1 The village of Croydon lies on a chalk slope at the spring line and has produced archaeological evidence for human activity dating from the Mesolithic period. The southern boundary of the village is made up of the River Rhee, at which point the land stands at c.25m rising to over 75m at the northern end of Croydon (VCH 1982, 30). The name Croydon, or 'Craudene', is thought to mean the valley frequented by crows (*ibid*). The earliest known settlement evidence is of a possible 1st century Roman villa at Valley Farm (Taylor 1997, 36).

Croydon had two manors in the medieval period; Tailboys Manor, which may have stood in the south of the village or at Manors Farm to the north west of the church and Francis Manor (*ibid*, 37). Croydon was united with its near neighbour, Clopton, in 1561 after the latter had been depopulated and enclosed by John Fisher between 1500 and 1518 (VCH 1982, 30).

Much of Croydon belonged to the Downing estates between the late 17th and the mid 18th century and most of the remainder to the Gapes family of Caxton and St. Albans (RCHME 1968, 73). A memorial to the Gapes family was installed in the south chapel of Croydon church in 1953 (Purcell, Miller, Tritton, 2004, 4). Following the 1717 will of the 3rd George Downing, the Downing estate was bequeathed to found Downing College, Cambridge after the death of his childless legatee, and the lands finally passed into college hands in 1800 (RCHME 1988, 58).

The population of Croydon is thought to have reached c.140 by the early 17th century and 208 in 1801. It then rose dramatically to 440 in the 1830s and 545 in 1871 (*ibid* 31). In 1996 the combined population of Croydon and Clopton was c.200 (Taylor 1997, 37).

3.2 *All Saints Church*

Although the oldest known part of the present church dates from c.1300, an earlier church must have existed, as there is documentary evidence that John of Croydon sued for the advowson of the church, but eventually recognised Barnwell Priory's title in 1212. Barnwell Priory established a vicarage before 1250 and retained the advowson until the Dissolution (VCH 1982, 39). The advowson was bought by Sir Michael Fisher in 1549 and when the two villages were united in 1561, Croydon was named the mother church (*ibid*, 40). The patronage of the united living remained with Clopton Manor until 1618, when Lady Howard sold it and Croydon Rectory to Sir John Cage, whose family retained the patronage until 1704 when it was sold to John Gape. It was held by the Gape family until the 1970s (*ibid*).

3.3 *Architectural history*

The church is predominantly built of field stones with clunch and freestone dressings under a tiled roof. The chancel, however, is built of red brick as are the external buttresses.

The south arcade of the nave is considered to be the oldest part of the fabric and dates from c.1300. The piers are octagonal with chamfered arches and have moulded caps and bases. There is a late 14th/early 15th century window of two cinque-foiled lights in the south west corner of the nave. The piers in the north arcade are also octagonal with chamfered arches but vary slightly in that they have moulded caps and chamfered bases. The northern arcade, aisle and transept are thought to be 14th century, but the transeptal chapel does appear to have been reduced at a later date. The south aisle, south transeptal chapel and the square headed windows are also said to be late 14th century, as are the north and south doors (RCHME 1968, 73-4; VCH 1982, 41). The south chapel has niches flanking the east window and traces of a screen dividing it from the nave (VCH 1982, 41). Traces of wall painting, mostly covered by later limewash, have been noted on both sides of the second pier of the north arcade (RCHME 1968, 74).

The fourth bay of the nave was truncated when the tower was added in the 15th century. The tower has three stages with diagonal buttresses at the west end and a heavily strengthened buttress in the south east corner. Most of the embattled parapet was removed in 1937 (RCHME 1968, 74).

3.4 *Later restoration and repairs*

The church has undergone a series of restoration projects since at least the 1620s when Sir John Cage invested in church repairs, and possibly earlier as the whole building was said to be in decay in 1561 (VCH 1982, 41). The chancel was rebuilt to include a family vault by the second Sir George Downing c.1685 and had a family vault constructed there. The chapels were, however, still in a parlous state at this time.

Further restoration work took place apparently in two phases in the 19th century; 1850-1864 and 1867-72. During these programmes of work the chancel was repaired and the classical windows were replaced by perpendicular ones and the north transept was rebuilt (PMT 2004, 3; VCH 1982, 41).

Several repair programmes have taken place since 1912 when the tower was repaired. The first of these was between 1934-8 when the south chapel was largely rebuilt, the embattled parapet on the tower removed and the chancel roof renewed (Plates 1&2). The more recent repair programmes were initiated in the 1980s with the restoration of the tower and the partial re-roofing of the north side of the nave roof (Plate 3). Since then the north aisle has been substantially rebuilt (1994-5) and the south aisle restored (1982, 1994 and 2002). Despite frequent attention over the centuries, the chancel roof failed after the collapse of the main timbers. Following structural repairs, the chancel was re-opened in 2002 (PMT 2004, 4).

4 Description

4.1 *General* (Figs. 4-6)

The nave has a steeply pitched, common or trussed rafter roof, halved and pegged at the ridge, with a collar and soulace braces. There are 26 trusses within the nave, which for the purposes of this report numbered from east to west. The rafters for the aisle roofs are attached to the rear of the nave rafters just above the collar.

The timbers are mostly oak and generally c.8cm wide. The greatest variation in size appears to be in the ashlar pieces, which are between 5 and 8cm in width. Numerous additional timbers, such as the occasional rafter, tile battens and braces have been added seemingly at random to strengthen structurally weak areas of the roof. However, no longitudinal bracing has been added despite serious racking to the east.

The roof is slightly narrower between Trusses 1 and 7 and the possibility that this could suggest an earlier groundplan, eg. the location of an earlier chancel was considered. The geometry of the present building, the fact that the east wall of an earlier chancel had been observed during previous work on the church and the presence of the transepts would mitigate against this. It would seem more likely that the transepts have made this section of the roof more stable than that further west, where there is clear evidence for the fairly significant lateral movement of the wallplates.

4.2 *Tie beams* (Fig. 6, Plates 6-7)

There were originally four tie beams; one at either end and as part of Trusses 10 and 16. Not only have these been sawn off across the nave, but they no longer tie the inner and outer wall plates. Iron ties have subsequently been inserted to clamp these two wall plates. The two tiebeams that now span the nave are completely independent of the roof trusses and appear to have been added at a considerably later date. They are of softwood, which has probably been imported from the Balkans (Robinson pers. com.). They are approximately 28cm high x 15cm wide and have simple mouldings on the lower face and an iron tie of possible 17th century date at either end. The date of these beams remains enigmatic, in that the origin and style would suggest an 18th century date, the ties appear to be older, yet the condition of the timbers would suggest a much more recent date. Having been observed by Weir in 1928, it would be fair to say that they are certainly no later than 19th century and no earlier than the late 17th century.

4.3 *Trusses* (Fig. 4-6, Plates 8-10)

The predominant means of joining the timbers in the trusses is by mortice and tenon joints. A number of these have partially or completely separated showing that some of the tenons are narrower than the standard $\frac{1}{3}$ width of the timber.

The easternmost truss (Truss 1) has simple splayed scarf joints at the upper end of both rafters, which would suggest an earlier date for the roof as this type of joint was becoming obsolete by the end of the 13th century. The location of these joints is rather unusual, as rafters tended to be made of complete timbers, and the reason for needing to heighten the truss is unclear.

The collars of the last five trusses at the western end (Trusses 22-26) are lower than those elsewhere. This would appear to be partly due to the impact of the buttresses having been added to the walls, which on the south side caused the rafter of Truss 22 to be realigned and set within the wall plates. The rest of the truss is skewed southwards as a result. The other trusses tend to skew northwards, possibly as a result of the lateral movement of the walls causing the timbers to rotate but more likely due to the rafter feet rotting and causing joint failure. The northern end of these trusses are now set on lower (modern) bases, and in order to compensate for the imbalance, modern timbers have been added to the rafters on the south side, which have been attached to a quasi ridge-post.

One of the most interesting trusses is number 22 where the southern rafter rests between the two wallplates and the two rafters are jointed with a lap joint rather than tenoned together as is the case for the other trusses. The southern soulace, which has been replaced is failing again; the present soulace has a very small tenon and three wooden pegs to joint it to the collar where there is a mortice designed for a larger tenon.

Trusses 25 and 26, which show every sign of being contemporaneous, lie immediately adjacent to each other. This could be because the nave was truncated when the tower was added and the truss that would consequently have been redundant was just moved eastwards.

4.4 *Roof covering* (Plate 11)

Although some of the rafters have notches on the outer face and/or redundant peg holes, there are no nails or other roof fittings on the outer face of the A frame rafters, which would suggest that the roof was originally thatched. It was common for thatched roofs in East Anglia to be built on woven fleeking, which had been tied to the trusses by honeysuckle or blackberry cord (Jack Lewis pers. com.). Could the peg holes have provided another means of attaching the fleeking to the frame? The tiles which now cover the roof are plain peg tiles of indeterminate date. The pegs themselves are largely of wood.

4.5 *Wallplates* (Fig. 8, Plates 12-14)

The inner wallplates supporting the ashlar pieces were once dentilated along the entire length. Only random sections of dentilation have survived (Fig. 8). Because the wallplates appeared to be upside down and the joints between some of the ashlar pieces and the wallplates were poorly wrought, it was initially thought that the wallplates were replacement timbers. However, similar wallplates form part of the trussed rafter roof at St. Mary's church at Strethall (Essex) and these appear to be part of the original medieval fabric (Michael Pearson pers. com.). It is therefore possible that the wallplates at Croydon could also be original timbers, which were modified at a later date, possibly when the ceiling was plastered.

Diagonal braces unite the two sets of rafters at wall plate level, but the joints are obscured by the remains of the lath and plaster ceiling. Rafter seatings are apparent in some of these braces, which would suggest that these are re-used timbers.

4.6 *Ashlar pieces* (Fig. 6)

Some of the ashlar pieces have triangular notches or circular holes in the sides to accommodate timbers for daub or plasterwork. The ashlar pieces that lack these features are undoubtedly replacement timbers and, interestingly, they are predominantly on the southern side.

4.7 *Ceiling* (Plates 15-16)

The plaster has been replaced as necessary over recent years. As such it is of various depth, density and composition. The sample removed for the purposes of this report was between 1.5 and 3cm deep, fairly coarse with horsehair and small stone inclusions and coated with two layers of limewash. The post-medieval date ascribed to the plasterwork was substantiated by the discovery of lead shot in the northern rafter of Truss 6.

Whilst many of the laths appear to be riven and are fastened with hand made nails, those at the south western end of the nave are modern replacements, roughly cut and attached using machine made nails. The 1928 report on the condition of Croydon Church (Weir 1928) noted that the laths were to be replaced by riven oak laths, and certainly those at the eastern appear to be of oak (Robinson pers. com)

4.8 *Carpenters' assembly marks* (Fig. 6, Plate 17)

Some of the trusses at the eastern end have carpenters' assembly marks scratched into the collars, braces and rafters. These are of some interest as the marks between collar and rafter match, as do those between the rafter and the lower end of the brace, yet there is a variation between the upper and lower marks and neither follow a logical sequence from truss to truss. The reasons for the mismatch are unclear.

4.9 *Transepts* (Fig. 4, Plates 18-19)

The southern end of the south transept roof appears to have retained many of the medieval roof trusses, but the northern end has replacement, roughly sawn softwood rafters set onto a replacement wallplate and attached to a ridge post. The northern gable has been replaced using sawn studs of uniform scantling (c.6cm wide) set approximately 30cm apart and there is a false gable at the southern end set one truss in from the south wall. These appear to be of 19th century date. The documentary evidence as well as the appearance of the battens, however, suggest that these are more likely to belong to the 1930s restoration programme.

The north transept roof appears to have been rebuilt in the 19th century.

4.10 *South Porch* (Fig 4, Plates 20-21)

The south porch is a simple structure thought to have been built in the 17th century (RCHME 1968, 74; VCH 1982, 41). The roof contains a mixture of oak and softwood timbers and shows evidence for various episodes of alteration, including the removal of the bargeboard and the lengthening of the rafters to accommodate guttering.

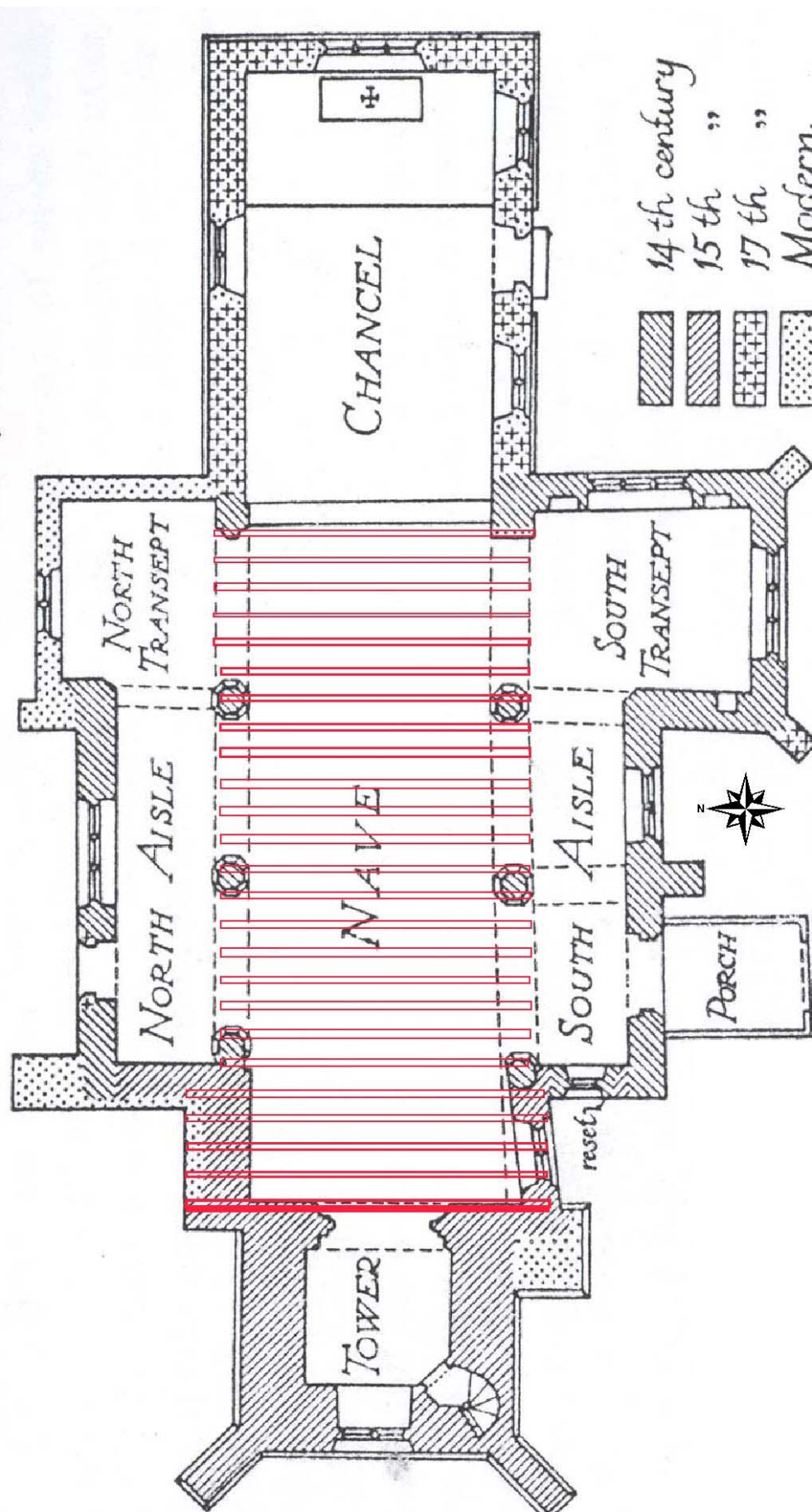
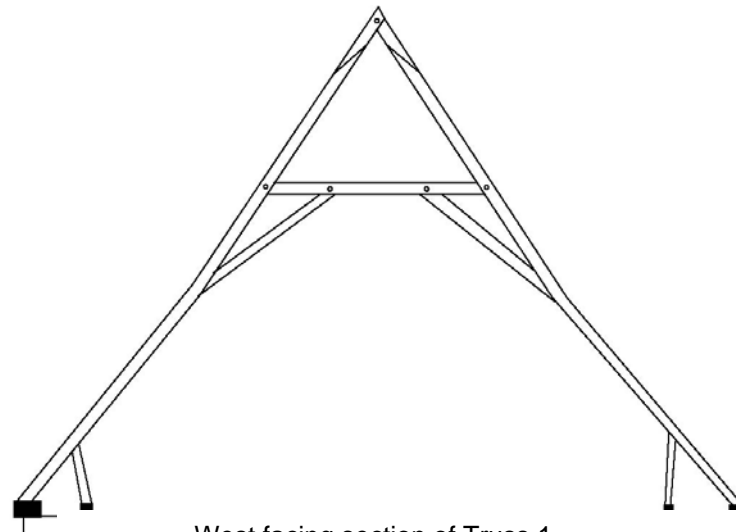
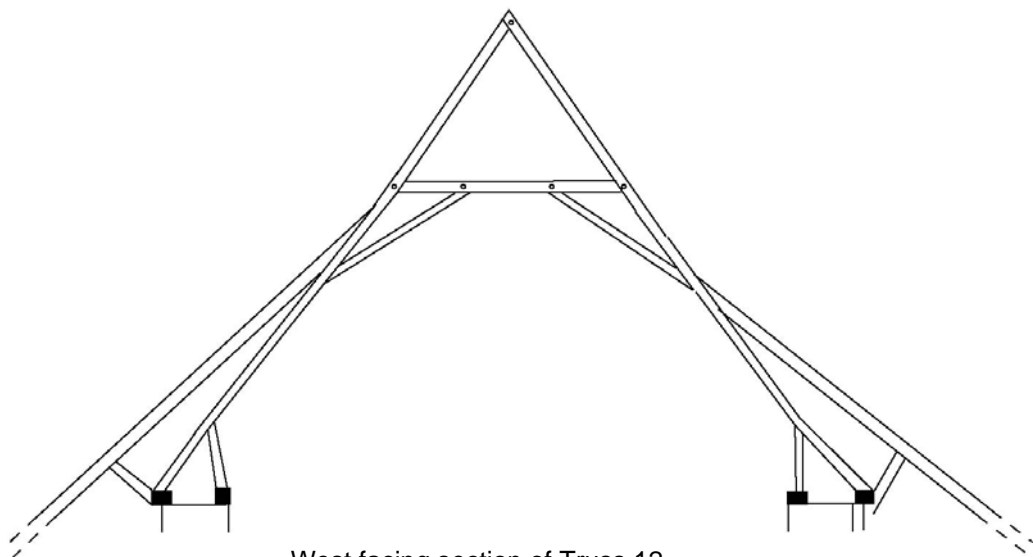


Figure 4: Trusses in relation to the groundplan (Scale 1:100)
(Base plan courtesy of RCHME 1988)



West facing section of Truss 1
(Based on drawings prepared by Purcell, Miller, Tritton)



West facing section of Truss 12
(Based on drawings prepared by Purcell, Miller, Tritton)



Figure 5: Truss section (Scale approx. 1:75)

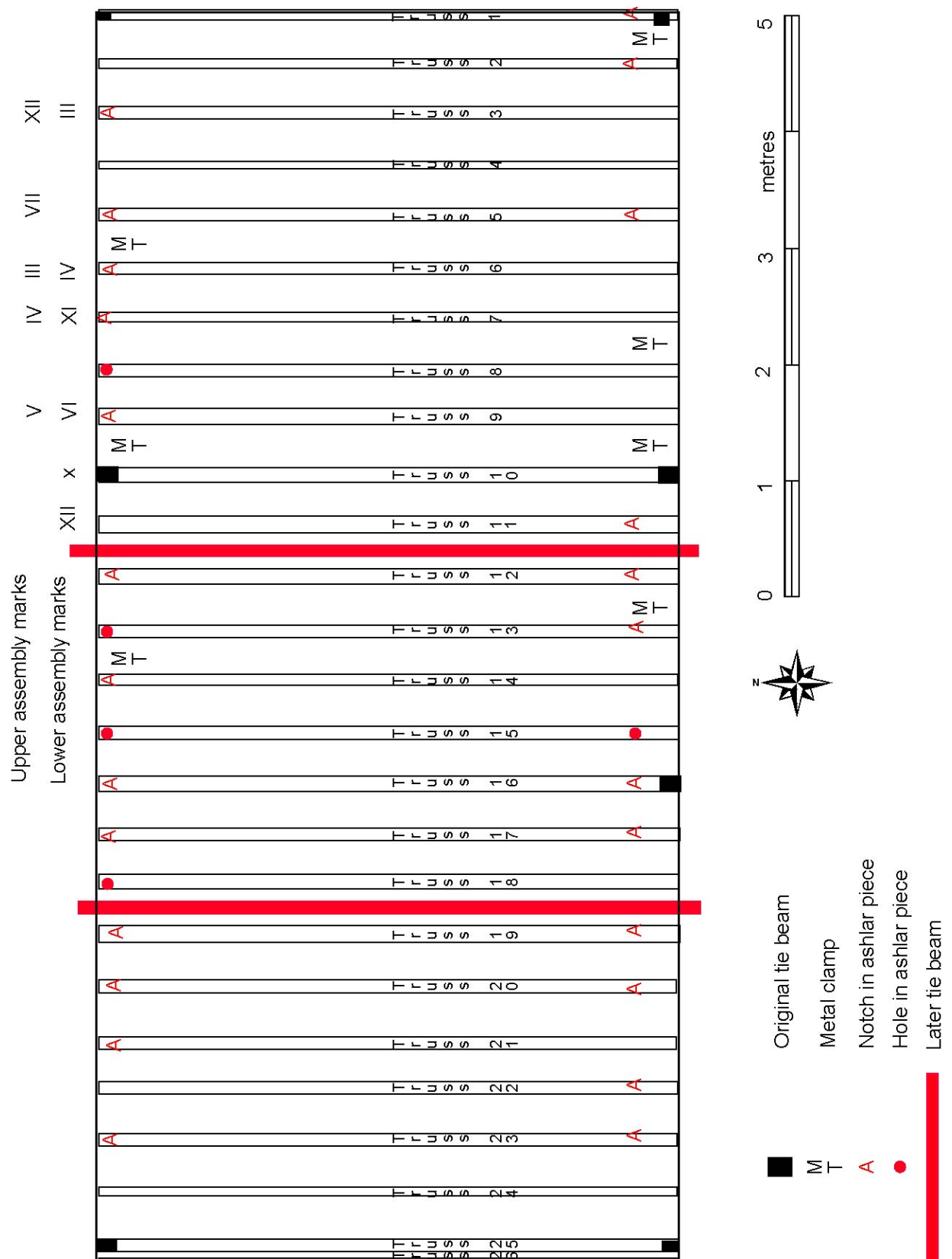


Figure 6: Roof details (*Scale approx. 1:50*)

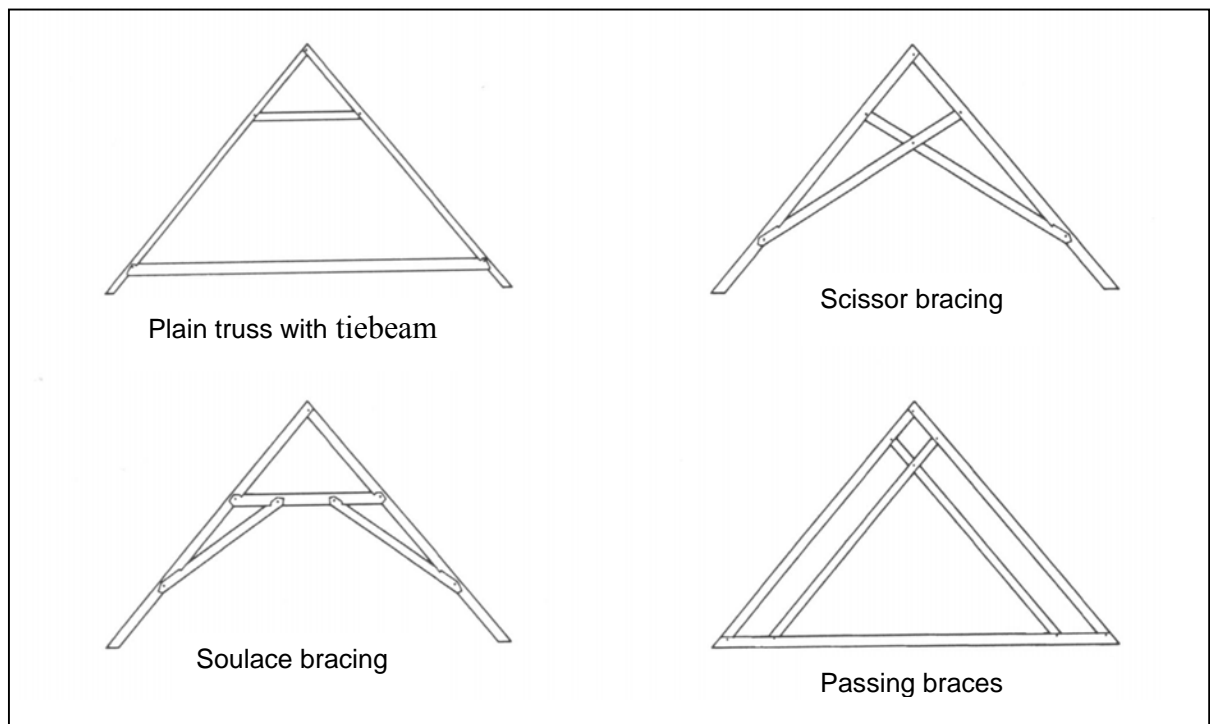


Figure 7: Types of bracing associated with trussed rafter roofs

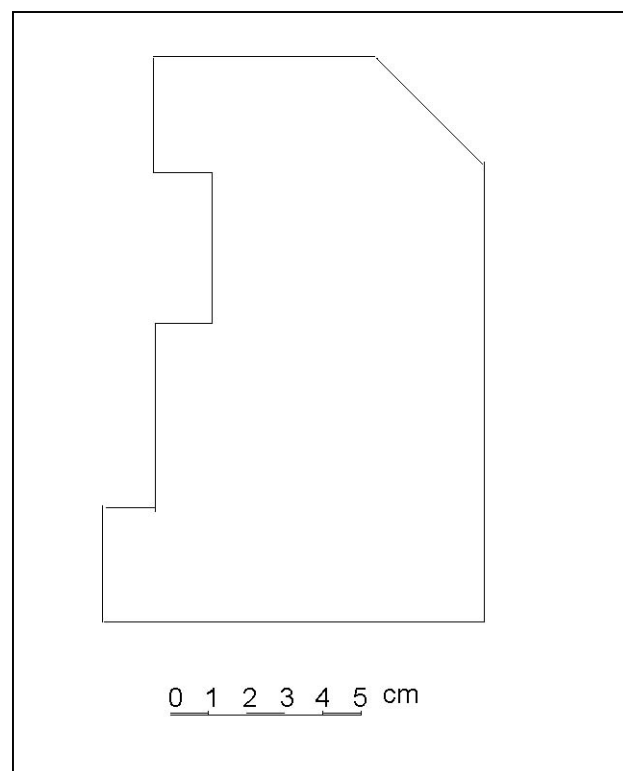


Figure 8: West facing section of the southern wallplate (*Scale 1:2*)



Plate 1: South side of church in 1937



Plate 2: North side & tower in 1937



Plate 3: North side of roof

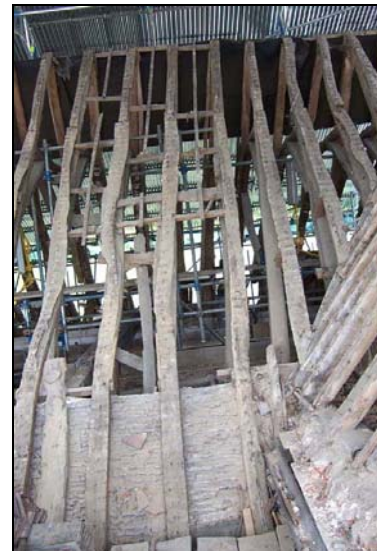


Plate 4: South aisle roofing timbers



Plate 5: Additional bracing on Truss 23



Plate 6: Cut tiebeam and iron clamp



Plate 7: Strapwork on tiebeam



Plate 8: Truss 22; mortice & tenon joint



Plate 9: Truss 1; scarf joint



Plate 10: Truss 1; failed joint



Plate 11: Tiling detail



Plate 12: Dentilation on north wallplate



Plate 13: Dentilation in Strethall church



Plate 14: Rafter seating



Plate 15: Ceiling looking east



Plate 16: Lath & plaster at the south-western end of the nave



Plate 17: Carpenter's assembly marks



Plate 18: South-west end of the south transept



Plate 19: North-west end of the south transept



Plate 20: South porch, east side



Plate 21: South porch, eastern horn & later additions to rafter

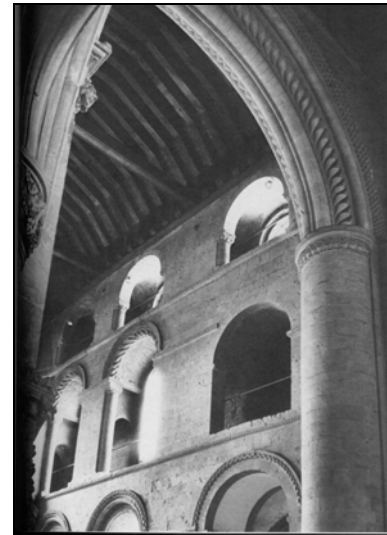


Plate 22: Southwell Minster, south transept



Plate 23: St. George's Guildhall, King's Lynn

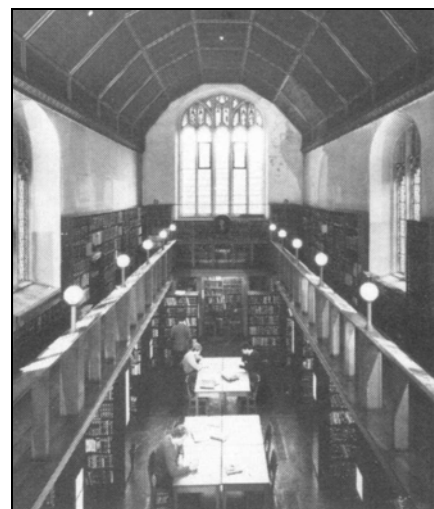


Plate 24: Old Chapel, Queens College

5 Trussed Rafter Roofs – contextual background

Trussed rafter roofs were composed of couples of rafters of the same scantling with a collar beam, braces, a tiebeam at regular intervals and no longitudinal bracing. The collar braces came in three forms; the soulace brace, scissor brace and passing braces (Fig. 6). The early roofs were generally open and covered in thatch or tiles. The fire risk to thatched roofs was such that building regulations were introduced in London as early as 1212 prohibiting the use of thatch unless it was plastered (Salzman 1997, 223). The same regulation encouraged the use of tiles, which became increasingly popular from the 14th century (*ibid*, 229). The lack of longitudinal strengthening meant that racking was a major problem with this type of roof, and crown post roofs with ridge plates were introduced in the middle of the 13th century in south east England to try and rectify the problem. Nonetheless, trussed rafter roofs continued to be built in the region until the later medieval period.

For the purposes of finding comparative roofs, the author trawled through numerous documentary and Internet sources as well as viewing churches and chapels in Cambridge and around the Hertfordshire/Essex border. It is evident that the trussed rafter roof has a long and eminent history with examples known in the almonry at Hereford (dated 1233), the Queen's Chamber and chapel at Gillingham (dated 1229), the Barley Barn at Cressing Temple (dated 1200) and various cathedrals including Peterborough, Wells and Lincoln as well as Southwell Minster (Clifton-Taylor 1986, 173; Grenville 1999, 46; Hewett 1969, 22-24); Salzman 1997, 210) (Fig. 20). The local evidence shows, however, that relatively few medieval trussed rafter roofs appear to have survived in their basic form as most have had a ceiling inserted at one stage or another.

The chancel roof in St. Mary's Church, Strethall is an excellent example of a trussed rafter roof with no ceiling. In form it is identical to the nave ceiling at All Saint's, Croydon, down to the dentilated wallplates and new tiebeams, which in this case are less than five years old. Both this and the nave roof are said to be of 15th century date (Church leaflet,) as is the soulace braced roof in St. George's Guildhall, King's Lynn (Plate 21). Both have been extensively restored, and it is of interest to note that there had also been considerable lateral movement in the wall of the Guildhall. This was addressed with the addition of king posts (now removed) and five massive buttresses on the north wall (Richards 1992; www.touruk.co.uk/houses/housenorf_stge.htm).

The Cambridge examples known to the author have been largely rebuilt, at least once in their lifetime. The Old Chapel in Queens College (Plate 22), which dates from c.1448 was given a flat ceiling by James Essex in 1773 (Scarr, 1983, 17). This was removed in 1845 and a replica of the medieval ceiling with a panelled wagon style ceiling was constructed (Willis & Clarke 1988, 42). A contract dated 14th April 1448 suggests that the original (and presumably, therefore) the present roof was a trussed rafter roof (*ibid*. 3, 13). A contract drawn up by Trinity Hall in 1374 also appears to specify the construction of a trussed rafter roof, although it remains unclear which building this refers to (Salzman 1997, 211).

The chancel roof of Jesus College Chapel was also hidden behind a flat ceiling in the late 18th century (Willis & Clarke 1988, 145-6). When it was rebuilt by Pugin in 1847-

9, much of the medieval material was re-used and a panelled ceiling with moulded ribs and carved bosses was inserted (RCHME 1988,88). A caveat with this particular roof is that the chapel was initially constructed for St. Radegund's Priory in the 13th century but heavily rebuilt by Bishop Alcock when (Gray & Brittain 1960, 26-7; Pevsner 1991, 84-5). The medieval roof may, therefore, have dated from either the 13th or the 15th century.

The nave in St. Botolph's church has a painted wagon ceiling, which is likely to be below a trussed rafter roof. Although no date is given for the roof or ceiling in the RCHME survey, the nave was rebuilt in the first half of the 14th century and the roof may well be of contemporaneous date (1988, 267).

6 Conclusions

The roof has clearly seen many phases of major and minor alterations resulting in a veritable forest of timbers of various scantling and purpose. Ignoring the myriad additional timbers, the history of the roof appears to be as follows:

On the basis of the steep pitch, the fact that the rafters are set horizontally rather than vertically, the absence of a ridge post and the presence of the simple scarf joint in Truss 1, the A frame of the trussed rafter roof appears to be no later than 13th century date. The absence of fittings on the outer face of the rafters, as well as the steep pitch, would suggest that the roof was originally thatched.

The rafters making up the cat slide roof were added when the aisles were built, but whether the roof was tiled at this stage or later is unknown. Both the north and south transepts were apparently constructed in the 14th century. Of their roofs, only the southern 8 trusses of the south chapel survive. The northern trusses were replaced with softwood timbers, probably during the 1930s restoration programme. The north chapel, including the roof, was rebuilt in the 19th century.

The post-medieval period saw some major alterations taking place with the introduction of a plastered wagon ceiling and the loss of the original tiebeams. Whilst an absolute chronology cannot be supported, it seems likely that the original tiebeams were removed at about the same time as the ceiling was plastered, possibly as the tiebeams were considered visually inappropriate for the new ceiling. The structural implications would have become apparent very rapidly as the walls began to separate (Paul Riddington pers. com.) and two new tiebeams were inserted in an attempt to arrest the spread.

Numerous attempts have been made to resolve the structural problems caused, it is thought, primarily by the loss of the original tie beams, including the addition of buttressing to the north and south walls, the insertion of iron clamps to the internal and external wall plates as well as iron ties within the nave, and the partial rebuilding of the walls. In addition, numerous timbers have been added as sections of the roof failed, whether through racking, lateral movement or inadequate joints.

The trussed rafter roof in All Saint's Church is an interesting example of its type in that, unlike the other ones visited or researched, the main A frame also carries the rafters for the aisle roof. In contrast, it follows the familiar pattern seen particularly in Cambridge, but which is also evidence in the nail holes in the rafters of the chancel in Strethall, of having a ceiling inserted at some point in its history. The original aspect from the inside of All Saints Church would probably have been of a high open roof space interspersed with exposed timbers. It is possible that the thatch was plastered and painted between the rafters, giving the all encompassing polychromatic effect beloved of medieval churches, of which a small element has survived in the painted plaster in the north aisle.

7 Acknowledgements

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The watching brief was undertaken by Karin Semmelmann. The report was written and illustrated by Karin Semmelmann and edited by Bob Zeepvat, BA, MIFA.

8 Archive

8.1 The project archive will comprise:

1. Brief
2. Report
3. Historical & Survey notes
4. Architect's survey drawings
5. List of photographs
6. B/W prints
7. B/W negatives
8. CDROM with copies of all digital files.

8.2 The archive will be deposited with Purcell, Miller, Tritton.

9 References

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Houses in Norfolk: St. George's Guildhall

<www.touruk.co.uk/houses/housesnorf_stage.htm> Viewed on 19th September 2005

Maps

1887 Ordnance Survey Plan LII.8 (Cambridge CRO)

1902 Ordnance Survey Plan LII.8 (Cambridge CRO)

Appendix 1: List of Photographs

No.	View	Description	Plate
1	NE	Eastern end of the nave ceiling	
2	NW	Western end of the nave ceiling, showing Trusses 22 & 23	5
3	W	Truss 22	
4	NE	North side of roof after the ceiling was removed	
5	SE	Collar detail	
6	E	North side of roof showing the narrowing towards the chancel end	
7	S	Dentilation, tie beam and clamp on south side	
8	N	Dentilation on northern wallplate	12
9	N	Dentilation at the western end of the northern wallplate	
10	S	Dentilation on southern wallplate	
11	S	Truss 22, failed joint	8
12	W	Truss 22, failed joint	10
13	W	Collar/rafter join	
14		Truss 22, ridge joint	
15	E	Truss 1, simple scarf joint	9
16	SW	Modern lath & plasterwork in south-western end of the roof	15
17	NE	Lath & plaster on the north side	
18	N	Possible replacement rafter on north side	
19	NE	Carpenters' assembly mark	16
20	NW	North western end of the roof showing Truss 23	
21	SW	Rafter & tiles detail	11
22	S	Rafter seating	14
23	NE	Ceiling being removed	
24	NW	Ceiling being removed	
25	SE	West face of southern end of later tiebeam	7
26	W	East face of southern end of tie beam	
27	NW	Northern end of tie beam	
28	SE	Truncated tiebeam and iron clamp	6
29	N	Eastern end of south aisle roof	4
30	NW	Western end of south aisle roof	
31	S	North elevation of south transept	
32	SE	Eastern side of the south transept roof	
33	NE	South transept roof, northern end	18
34	E	South transept roof, central section	
35	E	South transept roof, southern end	17
36	SE	North transept roof, west side	
37	SW	Nave roof, north side	3
38	NW	Nave roof, north side showing 1990s repairs	
39	N	South porch, horn & later additions to rafter	21
40	W	South porch, east side detail	
41	W	South porch, east side	20
42	N	South porch, interior	
43	E	South porch, west side	



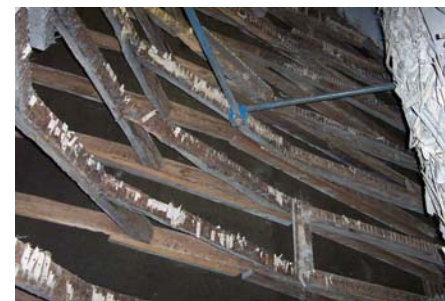
Shot 1



Shot 2



Shot 3



Shot 4



Shot 5



Shot 6



Shot 7



Shot 8



Shot 9



Shot 10



Shot 11



Shot 12



Shot 13



Shot 14



Shot 15



Shot 16



Shot 17



Shot 18



Shot 19



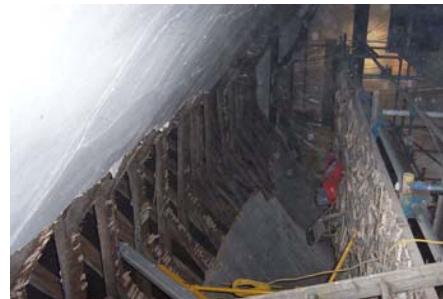
Shot 20



Shot 21



Shot 22



Shot 23



Shot 24



Shot 25



Shot 26



Shot 27



Shot 28



Shot 29



Shot 30



Shot 31



Shot 32



Shot 33



Shot 34



Shot 35



Shot 36



Shot 37



Shot 38



Shot 39



Shot 40



Shot 41



Shot 42



Shot 43

