



GAWTHORPE GREAT BARN, PADIHAM,

LANCASHIRE

Historic Building Survey Report



Oxford Archaeology North

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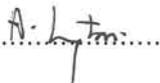
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SUMMARY

The National Trust requested that Oxford Archaeology North (OA North) submit proposals for undertaking a programme of research and building survey at Gawthorpe Great Barn, Padiham, Lancashire (centred on SD 80580 34052). The barn is within the estate of Gawthorpe Hall, a Grade I listed Elizabethan country house, altered in the 1850s by Sir Charles Barry and the ancestral home of the Shuttleworth Family. Gawthorpe Great Barn is also afforded statutory designation as a Grade I listed building (1237628; HER 16699; NTSMR 27723), reflecting the immense importance of the site as a very well preserved, aisled barn. The project design was produced in response to a brief written by the National Trust and provided for a methodology to undertake a desk-based study, a topographic survey, a laser scan building survey, and a dendrochronological survey as an option. The laser scan survey (APR Surveys LTD), topographic and building surveys were undertaken between November 2013 and March 2014.

Gawthorpe Great Barn is a large aisled barn, of *c*1605 date, which has a nine bay plan, with aisle posts on padstones that are *c*2.5m high in places. The principal (south facing) facade was re-skinned, probably in *circa* 1850/ 60, and the rest of the barn has been subject to some alteration, but the timberwork of the aisled barn appears to be substantially original. The listed building description indicates that it is one of the finest aisled barns in the North West and that the ox stalls might be the earliest examples in Britain.

The building survey revealed that the barn was of four main phases of construction, the first being a rectangular seventeenth-century 'Great Barn' providing for the estate's produce as well as a home for animals. It was a largely symmetrical structure with an impressive aisled construction similar to other great barns in the region such as those at Wycoller in Lancashire, and East Riddlesden and Shibden in Yorkshire. There was a central stone threshing floor served by two large cart entrances with substantial wain doors. There were probably two oxen houses, of which one still survives. The frame of the barn exhibits both assembly marks on the members and masons or bankers marks on the stone plinths.

In the nineteenth-century, the barn was significantly altered and a carriage house and other extensions were added. Three rooms housing horse stalls and/ or stables were created at the southern end of the barn probably to serve the newly created carriage house; a mounting block was also added. The whole front of the principal elevation was re-facaded, and covered by an additional wythe of masonry, obscuring the original windows and ventilation holes. New windows were created and doorways were added or altered. A date stone on the principal elevation of the carriage house exhibits the date 1870. These alterations were carried out in the style of the Gothic Revival, but possibly not by Sir Charles Barry, the celebrated architect, whose contribution to Gawthorpe Hall had been about 20 years earlier.

Further changes during the early-mid twentieth century included removal and/ or alteration of ancillary buildings as well as little documented interior and exterior changes including modifications made by Burnley Football Club in the 1950s and 1960s when it became the venue for indoor football practice. The Barn was purchased by The National Trust in 1980 following which, a programme of restoration was instigated that involved the stripping away of most of the additions

including a small porch on the north elevation, the establishment of large buttresses supporting the northern wall and a larger extension at the north-west corner. Later windows and doorways were removed and blocked up. One of the large wain doors was restored and the whole of the roof covering was removed and re-laid. The barn was adapted as an arts centre in *circa* 1984 and several internal and external changes including remedial repair work were made. The stables were divided, one room being fitted out as a kitchen and the carriage house became the location for a café. In 2000, a concrete screed floor with under floor heating was installed in the barn.

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Oxford Archaeology North would like to thank Ken Davies at Lancashire Historic Environment Record and the staff at Lancashire Record Office in Preston as well as the staff at Gawthorpe Hall for their kind assistance. Particular thanks are due to Jamie Lund of National Trust for commissioning the project and to Karen Townend for enabling access. We would also like to thank Tony Rogers and Cyril Patureau of APR Surveys LTD who undertook the laser scan survey of the building.

The desk-based research was undertaken by Alastair Vannan. The building survey was carried out by Andy Phelps and Karl Taylor; with Karl Taylor also writing the report. The topographic survey was carried out by Jamie Quartermaine. The illustrations were produced by Anne Stewardson. The project was managed by Jamie Quartermaine, who also edited the report.

1. INTRODUCTION

1.1 CIRCUMSTANCES OF THE PROJECT

- 1.1.1 The National Trust requested that OA North submit proposals for undertaking a programme of research and building survey at Gawthorpe Great Barn in Lancashire (centred on SD 80580 34052). Gawthorpe Great Barn is afforded statutory designation as a Grade I listed building, reflecting the immense importance of the site as a very well preserved, early large aisled barn. The project design submitted by OA North (*Appendix 2*) was in response to a brief by the National Trust (*Appendix 1*) and provided for a methodology to undertake a desk-based study, a topographic survey, a laser scan building survey, and a dendrochronological survey as an option.
- 1.1.2 Gawthorpe Great Barn is a large aisled barn, of *circa* 1605 date, which has a nine bay plan, with aisle posts on padstones that are *c* 2.5m high in places. Although the principal facade was reskinned, possibly in *circa* 1850/ 60, the rest of the barn has been subject to relatively little alteration, and the timberwork of the aisled barn appears to be substantially original. The listed building description indicates that it is one of the finest aisled barns in the North West and that the ox stalls of 1610-11 might be the earliest examples in Britain.

1.2 SITE LOCATION, GEOLOGY AND TOPOGRAPHY

- 1.2.1 Gawthorpe Great Barn is a part of the estate of Gawthorpe Hall which is located just off the A671, in Padiham near Burley, Lancashire (Fig 1). The Hall is situated within 284 acres of land which includes woodland and pasture. The River Calder runs along the western side of the property on its course north-westwards towards the River Ribble. The present Gawthorpe Hall was built by the Reverend Lawrence Shuttleworth in 1599-1606 (Robinson 1991, 185). After a period of decline in the eighteenth century, the house was substantially modified in the mid-nineteenth century, raising the silhouette, and laying out formal gardens
- 1.2.2 The solid geology of the region comprises mostly sedimentary rocks, predominantly sandstones, of the Pendle, Warley Wise, Kinderscout and Gorpley or Revidge Grits. The overlying drift geology is essentially post-glacial deposits, comprising boulder clay with some areas of sands or gravels (Countryside Commission 1998). The soils, as mapped by the Ordnance Survey Soil Survey of England and Wales (1983), are predominantly of the Brickfield 3 series, which are cambic stagnogley soils, deriving from the underlying geology. In addition, there are small areas of the Wallsea 2 series, a pelo-alluvial gley, essentially alluvial in nature.

2. METHODOLOGY

2.1 PROJECT DESIGN

- 2.1.1 The methodology was based upon a written brief provided by National Trust (*Appendix 1*). In response to the brief, a project design was produced by OA North and accepted by the National Trust, outlining the methodology, which was adhered to in full (*Appendix 2*).
- 2.1.2 All work was consistent with the relevant standards and procedures of the Institute for Archaeologists (IfA), (IfA 2011, *Standard and Guidance for Archaeological Desk-based Assessments*; IfA 2010 *Code of Conduct*; English Heritage 2006a, *Management of Research Projects in the Historic Environment* (MoRPHE)); English Heritage 2006b, *Understanding Historic Buildings: A Guide to Good Recording Practice*, and generally-accepted best practice.

2.2 DESK-BASED RESEARCH

- 2.2.1 The desk-based assessment sought primarily to collate the wealth of documentary research that has been undertaken previously and included a thorough review of sources made available by the National Trust. These sources included published sources, in addition to unpublished documents and primary archival material. Other principal sources of information consulted were historical and modern maps of the study area and information held by the NTSMR, as well as further published and unpublished secondary sources.
- 2.2.2 The principal sources of information consulted were historical and modern maps of the study area and information held by the LHER, as well as published and unpublished secondary sources. Sources consulted include:
- 2.2.3 ***Lancashire Historic Environment Record (LHER)***: the LHER held in Preston was consulted to establish the sites of archaeological interest already known within the study area. The LHER is a database of all known sites of archaeological interest in Lancashire.
- 2.2.4 ***Lancashire County Record Office, Preston (LRO)***: the record office holds the primary collection of published and manuscript maps, as well as unpublished primary sources and secondary published sources relating to the historic county of Lancashire.
- 2.2.5 ***National Trust Archives, The Hollens, Grasmere***: the archives held by the National Trust at Grasmere were consulted and included annotated plans, copies of articles, guide books, and unpublished manuscripts.
- 2.2.6 ***Oxford Archaeology North***: OA North has an extensive archive of secondary sources, as well as numerous unpublished client reports on work carried out both as OA North and under its former guise of Lancaster University Archaeological Unit (LUAU). These were consulted where relevant.

2.3 MEASURED SURVEY

- 2.3.1 **Introduction:** the measured survey was carried out to English Heritage Level 3 guidelines (English Heritage 2006b). The external and internal surfaces of the barn were recorded by laser scanning, generating a 3D point cloud which was then used to generate 2D plans, elevations and cross sections. In addition further internal detail was recorded with a reflectorless total station and was used to augment laser scan detail. The data from both techniques was used to generate plans, cross sections and elevations.
- 2.3.2 **Laser Scanning:** the external and internal surfaces were surveyed by means of Laser Scanning. This entailed the automated recording of literally millions of survey points, across the surface of the building, providing an enormous density of 3D points which could then be viewed and manipulated in AutoCAD (using Pointools software). The scanning captured all architectural details (and the stonework surrounding them), including windows, doors, fireplaces, jambs, cills, string courses and lintels, glazing bars, roof and chimney outlines, quoin stones, voussoirs, window openings, rainwater goods, outlines of brickwork and plaster, and any significant visible structural cracks.
- 2.3.3 The survey was undertaken by APR Services Ltd using a Riegl VZ400 laser scanner. The output of the survey is presented as isometric views of the model, as well as 2D slices through the model in order to create plans, cross sections and elevations as required (Figs 18-39). The scan data is provided as pointools POD files.
- 2.3.4 Horizontal survey control was established by closed traverse and tied into Ordnance Survey co-ordinates using a differential GPS. Vertical control was established using Ordnance Survey Datum.
- 2.3.5 **Aerial Photographic Modelling:** the ground surface outside the building was modelled by photogrammetry using aerial photographs taken using an Unmanned Aerial Vehicle (UAV) (Fig 18), which is a small remote controlled helicopter with a high resolution camera suspended beneath. Survey control was introduced to the photographs by the placement of survey control targets across the site, which were located by means of survey grade GPS and total station traverse.
- 2.3.6 Photogrammetric processing was undertaken using Agisoft software which provided detailed modelling using an overlap of up to 90 photographs, and created a very detailed DTM (Digital Terrain Model) across the site. The photographs were then digitally draped over the model to create an accurate three-dimensional photographic texture of the ground surface. The primary output, however, was an accurate two-dimensional orthophoto image that was used to provide plan information, and to generate plans of the topography around the mill complex.
- 2.3.7 The survey produced the following final drawings:
- Scaled plans of all floors of the building showing the location of each element and features of specific architectural and archaeological interest;
 - External elevations of the barn (from laser scan data)

- cross-sections through the trusses and two along the long axis of the building.

2.3.8 **Photography:** in conjunction with the archaeological survey a digital photographic archive was generated, recording significant features as well as general views. A high quality digital SLR camera with 16 megapixel resolution was used to capture general views of the building and its wider context. The internal and external character of the building was then recorded, providing for details including openings, timber framing, assembly marks and other significant features. A metric scale was used for all photographs. All photography was recorded on *pro-forma* sheets showing the subject, orientation and date.

2.3.9 **Description:** a detailed description of the complex was carried out to English Heritage Level 3 guidelines as appropriate, utilising *pro-forma* sheets. This provided a comprehensive analytical account of the buildings special importance using the following methodology.

2.3.10 The written account places the buildings in their historical, architectural and cultural context and includes accounts of the following:

- A general description of the buildings, including details of their plan, form and function. Allied to this, a detailed description of the materials used is provided alongside a description of the development sequence and phasing, including any evidence of alterations, repair and rebuilding.
- An account of the wider context within which the buildings are situated. For example, its relationship to places and buildings within the local area, as well as its historical relationship to the area;
- An appropriate description of each individual room/ discrete space and component.

2.4 ARCHIVE

2.4.1 A full professional archive has been compiled in accordance with the project design (*Appendix 2*), and in accordance with current IfA and English Heritage guidelines (English Heritage 2006a). The paper and digital archive will be deposited with the National Trust on completion of the project.

3. HISTORICAL AND ARCHAEOLOGICAL BACKGROUND

3.1 BACKGROUND INTRODUCTION

3.1.1 The Great Barn at Gawthorpe Hall is a Grade 1 listed building (number 1237628; HER 16699; NTSMR 27723) that was first listed in 1953 and was amended in 1985. The listing entry for the barn describes it as one of the finest aisled barns in the North West and suggests that the ox stalls in the two aisle bays to the south of the eastern entrance may be the earliest dated examples in Britain. The listing entry and the HER entries describe the barn as a rectangular nine-bay barn with aisles, the distinctive padstones, which measure approximately 2.5m high and support the aisle posts, are also mentioned.

3.2 MEDIEVAL PERIOD (1066-1540)

3.2.1 Gawthorpe probably derives its name from the Old Norse *gaukr*, which means a cuckoo, and *thorp*, meaning a hamlet or farmstead (National Trust 1996, 32). During the medieval period, Gawthorpe and Padiham were held jointly by the manor of Ightenhill (Eyre 1973, 55), with Gawthorpe comprising little more than a small agricultural settlement within the Royal Forest of Pendle (National Trust 1996, 32). In c1330, the Shuttleworth's of Billington and Hapton in Lancashire acquired Hacking Hall, near the confluence of the Ribble and Calder rivers, by the marriage of Henry Shuttleworth to Agnes of Hacking Hall. It has been suggested that the family was then resident at the Gawthorpe estate as early as 1443, when Lawrence and Elizabeth Shuttleworth were married (Harland 1856, 313). Although there is an idea within popular tradition that the current Gawthorpe Hall was constructed around a medieval pele tower, there is no documentary evidence to support this (White 1985, 13). The earliest references to the hall building begin in the accounts of the house in 1599 and there is no mention in these documents to demolition, reworking, or modification of existing structures (*ibid*). However, there are references to the presence of a house at Gawthorpe that was occupied whilst the new hall was being constructed between 1600 and 1606. The location and character of this earlier house is, however, unknown (*ibid*).

3.2.2 The first published statement of the tradition of a medieval pele tower was in 1856, in part 2 of Harland's publications on the Shuttleworth accounts (*ibid*). However, Harland simply states that nothing is known with certainty about the character of the earlier structure that was used by the Shuttleworths at Gawthorpe and that many halls in the north of the country comprised semi-castellated structures or houses similar to pele towers as protection from Scottish raids (Harland 1856, 313). Harland also stated that Sir Charles Barry, who modified the house in the nineteenth century, believed the house to have been built on the site of a castellated structure and that the remains of the keep or pele tower were incorporated into the seventeenth century structure (*ibid*). However the evidence that this assertion was based on is unclear and the identification of successive structural phases, which were described in letters between Frederick Humphrey Groves and Sir James Kay Shuttleworth, in

1850 cannot be demonstrated to have pre-dated the known phases of construction in 1599-1606 and 1816 (White 1985, 15-17).

3.3 POST-MEDIEVAL/INDUSTRIAL PERIODS (1540-1914)

- 3.3.1 It has been suggested that preparation works for the construction of Gawthorpe Hall may have commenced in 1596, at the instruction of Richard Shuttleworth (Conroy 1971, 11). This assertion appears to have been based primarily upon how swiftly his son, Rev Lawrence Shuttleworth, began to undertake construction works upon inheriting the estate in 1599, with quarrying for building stone being undertaken within the same year (*ibid*). The programme of construction undertaken by Lawrence Shuttleworth was probably to a design by Robert Symthson (Robinson 1991, 185), who was the architect of numerous great houses of Elizabethan style in the midlands and South Yorkshire (National Trust 1996, 40). Construction work began in 1600 (*ibid*) and the hall was 'reared up to the roof in June 1602' (Conroy 1971, 13). In the same year the common cultivated land that remained within the estate was enclosed. By 1605, the south facade of the hall and further additions to the west and east had been added, making the hall square and with an 'E' plan of three bays on the south to commemorate Queen Elizabeth (*op cit*, 12). Pevsner (1969, 128) noted that the hall was built to a rare, although not unique, type of plan. Gawthorpe Hall was ready for occupation by Lawrence Shuttleworth at the end of 1606 (National Trust 1996, 43).
- 3.3.2 **Early County mapping:** the documented sequence of construction at Gawthorpe is reinforced by the county mapping. Although Saxton's Map of 1577 showed large estates and houses, such as Hapton Hall, Gawthorpe Hall was not depicted (Fig 2). The first map to depict the hall was Speed's map of 1610, which was produced within five years of the completion of the new hall at Gawthorpe and showed a house without an enclosing park and was labelled as 'Bawthrop' (Fig 3).
- 3.3.3 **The Construction of the Great Barn (1602-5):** the house and farm accounts of the Shuttleworths provide records relating to the construction of the Great Barn between 1602 and 1605 (White 1985, 24-7). A barn had been present at Gawthorpe prior to the construction of the present hall in 1600-6 (White 1985, 24). The accounts record that, in November 1600, a cooper was paid to work on a wooden tub in the barn (*ibid*) and subsequent records enable differentiation between the old barn and the new barn, for which work began in 1602 (*ibid*). The location of the old barn is not known, but it must have been situated in a different location to the new barn as both buildings were present simultaneously and demolition work on the earlier barn did not begin until the new barn had been raised to roof height (*ibid*). The old barn was re-thatched in February 1604-5, although the end wall had been taken down previously, and the demolition was resumed in March 1605-6 (*ibid*). The new barn was referred to as the 'Great Barn' and it is clear that this title was applied to the structure even before it had been completed. Entries in the accounts house and farm accounts refer to the '*Great Barnne*' at least as early as 1603 (DDKS 18/5).
- 3.3.4 **Years 1602-3:** four wrights; Henry Mylner, Humphry Ingram, George Towne, and John Nowell, began preparing timbers for the barn at the end of August 1602 and they spent a further three weeks on this work, along with

two more wrights: James Fouldes and Richard Ainsworth, in September of that year (White 1985, 24). Although the stonework for the hall had been paid for on a daily rate, the barn stonework was contracted to William and John Whithead, who had previously worked on the hall (*ibid*). The Whitheads received periodic payments for the masonry work and the labourers that they used were not recorded in the building accounts. The wrights, and other labourers, were, however, paid directly by the household. These records record how two men worked on 'clearing the ground of the barn' in April 1603 and, in May and June 1603, one man was paid to carry water for making mortar, which was being prepared by a second man (*op cit*, 24-5). Considerable quantities of lime were brought to the site in 1603 for the construction of the barn, with 200 horse loads, costing between 6d and 7d per load, being delivered in the first half of the year (*op cit*, 25).

- 3.3.5 A slater, named John Rusheton, worked on the roof of the barn and another man, named Abraham Colthirst, provided the slate (*ibid*). Both of these men had the price of cattle that they purchased from the estate deducted from their earnings (*ibid*). The acquisition of stones from Scolebank in March 1603, and the hewing of stones at Gawthorpe in April, May, and June, may have been in association with the barn, as the main work being undertaken at the hall during these months was joinery, window casements, and plaster preparation, with some stonework being undertaken for the chimneys and 'battling stones' (an early term for crenelations?) around the turret (*ibid*).
- 3.3.6 *Years 1604-5*: accounts for the period between July 1603 and June 1604 are missing and by July 1604 the work was nearing completion (*ibid*). The wrights were employed at the barn in July 1604, with two of them being engaged in sawing spars; more lime was also delivered at this time (*ibid*). By the 2nd August, the gable ends of the barn had been completed, the roof timbers were in place, and additional stone had been brought from a quarry at Ryecliffe (*ibid*). In July, the barn floors had been cleaned up and in November 1604 a paver from Burnley spent nine days paving the barn and the 'groupe', which was the pen or dung place in the 'lower' oxen house (*op cit*, 26); he also paved the 'over' oxen house. A group of masons also spent four weeks in November and December flagging the area between the two main barn doors (which still has extant flags) and a further week was spent laying 'bridge stones' between the oxen house doors (*ibid*). The record of the ox houses demonstrates that these formed an original part of the plan for the barn and were present prior to completion. This is at variance with the listing entry (number 1237628), which incorrectly states that the stalls date to 1610-11.
- 3.3.7 By 1604, the only wrights that had been employed from the beginning of the barn construction and who continued to work on-site were Henry Mylner and George Towne (*op cit*, 25). In September and October 1604 they made the doors and began work on the booths for the ox house within the barn, which included a paved area for dung and an overhead loft (*op cit*, 26). The slater John Rusheton and James Roe ridged half of the barn in one day in around August 1604 and Rusheton continued to work on the roof after this (*ibid*); William Whithead also worked on the ridging of the barn roof (*ibid*). Robert Jackson and Christopher Smith were paid £10 3s for 609 yards of slate and the accounts record that 8s 6d had also been spent on ale 'in reward'.

- 3.3.8 Work on the barn appears to have ceased after Christmas 1604 (*ibid*), with work being undertaken within the hall at this time. In March 1604-5 (the new year was counted from the 25th March, rather than from the 1st January) 77 square yards of flagstones were acquired for the barn from Ormerod of Hapton and ground clearance and paving work was undertaken in June 1605 (*ibid*). A door threshold was also installed in June and a specialist flagger appears to have been brought in on the 21st June to lay 44 square yards of flooring about the barn. At the same time a trench was laid in the barn, which may have been for drainage, and the flagger; Roger Yeatte, spent three days helping with this, for which he did not receive payment (*op cit*, 26-7).
- 3.3.9 In excavations undertaken at the barn in 1981 (CLAU 1981), two V-section soak away drains were observed to run the full length of the building and to have been sealed by a clay floor. It is, therefore, possible that one or both of these drains were that referred to in the Shuttleworth accounts and that it was necessary for Roger Yeatte to assist with the completion of the ditches so that he would be able to begin flagging. It is unclear whether the clay floor revealed during these excavations provided a level surface for a flagged floor, or if the floor was only ever partially flagged. It is known from the Shuttleworth accounts that flagged floors included two areas measuring 77 and 44 square yards, and that the ox houses were also flagged. The accounts also mentioned specifically a further area of flagging within the space between the barn doors, which is the only part of the main body of the barn that is currently flagged and is located between the opposing double wain doors. This area was also likely to have experienced higher levels of cart traffic than other parts of the barn, as loading and unloading was undertaken in this area. It is likely that more of the floor originally featured a flagged surface than is currently paved.
- 3.3.10 Most of the work in 1605 was undertaken by wrights, including Henry Mylner, and their work in May and June was described as ‘binding bosses’ (*op cit*, 27). This appears to describe framing the booths for cattle in the barn. The wrights returned in November and December 1605 for five weeks to work on the cow houses or booths, which were paved by Thomas Copley of Burnley (*ibid*). John Whithead filled the holes where the rails were fitted into the walls and the wrights’ work finished in December with work on the floor over the stall and the loft over the oxen house (*ibid*). The final recorded work on the barn comprised the addition of moss to the roof, which was brought by John Ryelly in October (*ibid*).
- 3.3.11 **1605-1669:** in *circa* 1607, Colonel Richard Shuttleworth (MP) inherited Gawthorpe and became High Sheriff for Lancashire in 1637 and MP for Preston between 1640 to 1648 and 1654 to 1659 (National Trust 1988). There is a relative paucity of information relating to the barn during Richard Shuttleworth’s time at Gawthorpe, the final recorded works being carried out in 1605 (*Section 3.3.10*).
- 3.3.12 **Tenancy and Intermittent Occupation:** following the death of Richard Shuttleworth in 1669, the main branch of the family was based at Forcet in North Yorkshire and Gawthorpe Hall was occupied by tenants or stewards (White 1985, 10). The building deteriorated during this period and it is recorded that the former dining room in the house was even used as a store for

corn (*ibid*). A counterpart lease from 20th January 1769 records the tenancy of part of Gawthorpe Hall and estate (DDKS 20/5/19). This lease uses the phrase 'Great Barn', showing that this title was in continued parlance during the seventeenth and eighteenth centuries, and describes the leased area as 'all that part of Gawthrop (sic) desmesn (sic) called the Kitchen End of the Hall, one Stable, Great Barn, Kiln House and Riley's cottage...' (*ibid*). This implies that the Great Barn formed part of the Gawthorpe demesne, which relates to portions of the estate worked directly for the financial benefit of the estate, such as agricultural production. This would indicate that the Great Barn was used as part of the agricultural facilities of the estate, rather than functioning as a tithe barn, which many large barns are presumed to have been. The intended general agricultural usage of the barn is supported by the provision of ox stalls from the inception of the building.

- 3.3.13 *Yates 1786 Map*: during this period of tenancy, the hall and barn appear to have been depicted within a stylised cluster of structures on Yate's map of 1786, but no accurate detail is provided by the map (Fig 4).
- 3.3.14 Gawthorpe Hall was not considered as the main family seat until the early-nineteenth century and remained as a place of occasional residence, with the Shuttleworth family opting to base themselves within other large houses that had been acquired through marriage (Whitaker 1806, 319). Robert Shuttleworth, who died in 1816, sold Forcet in North Yorkshire, but Gawthorpe was still not considered as the main residence of the family. When Robert died, he left Gawthorpe Hall to his second son, also Robert, whilst his first son, James, inherited Barton, near Preston (White 1985, 10). The younger Robert Shuttleworth was only in possession of Gawthorpe Hall for two years and died in 1818. During this short time, however, he engaged in refitting and refurbishing the house (*op cit*, 11) and it appears that a plan of the estate was produced in *circa* 1816, after Robert had acquired the holding; the plan was intended to depict the estate prior to its draughting, and was intended to facilitate, developments and modifications to the house and grounds (R Dean pers comm). Robert Shuttleworth's wife, Janet, remarried in 1825 and lived in the south of the country and the house was then not occupied until 1842 (White 1985, 11; National Trust 1996, 54-5).
- 3.3.15 *Early Nineteenth Century Mapping*: an estate plan that appears to have been produced to show the estate prior to changes made by Robert Gawthorpe in 1816-18 (R Dean pers comm) was the first map to show Gawthorpe Hall and the adjacent landscape in detail (Fig 5). This showed the Great Barn as a simple rectangular block with an L-shaped range to the south-east, but no additional details, or extensions, relating to the barn were depicted. Maps produced by Greenwood (1818) and Hennet (1829) in the early nineteenth century once again showed stylised representations of the buildings at Gawthorpe Hall, but did provide a higher degree of detail than the preceding county maps. Both maps depicted the carriage drive running east/ west from the southern side of Padiham, with linear clusters of buildings along the northern side of the eastern end of the drive (Figs 6 and 7).
- 3.3.16 The Padiham estate map of 1840 (DDKS 28/1/4) appears to have been based on the Padiham tithe map of 1839 (DRB 1/146), but the later plan truncated the eastern portion of the Great Barn. As the barn is truncated the 1840 estate

map does not usefully add anything to the development of the barn and is not reproduced here. Although relatively detailed, the 1839 tithe map did not present as much detail as the estate plan of c1816 and instead showed the barn as a simple rectangle (Fig 8).

3.3.17 The OS first edition map 1847 6" to 1 mile showed a higher degree of detail than the preceding estate maps. The Great Barn was depicted with projecting structures at the northern and southern ends of the western elevation (Fig 9), and that at the southern end would correspond in position with the present toilet block.

3.3.18 *The Shuttleworths at Gawthorpe Hall from the Nineteenth Century*: Janet and Robert's daughter, also Janet, had an affection for Gawthorpe Hall, but it was considered improper for an unmarried woman to live alone and she did not occupy the house until she married the educational and health care reformer Sir James Kay of Rochdale in 1842 (White 1985, 11; National Trust 1996, 54-5). Between 1850 and 1852, James Kay Shuttleworth employed his friend Sir Charles Barry to restore the hall and this work was undertaken according to the 'Elizabethan' architectural principles developed by Barry (National Trust 1996, 44; 55). Barry was a leading architect who had designed the Houses of Parliament (*ibid*). Modifications and additions to the courtyard structures were also undertaken during this period. Conroy (1996, 73) suggests that this included the construction of a new coach house in the 1850s (Plate 1), but the surviving date stone suggests that the current coach house was built in 1870, probably designed by Barry's son Edward (Richard Dean *pers comm*) (Plate 2).



Plate 1: The nineteenth-century coach house at the eastern side of the Great Barn



Plate 2: The central date stone, with the entwined initials 'KS' (Kay Shuttleworth), and the date of 1870 around the edge

3.3.19 It is likely that the extensive alterations made to the southern end of the main barn can be attributed to Charles Barry, however, there are no documents or architects drawings to provide confirmation that either Barry, or a contemporary architect, undertook this work. The internal face of the southern elevation mirrors that of the northern elevation; however, the exterior of the southern elevation was added as a second structural skin, so that the new door and window openings are visible from the outside, but some of the original windows are preserved in the internal face. This is particularly conspicuous in the upper level of the barn, where the original square central opening survives inside the barn and the smaller arched loading loophole is visible overlying the front of the aperture (Plate 3). The small rectangular windows also remain inside the building, with the fabric from the external skin visible through their frames. It has been suggested that the installation of the three new arched doorways, the four mullioned windows, and the loading door for the hay loft may have been undertaken in the mid-nineteenth century (Richard Dean *pers comm*).



Plate 3: The interior of the upper portion of the southern elevation showing apertures blocked by the later outer skin

- 3.3.20 In addition to the construction of the coach house at the eastern side of the barn, several phases of construction were undertaken between 1847 and 1912 that added to the overall footprint of the barn and contiguous structures (OS 1847; OS 1891; OS 1912). These alterations included the construction of a lean-to extension at the northern end of the western wall of the Great Barn and the erection of the gabled structure at the southern end, both in the 1840's. Additionally a small rectangular building, open to the north, located within the angle between the northern wall of the gabled southern extension and the western wall of the barn must have been built between 1891 and 1912 (OS 1891, 1912). The HER and listing entries for the barn describe the single-storey gabled structure to the west of the southern end of the barn as being of probable eighteenth-century date, although it was first depicted on mapping in 1847 (Fig 9) and was not shown on the preceding estate map of 1816 or the tithe map of 1839 (Figs 5 and 8). The 1891 OS map (Fig 10) shows a three-cell structure added to the west elevation of this gabled structure. This appeared to be reduced to a single structure by 1962 (Fig 13) and was gone by the 1970s. It is possible that these were walled enclosures and not buildings.
- 3.3.21 Other changes and additions to the exterior of the barn include the erection of boundary walls to the east and west of the building, added before 1891 (Fig 10). The erection of a wall to the west of the barn (forming the north side of the three-cell structure outlined above), appeared to have changed the emphasis from the east to south elevation. Prior to this, the main access would have probably have been via the east elevation though a gap between buildings (Fig 9).
- 3.3.22 While it is possible that these earlier maps may have presented schematic representations of the barn, generally the outlines of other buildings on the

maps were relatively detailed and it is considered that these maps do present an accurate depiction of the barn.

3.3.23 In addition to building extensions to the exterior of the barn, there were modifications to the interior space. In *circa* 1870, the two southernmost bays were converted into stables (National Trust 1996, 38) and from 1891 (OS 1891) this area was shown to have been divided into three rectangular compartments, with the central section being the largest. This central compartment remains equipped with stalls for horses that were presumably installed at this time (Plate 4). The 1912 OS mapping appears to show that the southern end of the western wall of the barn had been removed, presumably in order to extend the western room of the stable area into the adjacent extension (OS 1912; Fig 11). However, there is no visible evidence for the removal of this wall; the current wall in this area appears to be part of the original fabric of the barn with blocked apertures visible and may suggest that the omission of the wall section was a cartographic one rather than an actual one (*Section 4.4.13*).



Plate 4: The nineteenth-century stable stalls within the central compartment at the southern end of the Great Barn

3.3.24 The Great Barn was one of several buildings clustered to the west of Gawthorpe Hall, which included a large L-shaped building that was shown as early as the estate map of 1816 (Fig 5). The number of buildings in the vicinity of the barn gradually increased during the nineteenth century and by

1912 (OS 1912), the buildings extending westwards from the barn were labelled on mapping as 'Home Farm'.

3.3.25 *Late Nineteenth Century and Early Twentieth Mapping*: the changes made to the barn in the latter part of the nineteenth century are for the most part depicted on the OS map 25" to 1 mile of 1891. This showed a very high degree of detail of the estate and associated buildings, and included details of the internal divisions within the Great Barn, in addition to depicting the overall extent (Fig 10). The barn was shown with a long and narrow extension lying against the northern end of the western elevation and a larger rectangular block was set perpendicular to the southern end of this wall. Each of these structures was depicted with internal sub-divisions and the western end of the southernmost extension had been divided into three narrow parallel compartments. A single rectangular block projecting from the eastern wall represented the coach house that had been built in the mid-nineteenth century. The enclosed southern bay of the Great Barn had been divided into three compartments.

3.3.26 The OS map of 1912 (25" to 1 mile) (Fig 11) showed a detailed view of the Great Barn, and presented a similar view to that of 1891. A small rectangular structure had been added within the angle formed by the original western wall of the barn and the extension at the southern end of this wall and the western end of the extension appears to have been shown as being unroofed. The external stairs leading to the basement were shown at the eastern side of the coach house. A portion of the original wall of the barn, at the southern end of the western wall, appears to have been removed by this date. This section of wall had previously divided the rooms of the southern bay of the barn from those of the south-west extension; with the removal of this section of wall a larger rectangular space was formed from two smaller rooms.

3.4 MODERN PERIOD (1914-1980)

3.4.1 The OS map of 1931-2 (25" to 1 mile) (Fig 12) showed the same view of the Great Barn as that of 1912. There were, however, several recorded modifications to the barn during the twentieth century, which were mainly associated with the alteration or removal of ancillary buildings that were built against the outer walls (OS 1962; OS 1968). OS mapping shows that the section of the western wall that had been removed by 1912 had then been replaced by 1962 (OS 1962). However the wall appears original in the present day structure and it is possible that its absence from the 1912 mapping may have been a surveying error (Plate 5). By 1977, depictions of the extent of the barn corresponded with the current layout of the attached structures (OS 1977).



Plate 5: The southern end of the western wall of the Great Barn, looking west. The character of the wall suggests it is probably original, as does the blocked opening just visible above the stairs, near the top of the wall

- 3.4.2 There were, however, phases of modification to the interior of the barn during the twentieth century that are not well-documented. In 1955, Burnley Football Club bought the Great Barn and Home Farm at auction and the barn was used for indoor football practice until 1980, when it was bought by the National Trust (National Trust 1996, 38). It is not clear what modifications were undertaken within the interior in order to provide an area that was suitable for football practice, but it appears that at least superficial work may have been undertaken in order to create areas for changing and training. The presence of such modifications within the barn was implied in descriptions of archaeological excavations within the barn in 1981 (CLAU 1981), which referred to a stable area in the southern part of the barn that was used for changing and training by Burnley Football Club, and that any recent modifications were to be removed in the course of the, then, proposed renovations.
- 3.4.3 There were no evident changes to the OS mapping of 1956 (6" to 1 mile) that might reflect development as a result of activities by the football club, but by 1962 (25" to 1 mile OS map) playing fields had been established to the west of Home Farm and by 1968 Home Farm had been demolished to make way for buildings associated with the training facilities for the Burnley Football

Club. The southernmost of the two structures that had been built against the northern end of the western wall had been removed by 1962. One of the dividing walls that had formed three narrow parallel compartments within the westernmost unroofed extension at the southern end of the building had been removed. This map showed the early development of the Home Farm land for Burnley Football Club, with the establishment of a playing field to the west of the farm. The course of the River Calder had been diverted to run closer to Gawthorpe Hall by this date, necessitating the construction of a bridge to allow the football club to access the fields to the north. The OS map of 1968 (25" to 1 mile) showed that the small structure within the angle formed by the extension at the western side of the southern end of the barn had been removed (Fig 14).

- 3.4.4 The OS map of 1977 (1:10,000) showed that the area of the barn had been further reduced by the removal of the unroofed structure at the western end of the south-western extension, and by the removal of the structure at the northern end of the western wall (Fig 15). This reduced the extents of the structures connected to the barn to the current area, with the only remaining extensions being the coach house, to the east, and the store/ toilet block extension, to the west.



Plate 6: A photograph of the northern gable end of the barn, taken in 1975.
Note the low chimney stack

- 3.4.5 A photograph, taken in 1975, of the northern end of the barn (Plate 6) shows that the building was whitewashed, and that the extension at the north-western end of the barn had, by this date, been reduced to a single celled structure from the previously two celled structure. Comparison of the 1931 and 1962 OS mapping suggests the southern of these two cells was removed during the interval between the two surveys. The open fronted extension first noted on the 1912 OS map immediately to the north of the southern gabled extension was also taken down between 1962 and 1975. Furthermore the 1975 photograph showed a small porch extending out from the central doorway in the northern gable wall, entered via a door in its western wall. This small porch does not show on any of the historic maps and is absent from a

photograph taken in 1984 (Plate 7). Although difficult to date using just a single photograph the location of the porch doorway suggests a change in function perhaps contemporary with the purchase of the building by Burnley Football Club. The two doors at each end of the gable, shown as being blocked in 1975, have been reopened again and are in use by 1984 (Plate 7). It would therefore appear that the porch probably represents a number of short-lived modifications made to the northern entrance associated with Burnley Football Clubs ownership of the barn.



Plate 7: Photograph of the northern elevation of the barn taken in 1984. The three windows visible on the plan of 1981 have already been blocked



Plate 8: Photograph of the barn roof, taken in 1982, during the renovation of the roof

- 3.4.6 A major change in the local landscape occurred during the late 1950s when the course of the River Calder was diverted to run closer to Gawthorpe Hall. The course of the river has varied over the preceding century; a new course of the river was shown on the OS map of 1962 and part of the 1950s course of the river reoccupied a similar route to a channel that had been marked as the 'old water course' on the estate map of 1816 (Figs 5, 12 and 13).
- 3.4.7 **1980s Restoration:** the Gawthorpe Craft House Fund, which later became the Gawthorpe Foundation charitable trust, provided funds in the 1980s to repair the Great Barn using a large government-funded workforce (*ibid*). This included the renovation of the stone-flagged roof (Plate 8), while retaining the majority of the seventeenth-century timber. In addition stone buttresses were added to secure the north wall, which had moved slightly since the seventeenth century (*ibid*); date stones on each of these two buttresses record the date of 1987 (Plate 9).
- 3.4.8 **LCC Building Plans at 1:50:** a Lancashire County Council plan dated 1981, but possibly produced earlier, was used as a base plan over which later sketches and annotations were made relating to planned or suggested modifications during the 1980s. They also recorded the results of archaeological investigations in 1981 (Figs 16 and 17). One of these plans, showing the ground floor level, was dated 1981 and a first floor plan was dated 1984. The plan dated 1981 did, however, depict the structure at the northern end of the western wall of the barn, which had not been shown on the OS mapping of 1977 and, therefore, the original survey for this plan may have been surveyed prior to 1981. These plans showed a similar layout to the current barn interior, although areas of brickwork paths and stone slabs with grooved squared patterns were depicted in areas that are currently surfaced with concrete slabs. The small two-celled internal structure built against the western wall, opposite the ox stalls, was not depicted on these plans.
- 3.4.9 The only upper floor levels shown on these plans were those that are currently present within the barn, which comprise the nineteenth-century timber superstructure over the stables, the hay floor over the ox stalls, and the lofts built into the vestibules associated with the eastern and western doorways. There was also an area labelled as 'control platform' to the south of the western doorway.
- 3.4.10 Some of the proposed modifications were implemented in c1984, when the barn was being restored and adapted as an arts centre (HER 16699). Within the original extent of the seventeenth-century barn, the following changes were included on the plan:

Interior

- clean out stables, seal, make good, emulsion;
- provide temporary lights in stables;
- repair damaged plaster in stables;
- remove broken timberwork;

- take up existing floor to the west of the central stone flags. To be re-used if possible;
- damp proof courses to all walls to National Trust requirements;
- provide temporary lighting from underside of existing cross beams along pillar line;
- brush off flaking whitewash from face of stonework to north of western doorway, make good, fill holes, and repaint as required. Spray two coats of white emulsion;
- remove existing concrete floor slab (hand tools only) to the north of the central stone flags;
- new concrete floor 150 (?) higher than stone flag level;
- remove brickwork paths from the north-eastern area of the barn;
- remove cobbles from the north-eastern area of the barn and store for re-use.

Exterior

- Repair and refurbish western stable door;
- clean out gullies and stone drainage outside southern wall and repair and replace as required;
- strip paint from central stable door and hinges, refurbish and stain, Paint fittings matt black to match others;
- windows in southern elevation to be re-furbished and re-glazed;
- refurbish openings in eastern elevation;
- remove timber window frames and r.c lintels from eastern elevation and build up stonework 'as before';
- damp proof course to all walls to National Trust requirements;
- take out existing windows to north of western doorway and infill with stonework internally and externally to match existing;
- break out existing door openings at north-west and north-east corners, make good reveals, and provide new doors;
- remove existing windows in northern elevation and infill with stonework;
- take down porch in the centre of the northern elevation and build up door opening in stonework 'as before'.

3.4.11 Although it is unclear whether all of these alterations were carried out it is evident from the present building and a comparison of the photographic record before and after 1981 that a good number were.

3.4.12 ***Exterior:*** external alterations included the refurbishment of the western door of the Great Barn (Plate 10) and the rebuilding of the wall beyond its northern jamb which resulted in the removal of the pedestrian door which had been located here (Plate 11). According to the plan of 1981 a second doorway at

the northern end of the western elevation was also removed, but was replaced with a new one just to the south, incorporating new stone surrounds (Fig 16).



Plate 10: The interior of the western barn door, after conservation works in the later twentieth century



Plate 11: The western elevation of the barn taken in 1987, showing that the north-western extension had been removed by this date. The pedestrian doorway to the left of centre has since been in-filled

3.4.13 The 1981 plan also appears to show two ground floor windows towards the centre of the western elevation, north of the main door, and these have been

blocked by 1987 (Plate 11). The remaining northern half of the single storey lean-to that projected from the western elevation had also been demolished by this date, and its low chimney stack removed, while the two windows at first floor level above were unblocked and refurbished after 1987 (Plate 11).

- 3.4.14 The northern gable elevation also saw significant alterations. In addition to the removal of the central porch and the un-blocking of the doors at the eastern and western ends, three ground floor windows were in-filled prior to 1984 (Plate 7). As mentioned above the construction of the two buttresses either side of the central doorway took place in 1987 (Plate 9).



Plate 9: The supporting buttresses at the northern gable end of the Great Barn, with date stone towards the top recording their construction in 1987

- 3.4.15 Changes to the exterior of the eastern elevation seem to have been concentrated to the north of the main door, with three large ground-floor windows being blocked between 1981 and 1984 (Plates 12). Externally there was no trace of these windows on the present building, but internally they could just be identified by changes in the wall fabric (Plate 13). A smaller splayed window towards the northern end of the elevation appears to have been widened slightly and fitted with new stone surrounds and a central mullion after 1987 (Plate 13). Although not denoted on the plan of 1981 a second splayed window a short distance to the south of the first is visible in the photograph taken in 1984. It appears to be identical to that previously described and was subsequently remodelled in the same manner as the first.

Despite its absence from the 1981 plan it seems probable that this window is contemporary with the other and although altered is possibly in its original location. The ventilation loop just to the north of the main door was also unblocked and refurbished after 1984.



Plate 12: The eastern elevation of the barn taken in 1984. The three ground floor windows visible in the plan of 1981 have been blocked but the two remaining windows have not yet been widened and refurbished



Plate 13: The northern end of eastern wall of the barn, facing east. The northern most blocked window is just visible behind the cupboard



Plate 14: the interior of the barn in 1987, showing the shippon in the south-eastern corner during restoration, and also showing a clay floor surface (prior to its replacement with concrete in 2000)

- 3.4.16 **Interior:** internally it is clear from the present barn that the brickwork paths and cobbles in the north-eastern area of the interior of the barn were indeed removed and the floor on either side of the threshing bay was laid in concrete. It is also evident that the two bays to the south of the main western door were partitioned off from the main barn with the erection of a stone wall. A photograph from 1987 suggests that extensive repairs were undertaken to the shippon in the south-eastern corner of the main barn (Plate 14).
- 3.4.17 The 1981 and 1984 plans suggest that there was no direct access between the main barn and the stable at the southern end, with the doors at either ends of the dividing cross-wall omitted. The western door, however, is visible in a photograph dated September 1984 while the eastern door is recorded in a photograph taken in 1987 (Plates 15 and 16). It is presumed that both doors were inserted during the conservation work carried out in the 1980's.
- 3.4.18 In the early 1980's the eastern and western compartments of the stable block were divided from the central stable by solid partition walls and each could only be accessed from their own external entrance on the southern elevation

(Fig 16). At this time these two flanking rooms were also fitted out as stables, with a central, probably timber, partition, projecting south from the northern cross-wall in each instance. The eastern room has since been converted into a modern kitchen, serving the café that now occupies the former coach house and all of its fixtures and fitting have been removed. The western room has also been extensively altered and a timber staircase inserted into the north-western corner between 1981 and 1984 (Figs 16 and 17), allowing access to the mezzanine floor above the main stable. In the years since, doorways have been cut through the southern end of both internal partition walls to provide internal access into the central stable from both flanking rooms. A doorway has also been inserted into the southern end of the western wall of the barn to give direct access to the western gabled extension (Fig 18). Similarly a doorway has been opened up in the southern end of the eastern wall of the main barn to allow movement between the modern kitchen and the café.

- 3.4.19 The single storey gabled extension at the southern end of the western elevation, which in 1981 was noted as a store, was subsequently converted into a store/ toilet block and the layout and interior fixtures extensively modernised (Figs 16 and 18).



Plate 15: The central stable *circa* 1984 at the southern end of the barn facing north east. The western connecting door is visible to the left

- 3.4.20 It has also been suggested that the flagstones between the eastern and western doorways and a hardcore floor may have been lifted and re-bedded during the works in the early 1980s (National Trust 2013). The hardcore floor was subsequently replaced with a concrete screed and under floor heating in 2000 (*ibid*) (Plate 14).



Plate 16: the central stable *circa* 1987 at the southern end of the barn facing north west. The eastern connecting door is visible to the right

- 3.4.6 **Modern period:** Major Charles Shuttleworth, the fourth Lord Shuttleworth, moved to the north of Lancashire in 1953 and, in 1970, he gave the house and grounds of Gawthorpe Hall to the National Trust, in addition to a long-term lease to Lancashire County Council for educational use (National Trust 1996, 5). The hall is now administered by the County Museum Service (*ibid*). Since acquiring the property in 1970, the National Trust has added to the original estate, which now includes the stable block and courtyard, the coach-house, and the Great Barn.

3.5 PREVIOUS ARCHAEOLOGICAL WORK

- 3.5.1 **CLAU Excavations in 1981:** during October and November 1981, an archaeological excavation was undertaken by Cumbria and Lancashire Archaeological Unit within the Great Barn (CLAU 1981; *Appendix 4*). This work was undertaken as a Manpower Services Scheme in conjunction with Nelson and Colne College and on behalf of the National Trust (*ibid*) in advance of restoration work. The work appears to have been undertaken across most of the barn, with the exception of the stables at the southern end and the ox stalls to the east. The only record of the excavations that is currently available comprises a short, four page, account and there are no accompanying illustrations. Some sketches that appear to have resulted from archaeological observations are recorded on a Lancashire County Council base plan of the first floor of the barn that is dated 1984 (Fig 17). Although this date is inconsistent with the date of the excavations, the sketch shows a pair of soak away drains that were described in the excavation account.
- 3.5.3 This investigation demonstrated the barn to have been partly terraced into the hillside to the south, with a corresponding platform at the northern end. Two soak away drains were discovered that ran the full length of the investigated

area within the central part of the barn (*ibid*). The drains curved to meet in front of the central northern doorway and were assumed to have led through the doorway towards the River Calder (*ibid*). These ditches were V-shaped in section and were cut into the natural clay and filled with river cobbles. The drains were sealed by a clay floor. It was suggested that these drains may have been associated with a wider drainage system associated with the courtyard and adjacent buildings (*ibid*).

- 3.5.4 A substantial floor of beaten clay was revealed within the central part of the barn, although later alterations within the aisles had destroyed any indications of this surfacing (*ibid*). The floor included grit, lime, and charcoal, which was assumed to have been used to provide greater strength to the material. Numerous hollows within the clay floor had been filled with clinker and coal and may have been deposited to help to level the floor and to provide a harder surface for the storage of agricultural equipment (*ibid*). Sherds of eighteenth and nineteenth century pottery were found in the clinker spreads.
- 3.5.5 The results of the excavation concluded that the clay floor was the original floor of the building and no bedding of sand for flagstones was observed. The account of the excavations did state that the pattern of flagstones in the central area suggested the possibility that larger areas of the barn were paved (*ibid*). The Shuttleworth accounts show that areas of stone flagging were installed during the construction of the barn, in addition to the central portion. It is possible that some areas, such as the central threshing floor between the opposing doorways, were paved and that some areas featured only a clay floor.
- 3.5.6 A line of kerb stones of suggested nineteenth-century date was recorded running across the northern end of the barn, between the first and second aisle posts and this may have marked the edge of a cobbled surface that survived in two places within the aisle (*ibid*). It was suggested that this may have been associated with the later use of the barn for cattle. Two lines of pinewood posts spaced approximately 2.2m apart were identified within the central part of the barn, apparently running in the same alignment as the building, and slots for vertical planks followed the same alignment in an adjacent area (*ibid*). These features appear to have been established later than the kerb stones. They were not considered to have supported a large structure, such as an upper storey, but were assumed to have been used in association with cattle stalling or partitions associated with storage (*ibid*). Sherds of nineteenth-century pottery and an iron stake were found within disturbed layers mixed with building rubble. The excavations concluded that there had been no structural predecessor to the barn in this location (*ibid*).
- 3.5.7 **Archaeological Watching Brief in c2000:** a note of an archaeological watching brief is held in National Trust files, although the related written report which is believed to have followed, has not been located.
- 3.5.8 **Oxford Archaeology North Evaluation of the Courtyard in 2003:** in November 2003, OA North undertook an evaluation within the courtyard to the west of the Great Barn in order to record remains that had been exposed during the clearance of rubble in advance of the creation of a picnic and seating area for visitors (OA North 2004). A flagged area, a roughly cobbled track way with edging stones, a possible building foundation, and three wall foundations were exposed, in addition to finds that included pottery of nineteenth and

twentieth-century date (*ibid*). It was concluded that these remains were likely to date to the mid-nineteenth century and that they may have been associated with an open-fronted lean-to structure (*ibid*).

4. BUILDING SURVEY RESULTS

4.1 INTRODUCTION

4.1.1 The following section provides an analytical summary of the results of the building survey. This first part is a descriptive account of the building outlining the current appearance and development of the building. The account will commence with a general description of the building followed by detailed accounts of the various specific elements of the structure commencing with the exterior.

4.2 GENERAL DESCRIPTION

4.2.1 **Introduction:** Gawthorpe Great Barn is a large rectangular structure aligned on a north-north-west/ south-south-east axis (hereafter north/ south for simplicity). It consists of the main barn together with two additional wings attached to the south ends of the east and west long elevations. The west extension houses toilets while the east extension (called the carriage house) houses the main visitor reception café and gift shop. The barn lies approximately 40m to the south-west of Gawthorpe Hall, within a complex of other barns and buildings (Plate 17).



Plate 17: General appearance of the barn from the south

4.2.2 **General Fabric:** the whole of the building, including the wings, is constructed from yellow sandstone of varying styles bonded with lime mortar (Plate 18). The stonework of the main barn is of random, coursed and un-coursed, squared construction of varying stone sizes with some areas of patching and repair, the south elevation of the barn is similar but reflects a separate phase of

construction. The east extension is of squared, random, un-coursed stonework larger in size than the other parts of the building exhibiting tool marks. The west extension is of both random and squared coursed stone. All of the window and door surrounds are of sandstone of varying degrees of finish, some being obvious replacements. Most of the decorative elements such as dentils are also of sandstone.



Plate 18: Example of the main fabric of the barn



Plate 19: General view of the barn including the cobble courtyard

- 4.2.3 The roofs of the main barn and west extension are covered with sandstone tiles both with stone ridge pieces. The east extension is covered with slate (Lake District) and has a decorative ridge. The rain water goods consist of lead-lined guttering and valleys together with cast iron down pipes. While the doors vary in style, they all are of timber construction. Window frames are all timber, although some of them are recent installations.
- 4.2.4 Internally, most of the visible wall fabric is of the same general appearance as the exterior. Some internal dividing walls are of recent origin and are of cinderblock construction. Also visible, confined to the south wall, are areas of brick repair and patching. All of the roof frame, internal stall dividers and other features such as porch ceilings, are of timber. Other internal features such as stables, staircases and some internal dividing walls are also of timber. Floors are mostly laid down to concrete and/or stone flags and square sets.
- 4.2.5 **General Description:** the following sections outline the general internal and external layout of the building together with its setting. As already outlined, the building comprises the main body of the barn, together with two additional wings attached to the south ends of the east and west long elevations (Figs 18 and 19). The east extension is known as the carriage house and houses a café and reception area, the west extension currently houses toilets. The main barn measures some 30m (98 feet) long by 19.5m (63 feet) wide, the east extension measures approximately 11m by 8m, and the west extension measures approximately 8m by 5m. For the most part, the barn is of a single storey construction with a mezzanine at the southern end; the carriage house extension has a mezzanine floor.
- 4.2.6 Access to the main barn was available via pedestrian doors on the south and north elevations together with large wain doors on each of the east and west elevations. The west extension is accessed via a pedestrian doorway in both the north and south elevations, whilst the carriage house is accessed via two pedestrian doorways set into larger openings on the south elevation. The barn is situated on the north side of a cobbled courtyard/ entrance that provides access to the barn, the south range of buildings and a car park (Plates 19 and 20). Part of the south side of the cobbled access track is bounded by a tall stone wall.



Plate 20: The range of buildings to the south of the yard in front of the barn



Plate 21: General view of the interior of the main barn

4.2.7 The internal layout is relatively straightforward, with the main body of the barn containing the largest single space in the building (Plate 21; Fig 18). This

is open up into the roof space with two roofed, internal, porches on either side that contain the wain doors. The south end of the main barn is occupied by a separate room containing stables above which is a mezzanine floor. Internal access to the carriage house is available through the stables, the western extension can be accessed both from the outside and internally. A relatively recent boiler room has been constructed to the south of the west internal porch in the main space of the barn. Cattle stalls are present on the opposite side to the south of the east porch.

4.3 DETAILED EXTERIOR DESCRIPTION

- 4.3.1 The following sections outline in detail, the appearance of all the exterior elevations commencing with the principal elevation and following an anti-clockwise direction around the building (Fig 21).
- 4.3.2 ***Principal (South) Elevation:*** the south elevation faces towards the cobbled access and comprises the south elevations of the main barn, small toilet wing and the carriage house. The central section consists of the gable elevation of the barn and is roughly symmetrical (Fig 22; Plate 22). The stonework of the elevation varies slightly with the lower part (roughly level with the spring of the doorway arches) consisting of fairly regularly coursed stonework, while that above is more random in nature. There appears to have been significant re-pointing on this elevation especially the lower part and just below the roof verge. The nature of the west roof slope differs slightly from that of the east, the angle changing towards the eaves and it is slightly lower.



Plate 22: Principal elevation of the barn

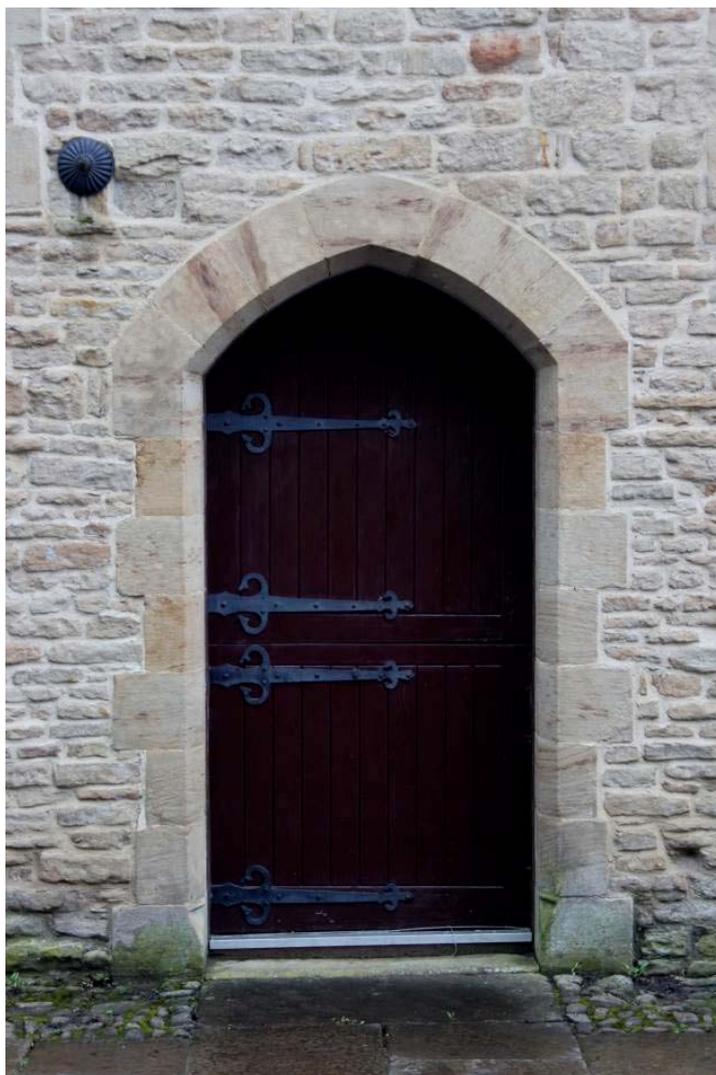


Plate 23: The eastern pedestrian doorway on the principal elevation

- 4.3.3 There are three pedestrian doorways providing access to the barn above which, are four mullion windows and above these is a single opening. Each of the doorways is identical all having finely finished, chamfered, sandstone surrounds with two centred arches (Plate 23). Each contains a timber heck door (except the central door) with substantial decorative wrought iron strap hinges fixed with bolts. The doors are quite substantial and are of ledged and braced construction with run out stop chamfered members (Plate 24). The construction of the central door differs from the others in that it is a faux stable door while the others are real. To the east of the eastern door is a stone, double sided, mounting block.
- 4.3.4 The mullion windows are all identical in construction and have sandstone surrounds and mullions. Each window contains four glazed lights each with plain single glazing set within timber frames (Plate 25). The mullions are chamfer moulded externally and internally. Located on either side of the central mullion windows are iron tie rod ends (four in total, Plate 22). Three of these are quite decorative, being of a square foliate design, whilst the fourth is round and ribbed; they are not visible internally. Above the windows, located centrally just below the apex of the roof, is a further small opening that is directly accessible internally from the mezzanine floor above the stable. This

has a similar style of sandstone surround as the pedestrian doorways and has an acute two-centred arch with set back moulding. There is a small door of similar appearance to the pedestrian doors with decorative wrought iron strap hinges. Above the opening, and projecting perpendicularly from the elevation, is a small pulley wheel. A ball-finial is situated on the roof apex.



Plate 24: Internal aspect of the west pedestrian door within the principal elevation

4.3.5 *Carriage house*: the east side of the principal elevation comprises the south, long elevation of the carriage house (Plate 26). There is an obvious change in the stonework between the carriage house and the main barn but there is no butt joint between the two (Fig 22); however, the eaves of the carriage house are raised up slightly above the eaves level of the barn. The stone work of this elevation of the carriage house consists of random squared un-coursed stonework of varying sizes, and is bonded with lime mortar. Both the stonework and the mortar are in good condition with no visible signs of patching or rebuilding. This elevation of the carriage house mainly comprises two large openings which are in-filled with late-twentieth-century timber and glazed panels. Within these panels, pedestrian doorways allow access to the visitor reception and café. The openings have sandstone arches of similar appearance to the small opening in the apex of the barn gable (*Section 4.3.4*)

with stepped mouldings on the two-centred arches. The reveals are also chamfered and have simple run-out stops.



Plate 25: Example of a mullion window set within the principal elevation



Plate 26: The south elevation of the carriage house

- 4.3.6 In between and slightly above the arches of the two doorways is a decoratively carved sandstone date stone displaying the monogram KS (Kay Shuttleworth) and the date 1870 (Plate 2). It has a fine, eared sandstone surround and a recessed roundel within which the monogram is situated; around the monogram are the numerals for the date. Situated at the base of the elevation is a sandstone plinth with chamfered top edge that continues around the corner to

the west-facing elevation. The plinth is 0.3m high, in three separate sections with rebates on each of the door jambs. At the extreme eastern end of the elevation is a projecting buttress that appears to be purely decorative (*Section 4.3.15*).

- 4.3.7 The top of the elevation is characterised by a projecting stone, lead-lined gutter with 30 dentils supported upon 30 corresponding stone brackets (*Plate 26*). This is evident only on the south and east-facing elevations of the carriage house, the others being plain.



Plate 27: The south elevation of the toilet wing

- 4.3.8 *Store/ Toilet Wing*: the west side of the elevation comprises the south-facing elevation of the toilet wing. There is an obvious vertical joint where the toilet wing meets the main barn, indicating that it is of a later phase (*Plate 27*). The stonework of this elevation consists of roughly coursed, squared and flat randomly sized sandstone with lime mortar. There is a single pedestrian door which has a simple sandstone surround exhibiting visible pick-marks. The door is of plank and ledge construction, with six distinctive vertical ventilation slits set into the upper half of the planks (*Plate 28*). To the west of the door is a window with simple sandstone lintel and flat sandstone sill; the glazing is of late twentieth-century origin. At the top of the elevation is a simple ogee timber gutter supported upon six timber brackets. To the west of the elevation is a single iron down pipe.



Plate 28: Door on southern elevation of store/toilet block, with ventilation slits set into the upper half

- 4.3.9 ***The East Elevation:*** the eastern side of the building faces towards a small car park dividing the barn from the main landscape of Gawthorpe Hall. From here the east-facing elevations of both the main barn and the carriage house are visible, together with the north-facing elevation of the carriage house.
- 4.3.10 ***East Elevation of the Barn:*** the east facing long elevation of the main barn (Fig 23, Plate 29) contains a large cart door-opening, as well as five mullion windows and six vertical ventilation slits. The stonework of the elevation is similar to that on the lower portion of the principal elevation, and there is some variability in the nature of the coursing and size and shape of the stonework. Much of the elevation consists of fairly evenly-coursed narrow stonework but there are several areas of larger blocks with wider coursing (Fig 23). There appears to be no particular pattern to this and some may relate to the alterations carried out in the 1980s (*Section 3.4.4*), although some string courses of larger stonework is present. This is similar to string courses on the west elevation (*Section 4.3.23*). The elevation appears to have been recently and extensively re-pointed, masking several blocked openings known from the LCC plans to have existed (Fig 16).



Plate 29: The east elevation of the main barn



Plate 30: Example of fenestration on the east elevation

- 4.3.11 The main cart door has a segmental arch, the spring being higher on the north side. Both jambs have sandstone quoins at the corners and the main doors are located behind internal wall returns forming part of an internal roofed porch; this arrangement is present on the west side as well (*Section 4.3.23*). The main barn doors, on both the east and west elevations, are large timber wain doors, vertically divided into two halves with interlocking rails (Plate 10). The southern wall of the eastern porch wall contains a pedestrian doorway allowing access to a shippon.
- 4.3.12 The fenestration of the elevation, as already outlined, comprises five stone mullion windows (two at a lower level and three at a higher level), arranged without obvious pattern or symmetry (Fig 23). Each of the windows is of a similar style, being a square, deep opening with single mullion dividing it into two lights. The mullions are chamfer moulded both internally and externally; they are roughly the same size and measure approximately 0.9m tall by 0.85m wide. The two at a higher level are slightly narrower at 0.8m wide; the reveals are splayed and they all have sloping sills and lintels. Four of the windows have been repaired, the two lower windows being constructed of very recent looking stonework (probably dating to the 1980s) (Plate 30). The stonework of the upper windows appears to be earlier and possibly contemporary with the rest of the elevation. Only the southernmost window is un-restored, the others having been repaired with replacement stonework. The surviving earlier stonework has weathered considerably.
- 4.3.13 The six ventilation slits present in this elevation do not, in common with the fenestration, appear to conform to any particular pattern, there being no conclusive evidence of former, or blocked ventilation slits within the stonework (Fig 23). The surviving slits are all roughly the same size (approximately 0.4m tall by 0.15m high) and have weathered sandstone surrounds (Plate 31). It is probable that further ventilation slits were once present, although there is no evidence for this.
- 4.3.14 At the top of the elevation, a lead-lined V-shaped timber gutter is visible that is supported by 16 timber X-shaped brackets set into the wall. The gutter is served by two down pipes at each end. The down pipe at the east side of the elevation is mainly of cast-iron with a lead pipe feeding into an iron hopper. A second down pipe at the north is boxed in with timber and the down pipe is not visible.



Plate 31: Example of a ventilation slit on the east elevation

- 4.3.15 *North and East Facing Elevations of the Coach House* (Fig 23): the north-facing elevation of the carriage house is visible, which is plain apart from a mullion and transom window and a lead lined stone gutter. Two brackets are present at the extreme left side of the gutter. The stone work of this elevation is the same as that described for the front elevation (*Section 4.3.2*). The east-facing elevation of the carriage house is, again, of the same construction as both the north and south facing elevations of this extension. There is a mullion and transom window situated in the centre of the elevation that is identical to that in the north-facing elevation. The lead-lined gutter visible on both the north and south elevation continues and there are 22 visible brackets that are identical to those on the front elevation. A buttress is present at the left-side of the elevation and projects by approximately 0.7m and steps out toward the base and has sloping copings. A cast iron down pips is present to the north of the buttress.
- 4.3.16 A length of wrought and cast iron railings is present that guards a flight of stone steps allowing access to a basement door. The railings have twin rows of decorative, foliate cast iron finials with distinctive square-section gatepost with a cast finial at the southern end (Plate 32; Fig 23). The gate is of similar

appearance to the railings with the same cast iron finials. The railings are set into a low stone base.



Plate 32: Decorative railings adjacent to the east elevation of the carriage house

- 4.3.17 ***The Rear (North) Elevation:*** this elevation faces towards a small car park and forms the north gable elevation of the main barn (Fig 24; Plate 33). The stonework of the elevation is similar in appearance to that of the east elevation comprising mainly coursed, fairly narrow stonework with areas of larger stonework conforming to no particular pattern. There are also areas of more rounded stones although, as much of the elevation has been repointed in lime mortar, some of the true shapes of the stonework may be obscured by over pointing. A ball finial is present on the apex. There are three pedestrian doorways along with five stone mullion windows and 10 smaller apertures/ventilation slits that are laid out symmetrically (Plate 33). Two large buttresses are also present close to the centre of the elevation, flanking a central pedestrian doorway, and which were constructed in 1987 (*Section 3.4.4*).
- 4.3.18 The three pedestrian doorways at ground floor level are similar in appearance with substantial chamfered sandstone surrounds. Each contains a robust studded plank and ledge door that opens inwardly. There are, however, four iron pintles set into the west jamb of each of the doorways which suggest that former door arrangements (probably heck doors) were once present. Evidence for latches is present on each of the east jambs.
- 4.3.19 Of the five mullion windows set within this elevation, two are located at ground floor level, two are on the level above and offset, with the fifth being centrally placed at a higher level with its sill being at the same level as the lintels of the upper two (Plate 33). The ground floor and upper level windows are all similar in design, construction and dimensions to the windows set within the east elevation described in *Section 4.3.12*). Two of the windows have been repaired, the upper west window apparently being completely rebuilt. The centrally placed top most window is unique across the whole

building, in that it is a three-light mullion. Its general appearance, however, is the same as the other mullion windows on the main barn building; the window measures approximately 1.55m wide by 0.97m tall. Although, one of the windows appears to be a replacement (west upper) most of the mullions are weathered and were obviously part of earlier phases. They have not been as extensively repaired as those in the east elevation (*Section 4.3.12*).



Plate 33: The rear (north) gable elevation of the main barn

- 4.3.20 The other openings on the elevation are variously sized, vertical ventilation slits of similar appearance to those set within the east elevation. The openings are all of similar height but are variable in width. The widest of these are two apertures that are located adjacent to the upper level two-light mullion windows. (Plate 33). The other eight are arranged in a diamond pattern close to the apex and above the three-light mullion window. There appear to be a number of other, randomly placed, blocked square openings of small dimensions which are probably the remains of putlog holes used in the erection of scaffolding during construction (Fig 24). All of the windows, vertical ventilation slits and some of the smaller blocked openings are visible internally.
- 4.3.21 No evidence was recorded of the three blocked ground-floor openings discussed in *Section 3.4.8* (Fig 16) and as with the eastern elevation care has been taken during their blocking and subsequent pointing to ensure they could not be seen.
- 4.3.22 ***The West Elevation:*** in common with the east facing elevation described in *Section 4.3.10*, the north and west elevations of the store/ toilet block extension are visible and will be described in the following section. At the time of the survey, parts of the elevation were obscured by materials such as steel fencing etc (Plate 34). The southern part of the elevation is obscured by the store/ toilet block extension.



Plate 34: The west facing elevation of the main barn

- 4.3.23 For the most part, the stonework of the west elevation is similar to that of the east elevation, comprising the same general fabric. Also in common with the east elevation (*Section 4.3.10*), there are several areas of apparent patching and repair as well as string courses of larger stones, and it appears to have been repointed relatively recently (Fig 25). There is a large cart entrance with segmental arch containing a wain door and a number of mullion windows, vertical ventilation slits and a pedestrian doorway. The wain door is almost identical to that within the east elevation and is positioned within an internal porch of similar appearance and dimensions. Set into the south wall of the porch is a pedestrian doorway of the same appearance as that situated within the south wall of the porch on the east side.
- 4.3.24 The visible fenestration of this elevation is similar in appearance to that on the east elevation but there are only four windows visible (Fig 25). An area of repair to the south of the pedestrian door may relate to the position of a possible former window that is still present in a similar position on the east elevation. The extant windows within both elevations are situated in the same relative positions and match up perfectly. In common with the windows on the east elevation, most of the fabric of the mullions has been replaced, with only one of the windows not containing any recent stonework. There are two open vertical ventilation slits and one that is obviously blocked; the open slits are situated above the centre of the entrance arch and above the roof slope of the toilet extension. The blocked ventilation slit is situated at eaves level in between the upper level windows. The timber gutter, supported upon timber brackets, is identical to that on the east elevation (*Section 4.3.14*). There is also a boxed-in down pipe, identical to that on the east elevation, which is situated to the north of the main cart entrance.
- 4.3.25 There is a single pedestrian doorway situated in the northern half of this elevation which is directly opposite a window in the same position on the east elevation. The doorway has a fine sandstone surround of recent appearance, and has a different appearance from the other doors in the main barn. A doorway in this location would have served as an internal door leading

between the barn and the north-western extension (shown on the 1975 photo, Plate 6), and a narrow door is evident on the 1987 photograph (Plate 11), following the removal of the extension. However, the present doorway, with its ashlar surround, is wider than that former internal door, and it was evidently inserted after that date, presumably as part of the 1980s renovations (*Section 3.4.7*). A repair scar just to the north of the wain door, and behind the main down pipe, is approximately the size of a doorway and corresponds with the location of an internal door revealed on the 1987 photograph (Plate 11) following the removal of the north-west extension.

- 4.3.26 The toilet block extension butts against the elevation at the southern end and, in common with the carriage house on the east side, obscures approximately 25% of the wall area. The pitched roof of the toilet extension slopes to the north, the join being covered with lead flashing (Plate 35). The north elevation of the store/ toilet block extension is of similar appearance to the barn elevation, of fairly regularly coursed stonework with degraded mortar in places (Fig 25). The west side of the elevation has visible patches of lime wash (Fig 25). There is a single, small glazed opening in the elevation which is of similar appearance to some of the vertical ventilation slits on the elevations of the barn. It has simple stone jambs and a stone lintel. An ogee gutter is present and is supported upon six stone brackets identical to those on the south elevation of the extension (*Section 4.3.8*). An iron down pipe is present at the east side close to the join.



Plate 35: Join between the toilet extension and the west elevation of the barn

- 4.3.27 The west facing elevation of the toilet extension block forms the gable and contains two rather plain window apertures with stone lintels (Plate 36; Fig 25). The stonework of the elevation is distinctive, being laid in very slightly diminishing courses toward the apex; whether this was the intention or not is unknown. Sandstone copings with projecting cornices are present on both verges and fairly plain sandstone kneelers are located at the foot of each slope.

The apex stone has a ball final, identical to those on the other gables of the main barn.



Plate 36: Gable elevation of the toilet extension

4.4 DETAILED INTERIOR DESCRIPTION

- 4.4.1 The following sections will provide a description of the interiors of the barn, carriage house and store/ toilet block extension. The descriptions will commence with the main barn starting with the room first encountered upon entering the barn from the principal elevation.
- 4.4.2 **Internal Arrangement:** there are a total of 12 rooms in the building including the carriage house (Rooms 11 and 12) and toilet extension (Rooms 9 to 10) (Figs 18 and 19). The main barn has seven rooms on the ground floor (Rooms 1 to 7) together with an upper, mezzanine floor at the southern end (Room 8). The carriage house has a single open space on the ground floor (Room 11) with a mezzanine floor above (Room 12) and the single storey store/ toilet block extension consists of two main rooms (Rooms 9 and 10) together with an access corridor. The carriage house, store/ toilet block extension and barn are connected and internal access between the two is available.
- 4.4.3 **Room 1:** this room is entered via the central sliding door located in the centre of the principal elevation of the barn and contains evidence of its former use as stabling accommodation for horses together with later modifications (Plates 37 and 38). The room is rectangular and it is through this room that access to the main space of the barn (Room 6), the adjacent kitchen (Room 5) and a further room on the opposite side (Room 2), is available. This room was probably created during the alterations of *circa* 1870 (Section 3.3.13).

- 4.4.4 All of the internal walls of this room are of solid stone construction, the two side walls being recently plastered. The rear (north) wall is bare stone that is of random rubble construction, the lower part of which is covered with timber panelling. The doorways allowing access into Rooms 2 and 5 contain timber doors of late twentieth-century appearance with plain surrounds. Similarly, there are two doorways in the north wall that allow access to the main barn space (Room 6) that are also of late twentieth century appearance; these have been inserted into former stalls.



Plate 37: General appearance of Room 1



Plate 38: The ceiling in Room 1

- 4.4.5 The south wall of the room, and the whole of the south wall of the barn in general, exhibit significant phases of alteration (Fig 26) with areas of blocking and repair, and is visible also from the upper mezzanine area (Room 8). The exterior wall of the principal elevation has been refaced which hides all evidence of these fabric changes from being viewed externally (*Section 4.3.2*). The fabric of the internal face of the wall is similar to that of the main external elevations of the barn (excepting the southern wall) already described, there also being some evidence of possible wider string courses similar to those on east and west elevations. Much of the area below the windows has been altered, the main visible evidence being the rebuilding in red brick of a section of wall incorporating the east side of the central door (Fig 26; Plate 39). The brickwork is laid in stretcher bond, and is of nineteenth century appearance. To the east of this is a blocked aperture (possibly a ventilation hole) that measures approximately 0.5m wide by 0.7m high (Plate 39).
- 4.4.6 The construction of the central doorway is visible and differs from the external appearance which is formal and finely finished (*Section 4.3.3*; Plate 40). The interior view reveals that the door is of ledge and brace construction all of which are chamfered with run out stops. A segmental arched member at the top of the door reflects the shape of the two-centred arch of the surround; the door frame appears to be a recent replacement. Inspection of the reveal appears to suggest that the opening was cut into the pre-existing wall and may explain the rebuilt section of wall on the other side of the door. This may have collapsed during insertion of the doorway.
- 4.4.7 To the west of the central doorway is a further blocked opening that is larger than that to the east of the door and has a timber lintel (Fig 26; Plate 41). This measures approximately 1m wide by 1.3m tall and was probably a former window that was covered during the erection of the outer wall; there is no evidence for this having ever been a doorway.

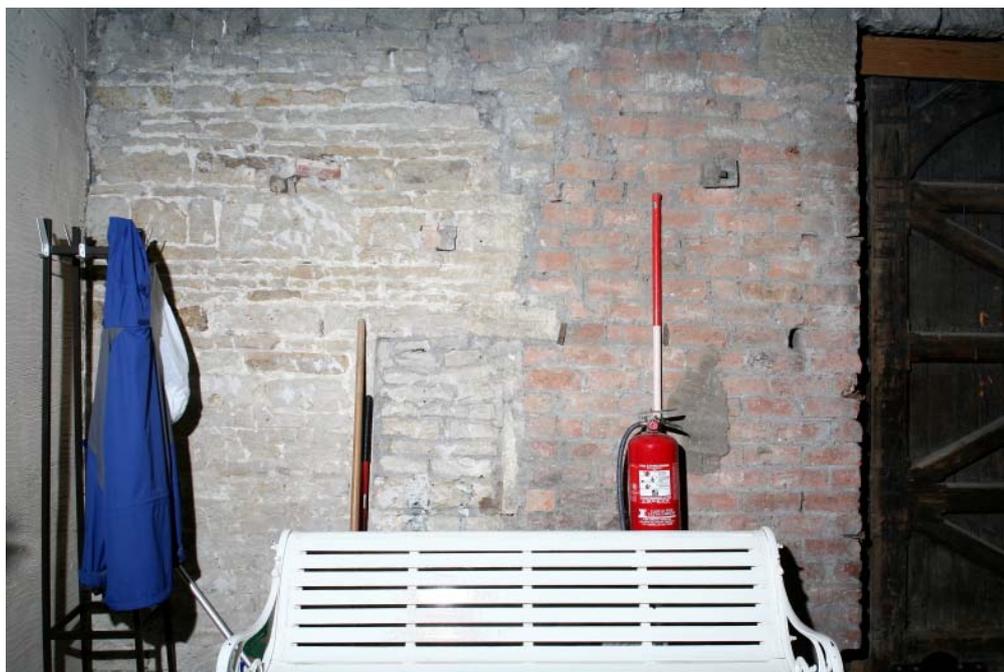


Plate 39: Blocking and alteration on the east side of the internal aspect of the south wall of the barn within Room 1

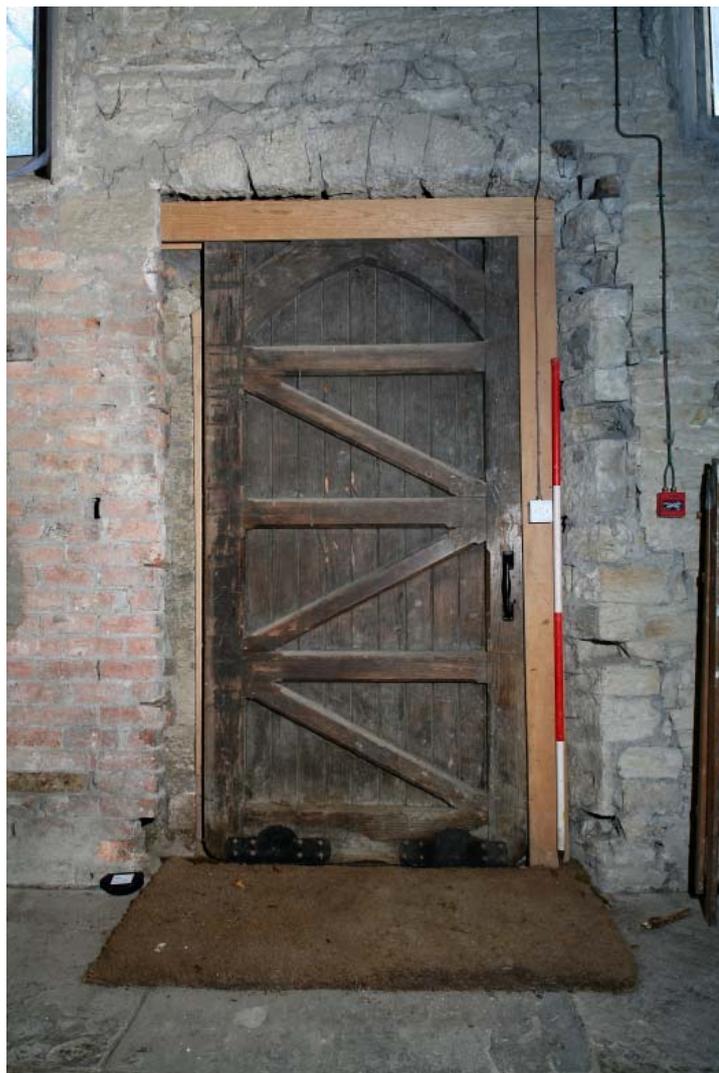


Plate 40: Central doorway in the south wall of Room 1

- 4.4.8 The ceiling of this room (forming the floor of Room 8 above) is constructed from longitudinal joists supported upon a central chamfered cross beam with a central iron column (which is incorporated into the stalls). A timber bracket and wedge are present at the top of the column. At the tops of both the side walls, stone corbels support the side beams. There are five on each side and they are plain in appearance with ovolo moulding, three on the west side having pads stones. All but three of the ceiling members appear to be of a single phase of construction and exhibit evidence that lath and plaster was present between the joists. Two iron brackets with a ratchet mechanism fixed to the joist opposite the two windows, were obviously opening mechanisms for the two high level windows (no trace of the former window glazing remains). The ceiling frame supports the strip floor of Room 8, which is of late-twentieth century appearance.



Plate 41: Blocked aperture to the right of the main door on the internal aspect of the south wall of the main barn within Room 1

- 4.4.9 As already outlined, this room contains evidence for accommodation for horses in the form of two surviving and two altered stalls (Plate 42). The stalls are divided by timber panelled partitions with curving iron top rails, each stall measuring 1.9m (6 feet) wide by 2.6m (8.5 feet) long. The dividing partitions are some 1.3m (4 feet 3 inches) high at the front rising to 2.3m (7 feet 5 inches) at the rear. They terminate in a vertical iron post that has decorated fluting and geometrical designs. Set in to the north wall, within each of the stalls, is a panelled feature of half-circle top and bottom shape with a square sandstone surround. Set into the bottom half-circle of each of the surrounds are three bolt holes. These are probable evidence for former wall mounted hay racks that were most likely to have been of wrought iron construction. These are not visible on the other side of the wall in the main barn. The presence of these suggests that the horses stood facing the wall. There is no evidence for any tethering arrangements or any sort of restraint or guard over the entrance to each of the stalls. A small hole in each of the outside iron posts is the only evidence suggestive of a guard or chain.
- 4.4.10 The floors of stalls are cobbled with central stone drainage depressions and the rest of the room is flagged; the drainage channels do not lead outside and two

square features in the lateral channel may have once accommodated the collection of manure. The two flanking stalls adjacent to the east and west walls of the room have both been converted into steps and doorways to allow access to the main barn (Plate 42). The steps and the floor in front of the doors are concrete and probably date to recent 1980s alterations. Both sets of doors are of late twentieth century appearance. On the other side, within the barn, both openings have large sandstone lintels.



Plate 42: Horse stalls in Room 1

4.4.11 **Room 2:** this room can be accessed from Room 1 as well as via the external door in the principal elevation; it is only through this room that access can be afforded to Room 3 (Figs 18). Access to the roof of Room 3 is also available via from the landing as well as Rooms 9, 10 and 11. Room 2, along with Room 1, was probably created in *circa* 1870 (*Section 3.3.15*), when two bays of the barn were walled off to create stables. The most noticeable feature in the room is the large staircase that provides access to the mezzanine floor - Room 8 (Plate 43). It is a substantial half-turn with landing staircase; it is quite plain, and probably of late twentieth-century date concurrent with the date of alterations to this room in the 1980s. This room apparently also contained stables which according to the 1981 LCC plan of the barn (Fig 16) had a different appearance to those in Room 1, comprising two walled stalls.

4.4.12 In similar fashion to Room 1, the south wall of Room 2 contains evidence of a former doorway that is visible as a low (approximately 1.3m wide by 1.7m high) blocked aperture with a substantial lintel (Fig 26; Plate 44). To the east of this is a doorway allowing access to the south external elevation (Plate 45). This differs from the door in Room 1 (*Section 4.4.6*) and has a splayed reveal with a shallow pointed segmental sandstone arch; the west jamb does appear to have been rebuilt. The door is a heck door with substantially constructed stable door of chamfered, framed ledged and cross braced construction with a two-centred head. It is hinged via iron pintles at the east side. Further repair to

the wall is visible above the window which is identical to that in Room 1 (Fig 26).

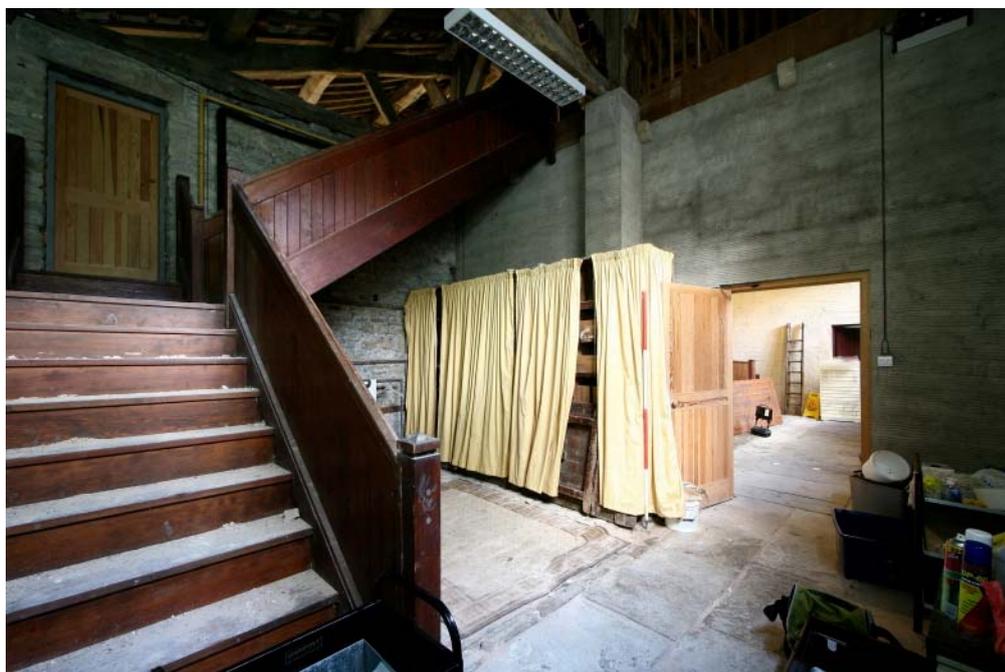


Plate 43: General appearance of Room 2



Plate 44: Blocked doorway set within the south wall of Room 2

4.4.13 The west wall of this room forms part of the main west wall of the barn and there is further evidence for a blocked opening higher up at the same level as the first landing level of the stairs (Plate 5; Fig 27). The aperture is blocked with stone and measures approximately 0.8m wide by 0.9m tall, although the bottom is obscured by the hand rail of the staircase. The surround is fairly rudimentary and it has a simple sandstone sill. This opening is not visible externally as it is obscured by the roof of the toilet extension to the west. The top of this blocked aperture is approximately 0.3m higher than the other windows on the upper level further along the elevation (Fig 27). A doorway allowing access to the adjacent store/ toilet block extension has a plain sandstone lintel. This is identical to the door allowing access between Rooms 1 and 5. A further doorway to the roof of Room 3 has a similar surround, and is similar to those allowing access to the main barn from Room 1.



Plate 45: Internal face of the doorway leading to the courtyard from Room 2

- 4.4.14 There is no ceiling in this room and the continuation of the roof of the main barn is visible, this is fully described in *Section 4.4.22*. The only observed difference is the presence of five corbels that support a timber wall plate which in turn supports the rafters in this part of the roof. There are corresponding corbels on the opposite wall (which is plastered in the same manner as those described in *Section 4.4.8*). It is probable that the room was once ceilinged in the same manner as Room 1. An arcade post (plastered over) supports the roof at the junction of the wall tie and arcade post. The floor of the room is laid down to flags that are similar in appearance to those in Room 1.
- 4.4.15 **Room 3:** this room is situated within the main barn (Room 6) and has been constructed to house a late twentieth century boiler system. The doorway allowing access from Room 2 was probably created at the same time as construction of the room. The interior walls are plastered and/ or cinderblock while the external wall, visible from Room 6 is of roughly coursed stone. The wall butts against the dividing wall between Room 6 and Rooms 1 and 2. The roof of this room is able to be accessed from the staircase in Room 2 (*Section 4.4.11*). This room, together with Room 4, occupies the same space as the shippon (Room 7) on the opposite side of the barn.

- 4.4.16 **Room 4:** this room is adjacent to Room 3 and has been created by subdividing Room 3 with a cinderblock wall. The room is empty and without distinguishing features. There is a mullion window on the west wall and a second doorway provides access to and from the west porch.
- 4.4.17 **Room 5:** forming the kitchen, this room has been extensively modernised and contains specialist catering equipment such as ovens, sinks and ventilation equipment. Due to this, none of the historic fabric was visible and all surfaces were covered with recent finishes. The ceiling was visible, however, and appears to be of similar construction to that in Room 1, although of more recent manufacture. Stone corbels are visible that are identical to those in Rooms 1 and 2. A doorway leads to the carriage house (Room 12), which is also of fairly recent origin. The south wall contains a doorway corresponding to that described in Room 2 (*Section 4.4.12*). Most of it is obscured by a refrigerator, but the arch is visible and although plastered over appears to be the same shape as that in Room 2. A plastered over arcade post is present on the west wall and is identical to that described in Room 2 (*Section 4.4.14*).
- 4.4.18 **Room 6:** this is the largest space in the whole building and comprises the main large open space of the barn. Upon entering the barn from any of the access points the magnificent structure of the aisled barn is visible (Plate 46). The barn is nine bays long with a threshing bay, each bay being around 2.6m (8.5 feet) wide. The bay occupied by the threshing floor is 3.7m (12 feet) wide; the southernmost two bays being occupied on the ground floor by Rooms 1, 2 and 5 (Fig 18) and on the upper floor by Room 8 (Fig 19). As Room 8 is an integral part of this space it will be discussed in this section. There are two internal porches that house each of the two barn doors together with Rooms 3 and 4 (*Section 4.4.15* and *4.4.16*) as well as an internal shippon (*Section 4.4.29*).
- 4.4.19 The bays are divided by sixteen aisle/ arcade posts (eight on each side) (Plate 47) upon which the roof trusses are supported (Figs 20, 30 to 39). Wall ties extend on either side spanning the aisles (Plate 48). There is no evidence to suggest that the barn was ever timber-framed and the principal rafters and wall ties are supported by the stone long walls; there is no evidence of a wall plate. For this description the assemblies are labelled 1 to 8, assembly 1 being at the southern end (Figs 18 and 30-39). The span between the aisle posts (the nave) is approximately 7.4m (24 feet).



Plate 46: Interior view of the barn showing the aisled construction



Plate 47: Example of an arcade post

4.4.20 The construction of each arcade post truss assembly is identical, there being a post on either side upon which the upper truss is supported (Figs 30 to 39). The base of each post stands upon a square stone plinth or pad (Plate 49), each one varying in height from 1.1m on the west side of truss assembly 4 (Fig 33), to approximately 2.4m high on the east side of truss assembly 5 (Fig 34). The top of each post thickens out, to form what is called a 'jowl', which helped to provide additional support to the tie beam and was usually created by placing the post, obtained from a tree, upside down. The truss assemblies are similar to those within the barn at Wycoller, Lancashire (www.greatbarns.org.uk/wycoller_barn), the barn at Shibden Hall, Halifax (www.greatbarns.org.uk/shibden_hall_barn) and the Great Barn at East Riddlesden Hall, Yorkshire (OA North 2009); Gawthorpe Barn, however, is much taller than these other examples. Truss assembly 2 is built into the stone wall that forms the north wall of Rooms 1, 2 and 5 (Plate 50) and the base of truss assembly 1 is plastered over (*Sections 4.4.14*). It appears that each of the timber arcade posts is fitted into its corresponding plinth via a vertical mortice and tenon joint as there are wooden pegs visible on some of the plinths indicating that the post continues down into the plinth (Plate 49). At the base of some of the plinths is a further square pad stone/ plinth.



Plate 48: Side aisle on the west side of the barn



Plate 49: Example of a stone plinth supporting an arcade post showing the wooden peg

4.4.21 The upper part of each assembly is consistent with the typical appearance of trusses used in other stone aisled barns (see the examples mentioned in *Section 5.1.4*), the truss having a king post with two straight raked struts. The tie beams, while showing some variability, are generally of larger dimensions (or scantling) than the principal rafters. The join between the tie beam and aisle post is braced with an arch brace. All of the joints between the members are tenoned and pegged, there being a variable number of pegs present depending upon the nature of the joint (Plate 51). The joints of some of the braces on truss assemblies 1 and 2 have been reinforced with iron straps. There is some evidence for former fixtures and removed timberwork on truss assembly 1 (Fig 30).

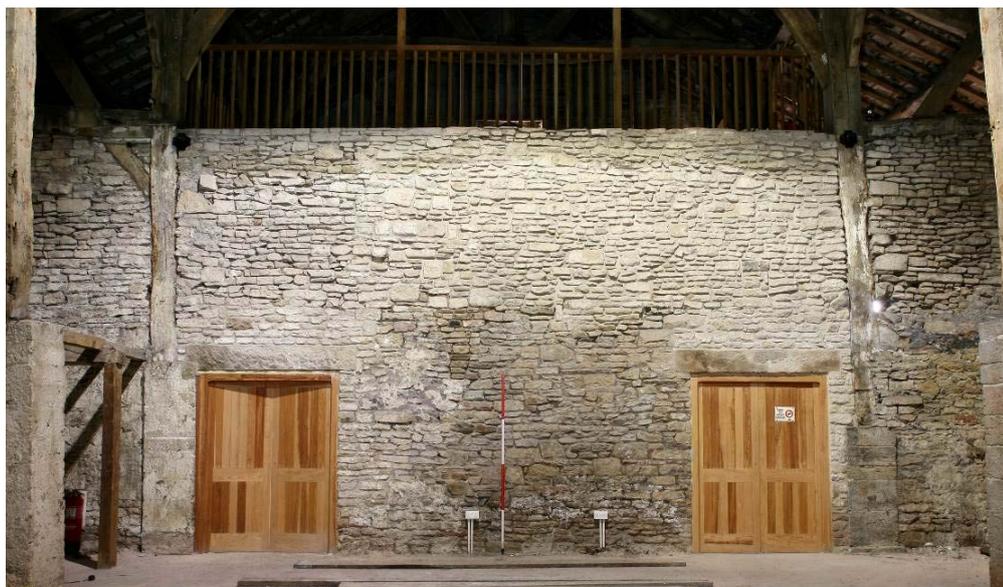


Plate 50: Stone wall forming the north wall of Rooms 1, 2 and 5



Plate 51: Example of the bracing at the junction of truss, aisle plate and aisle post

4.4.22 There are four purlins present on each slope of the roof together with a ridge purlin and aisle plate (Fig 20). The two upper purlins are trenched into the principal rafters while the lower two purlins are trenched into the aisle rafters (Figs 30 to 39). The aisle plates run the whole length of the building and are braced at the aisle posts with slightly curved braces (Plate 51). The purlins and aisle plates, between each truss assembly, are individual lengths of timber, the purlins being slightly off set from each other and fixed with through tenon joints. The purlins and aisle plates are set into the gable walls of the building. The aisles are formed by an assembly comprising wall tie and aisle rafter (Figs 30 to 39). The join between the aisle tie and aisle post is braced which

continues up to strengthen the area of the purlin joint on the aisle rafter; all of these are mortice and tenon (all stub joints). There are six aisle assemblies present, the roof on the area of truss assemblies 4 and 5 being supported by the porch walls.

- 4.4.23 The purlins support common rafters onto which battens are fixed that support the roof covering (Fig 20). The horizontal spaces between the battens are torched with lime putty, some of which is missing or degraded. Other details visible on some of the truss assemblies include both assembly marks on the timberwork and masons or banker marks on some of the plinths (Figs 30 to 39). Inevitably the restrictions imposed by inspecting the roof timbers from the ground will have resulted in the overlooking of some assembly marks. However where visible it appears that the trusses are marked up with a hybrid roman numeral system, commonly in use in traditional carpentry from the medieval to Victorian periods (Plate 52). The southern truss is marked at the joint of the tie beam and King Post as 'I' with the trusses ascending in order up to VIII at the northern end. Each truss is marked up on its fair face, reflecting the side of the truss that faced upwards prior to its raising (Brunskill, 1999, 34) and in each instance the fair face has been designed to look towards the threshing bay. The individual joints within each truss are also marked up using the roman numeral system, although without closer inspection it is unclear whether this system relates to the wider numbering system. The marks will require further recording/ inspection in order to work out the sequence, an opportunity to do so may present it self during forthcoming repair work to the roof (Jamie Lund *pers comm*).



Plate 52: Example of assembly marks on the truss assemblies

- 4.4.24 The chiselled marks on the stone plinths are of two main types and appear on more than one face of a plinth. The first are horizontal marks with reversed end arms and a central cross, which are confined to the eastern row of stone pads. These are similar to ones found at Doune Castle, Stirlingshire, Scotland

(www.spittalstreet.com/?p=87). The second type are simple 'V' marks, found only on the western row of stone pads. A third mark, which was observed in only one location on the northern face of the western pad of truss comprised a vertical mark with oblique downward pointing arms.

- 4.4.25 There is some evidence to suggest that internal divisions, and or partitions, were once present as there are several in-filled peg/ stave holes present on some of the aisle posts as well as some scarring on the stone plinths (Plates 53 and 54). Holes and scarring mainly appear on either the west or east faces of the posts or plinths and indicate only that cross-partitioning was present. Redundant mortice holes, further suggestive of partitioning, are visible in some of the aisle posts.



Plate 53: Example of stave/peg holes on an aisle post

- 4.4.26 Two internal porches are present on either side of the barn that contain the large wain doors (Plate 55; Figs 18 and 19 and 23 and 25). The doors are set back from the outside elevation, approximately half way into the porch. Each porch wall extends to the roof where it supports the structure in this area. The walls are of solid stone and of similar appearance to the rest of the barn masonry; the ends of the walls have large sandstone quoins. Inspection of the join between the porch walls and the long elevations of the barn has revealed

that they are probably of the same phase of construction as a butt joint does not appear to be present. On both sides of the porch walls are a number of square holes in the stonework that appear to be randomly placed (Plate 56); these are of uncertain use but may be putlog holes, relating to the method of construction.

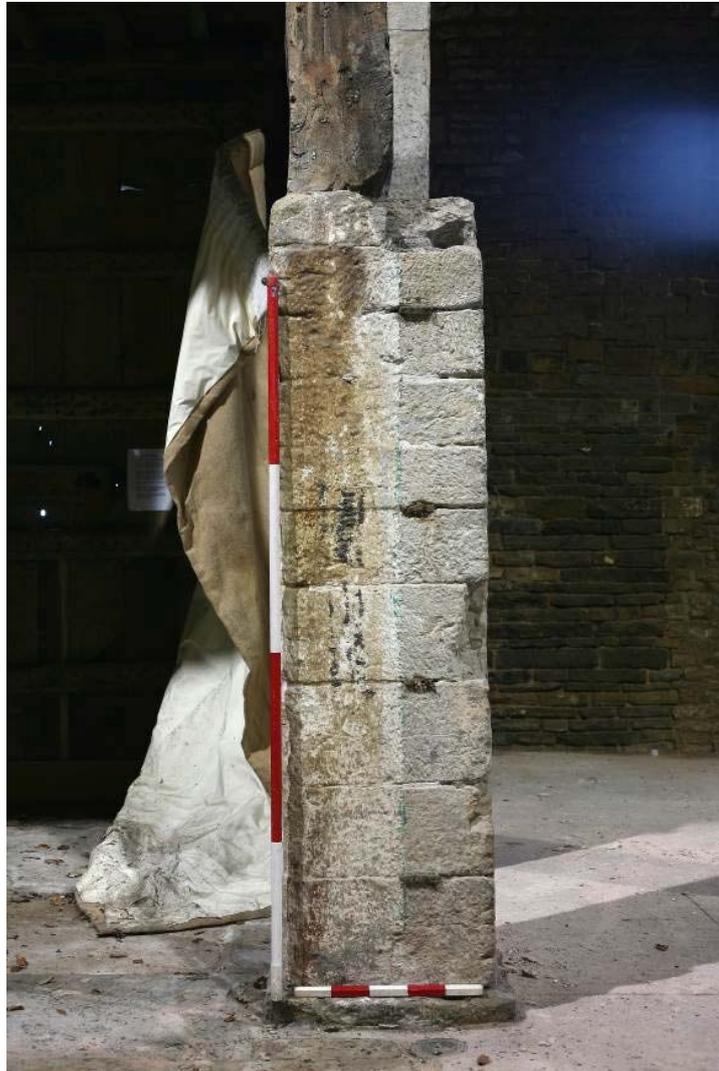


Plate 54: Example of vertical scarring on a stone plinth



Plate 55: Internal porch on the west side of the barn

- 4.4.27 There is a vertical alignment of stones visible in all the outward facing walls of the porch that coincide with the jambs of the wain doors (Plate 56). These are probably needed for structural integrity, although on the internal side, they appear to be more reminiscent of quoins; however, there is no evidence to suggest the walls have ever been extended inwardly. Other than this, the walls are fairly plain. The doors are large wain doors overlapping horizontal ledges (Figs 23 and 25; Plate 57); an additional central ledge, on the north side, overlaps to allow for the locking mechanism which consists of a pivoting timber. When closed, the doors are very secure. The ledges are tennoned into a vertical hinge post which is hung on harr hinges top and bottom; the top hinges slot into a substantial timber lintel. Curved iron braces support the bottom hinges. The planks are fixed to the rails with large iron nails with externally projecting heads.
- 4.4.28 Sometimes, these wain doors have smaller pedestrian doors built into one side, but these are absent in this case, nor is there any evidence for any having ever existed. Instead, there is a pedestrian/ animal door in each of the south walls of the porches (Fig 33) allowing independent access to the barn; the one on the east side allows access to the surviving shippon (*Section 4.4.29*). The doors are of the same appearance with substantial ledged doors within a chamfered

sandstone surround on the east side and a plain surround with timber lintel on the west (Plate 58).



Plate 56: Example wall of the internal porch showing features in the stonework

Plate 57: Internal appearance of a wain door

4.4.29 Both porches have a timber roof/ ceiling of timber cross-beams with joists at right angles (Plate 59). Riven oak laths are placed above the joists which support what appears to be a lime/ earth floor. The ceilings are at the same height as the tops of the doors and may have been used as a loft for storage (Plate 60). Both ceilings extend to the external walls and as far inward as the aisle posts (Plate 59). The roof slope continues down above the ceiling to the external long walls.

4.4.30 **Room 7:** as has already been mentioned (*Section 4.4.15* and *4.4.16*), Rooms 3 and 4 occupy a space on the west side of the barn between the porch and Room 2. On the other side of the barn, occupying the space between the east porch and Room 5, is the shippon (Plate 61; Figs 18, 31 and 32). This has a timber frame with two surviving stalls divided by partitions with vertical

planks. At the time of the survey the stalls were being used as storage that obscured much of the detail. Some of the timberwork appears to have been replaced, particularly the ceiling joists, which are trenched into the frame. It is probable, however, that the shippon was roofed at some point although no trace of this survives. Parts of the floor of the shippon are visible, and were observed to be laid down to flags, cobbles and bricks (Plate 62); a short corridor leads to the main area of the barn.



Plate 58: Pedestrian door way in the south wall of the east porch



Plate 59: Example of the nature of the construction of the ceiling over the porches



Plate 60: The appearance of the east ceiling

4.4.31 The floor of the barn is mainly laid down to concrete and almost certainly dates to 2000 when underfloor heating was established (*Section 3.4.14*); there are no distinguishing features. What is visible however, situated between the two porches is a wide stone flagged area, a former threshing floor (Plate 63; Fig 18). This continues out of the barn to the outside and appears to have survived 1980s alterations to the floor, although there is a strong possibility that they were lifted and re-laid (*Section 3.4.14*).



Plate 61: Surviving shippon on the east side of the barn

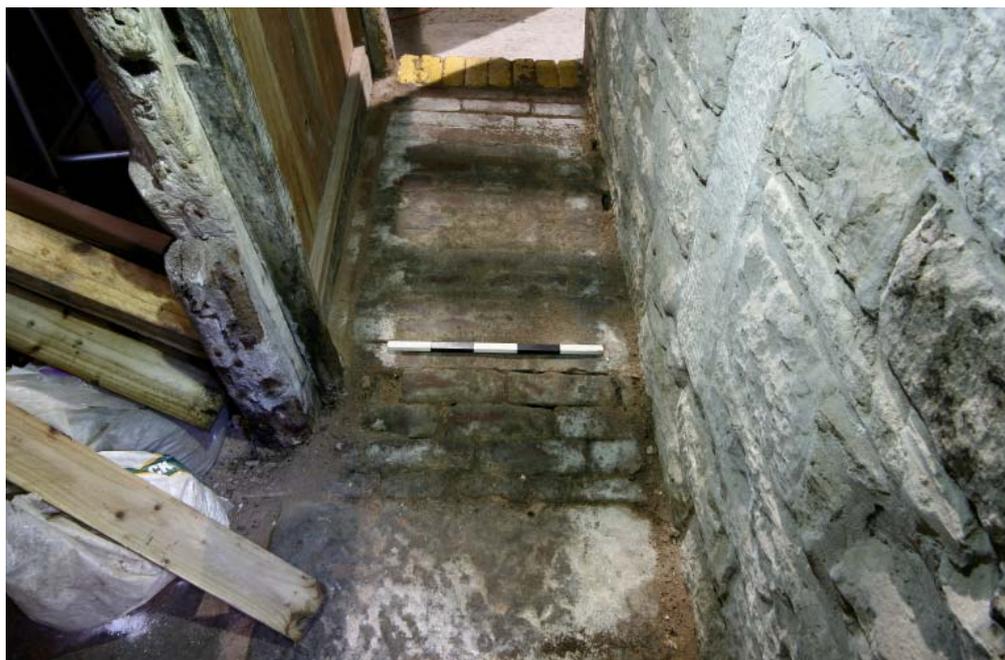


Plate 62: The floor of the shippon

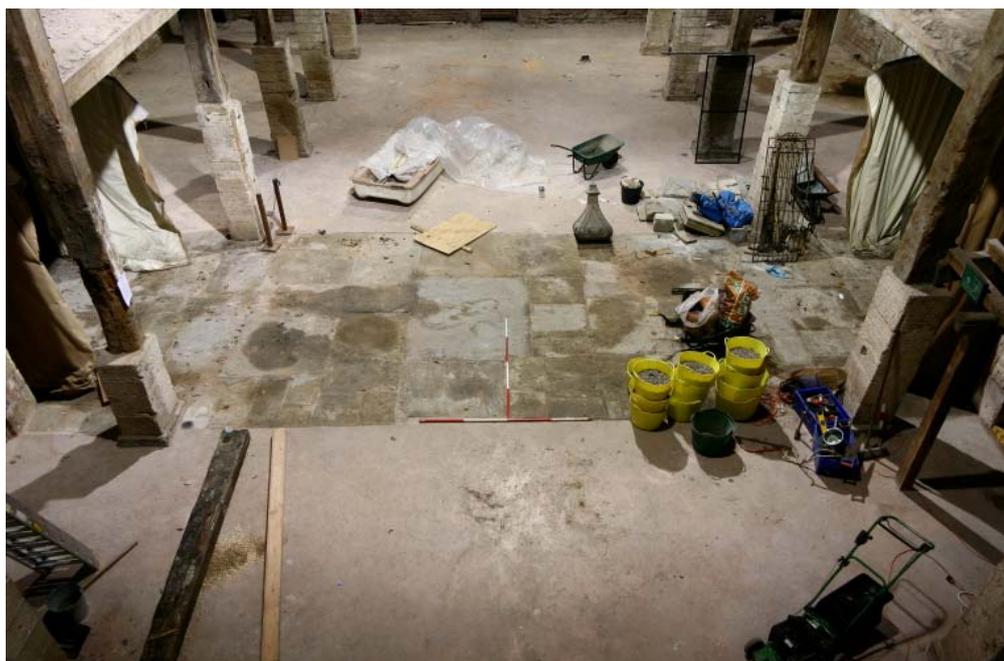


Plate 63: Threshing floor in the barn

- 4.4.32 **Partition wall between Bays 7 and 8:** at the south end of the barn, the stone wall forming the north walls of Rooms 1, 2 and 5, is visible (Fig 31; Plate 50); the wall is of random rubble construction with large variation in stone sizes. This has clearly been inserted later as evidenced by the way in which the wall is built around the aisle posts and stone plinths of truss assembly 2; the wall butts against the long walls of the barn at each side.
- 4.4.33 **South-facing Internal Elevation:** the internal elevations of the walls of the main barn exhibit several features that are not visible on the exterior. Although the north internal elevation of the barn (Fig 28) is largely concurrent with the external appearance (*Section 4.3.17*), there are two areas of repair and rebuilding and some small blocked apertures, as well as two rows of small square blocked holes just above the two ground floor windows (Fig 28) not particularly evident externally. These appear to suggest that a floor or ceiling of some description was once present here; there is, however, no other evidence to substantiate this, nether in the floor or the adjacent walls. The mullion windows are visible and can be seen to have simple stone surrounds with chamfered and/ or square profile mullions. All of the ventilation slits have splayed reveals with simple sandstone surrounds.
- 4.4.34 The pedestrian doors also have splayed jambs and the doors are of plank and ledge construction hung on harr hinges with reinforcing braces at the bottom. (As already mentioned in *Section 4.3.18*) the doors were probably replacements.
- 4.4.35 **West-facing Internal Elevation:** the east internal elevation of the barn largely reflects the layout of the external view (*Section 4.3.9*). The ground floor mullion window at the north end of the elevation, however, may have been reduced in size as there appears to be an area of blocking below the sill (Fig 29). This window is one of the more recent replacements and is situated directly opposite an existing door in the west elevation. The blocking is not

visible externally and may have been carried out during alterations in the 1980s (*Section 3.4.8*).

- 4.4.36 ***East-facing Internal Elevation:*** there is a blocked window situated within the west internal elevation (Fig 27) that is only partially visible externally. The blocked window lies directly opposite an extant window on the west-facing internal elevation; this too may have been blocked during the alterations carried out during the 1980s. To the north of this is a blocked doorway which again, is not particularly visible on the exterior (it is, however, visible on a photograph dating to 1987 (Plate 11). Between these two blocked openings a large projecting stone is visible (Plate 64); its purpose is unknown.

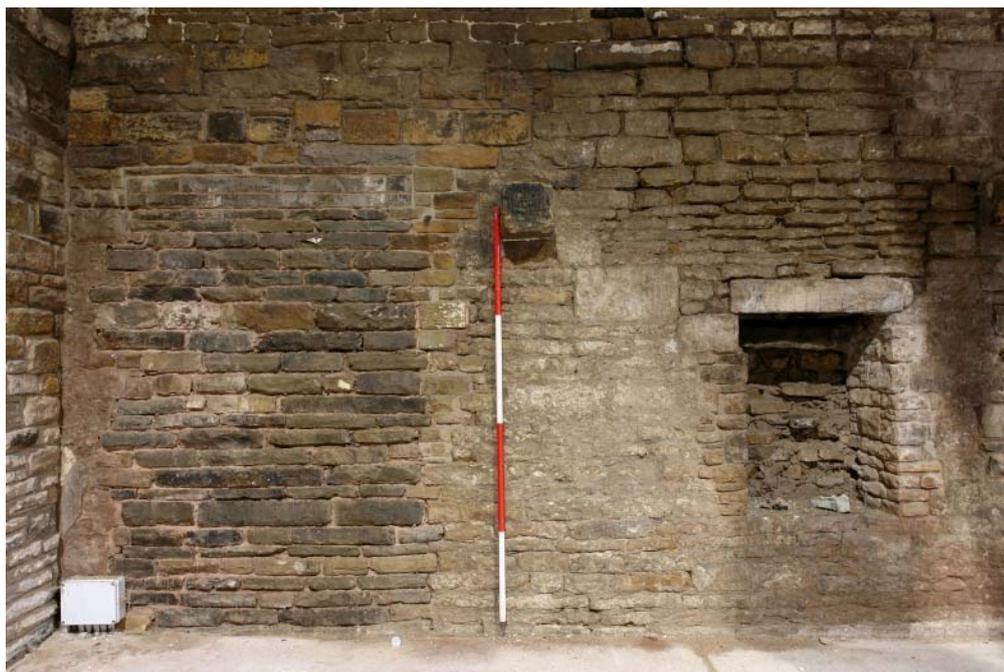


Plate 64: Blocked door and window on the west internal elevation of the barn

- 4.4.37 ***North-facing Internal Elevation:*** the south elevation, where the outer face of the principal elevation has been rebuilt is visible from the ground floor from Rooms 1, 2 and 5 and from the mezzanine level in Room 8. This elevation is described in this section and any additional detail for Room 8 is described in *Section 4.4.38*.
- 4.4.38 The internal aspect of the elevation is of the same construction as the other internal elevations in the main part of the barn and is also similar to the external fabric (excepting the southern external elevation). In the centre of the upper part of the elevation, visible from Room 8, is an opening with splayed jambs and a chamfered sandstone lintel. This is visible externally and there is evidence to suggest that it was inserted at the same time as the front elevation was refaced, both jambs having been rebuilt and there is some infilling above the lintel (Fig 26). The small door is of similar construction to the external doors in Rooms 2 and 5 with chamfered ledges and cross bracing (Plate 65).
- 4.4.39 There are other blocked openings in the central upper part of the elevation that are arranged in a similar layout as those open apertures in the north elevation (Plate 66, Figs 26 and 28; *Section 4.4.32*). They all appear to be covered over by the outer wythe of the principal southern elevation and none are visible

externally. They are of similar appearance and it is reasonable to assume that they fulfilled a similar function, being former ventilation holes. Near to the floor of Room 8, an area of blocking is situated in the same place as the upper mullion window in the north elevation; this suggests that the pattern of fenestration on this elevation was similar to that still evident on the north elevation.

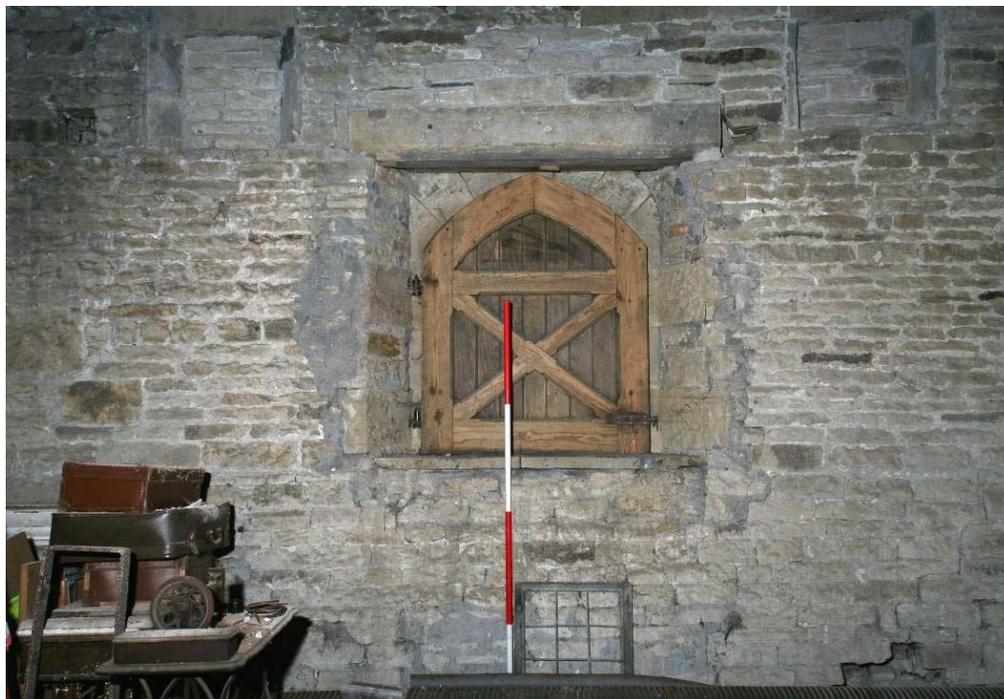


Plate 65: Opening in the south wall of the main barn showing rebuilding



Plate 66: Example of a blocked aperture on the south internal elevation of the barn

- 4.4.40 **Room 8:** Room 8 mainly consists of a mezzanine floor above Room 1 and contains few distinguishing features (Fig 19); there is a handrail around the edge. The space was being used for storage at the time of the survey. Parts of the upper aisle posts were visible from the mezzanine and figure of eight shaped recesses with peg holes were visible on the east aisle post of truss assembly 1; the purpose of these is unknown. This room was almost certainly used as a hayloft to serve the stables below, as evidenced by the small loading door close to the apex of the gable.
- 4.4.41 **Rooms 9 and 10:** these two rooms occupy the store/ toilet block extension to the east of the main barn (Fig 18). They were once part of a larger, single space having been created by the insertion of cinder block wall. The ceiling is plastered and the floor laid down to concrete. The windows on the west wall have splayed reveals. No other distinguishing features were observed.
- 4.4.42 **Rooms 11 and 12:** these two rooms occupy the carriage house at the east side of the main barn (Figs 18 and 19). Latterly used as a reception area and café the rooms have been modernised and now contain fixtures and fittings relating to this usage. The ground floor is flagged and there is a mezzanine floor (Room 12) of late twentieth century appearance.

5. DISCUSSION

5.1 INTRODUCTION

- 5.1.1 The Gawthorpe Barn appears to have been referred to as the since its construction; the title '*Great Barnne*' is used as early as 1603 (*Section 3.3.2*). The term Great Barn is usually given to a barn used for the storage of monastic or, later, the landowner's, estate produce, and differs significantly from a tithe barn which belonged to the local parish church for the storage of tithes or taxes obtained from the inhabitants of the parish (Griswold 1999; Hughes 1985). The term 'Tithe Barn' has over the years come to denote a large barn, and there has been as a result a certain degree of confusion of terms, with monastic or estate owned barns being referred to as tithe barns even though they did not receive the tithes of the parishioners. Following the dissolution of the monasteries, many new 'Great Barns' were constructed partly as a status symbol by the newly wealthy landowners and partly out of necessity (*ibid*), and it is within this context that the example at Gawthorpe was built.
- 5.1.2 The Shuttleworth family appear to have been living within the Gawthorpe estate since at least 1443 (*Section 3.2.1*) and the earliest references to the construction of the hall date to around 1599 in the accounts of the house (*Section 3.2.1*). There is no evidence to suggest that structures earlier than this date were in existence although it is mentioned that a house was occupied at Gawthorpe while the new hall was being constructed between 1600 and 1606 (*Section 3.2.1*). The listed building entry puts the date of the barn at *circa* 1605 and the accounts of the house and farm provide detailed descriptions of the construction of the barn between 1602 and 1605 (*Section 3.3.2*). These accounts are very detailed and suggest that there was an 'old' barn built prior to at least 1600 and a new 'barn' constructed after 1602. These appear to have existed at the same time as the old barn was reported to have been re-thatched in 1604-5. There is no structural evidence in the current barn to suggest that any of the fabric is earlier than 1602 and none of the timberwork shows any significant signs of reuse. The old barn was subsequently dismantled in 1605-6, but it does appear a little odd that the barn was re-thatched, only for it have been to dismantled in the following year.
- 5.1.3 Detailed accounts of the trades and craftsmen involved in the construction of the barn enable an insight into the construction process. The roof was apparently in place by August 1604, in November 1604 a paver from Burnley spent nine days paving in the lower and upper oxen houses. The surviving shippon or oxen house may have been one of those paved, although the current floor appears to be later. The construction of the frames for the oxen house was commenced by Henry Mylner and George Towne in September 1604, when they made both the doors (wain doors and porch doors (*Section 3.3.6*)) and the booths for the oxen house. The current doors and shippon appear to have survived, and their features certainly appear to be concurrent with this date, the framing for the shippon was finished in 1605.

5.2 PHASING

- 5.2.1 The following section outlines the overall development of the building from its initial construction up to the time of the inspection. Gawthorpe Great Barn has four main phases (Fig 40).
- 5.2.2 **Phase 1 - 1603:** the main structural features of the main barn, including the whole aisled frame and most of the stonework appears, from visual inspection to correlate with the period of construction of the building as outlined in the historical account from 1602 to 1605 (*Section 3.3.2*). The general appearance of the aisle frame is suggestive of this date and timbers of the frame are similar in scantling, style, and jointing methods. In addition the consistency of the assembly marks suggests that they were erected at the same time. It is also apparent from the visible character, and the historical account, that the porches, including the ceilings creating the lofts above are all of this period, and similarly the wain doors (albeit restored in the 1980s) were part of the original construction. The shippon (described in *Section 4.4.29*) also probably dates to this phase, although partially restored during the 1980s (Plate 14), it is probable that many of the surviving timbers belong to this phase. The variable height of the aisle post plinths is probably due to the length of available timber; although it could conceivably be a result of subsequent alteration.
- 5.2.3 The general layout of the fenestration and ventilation on the north gable is probably largely part of this phase as are the blocked apertures and doorways on the interior of the south elevation. The surviving ventilation loops on the eastern and western elevation are also likely to be original, although others have probably been obscured by later modifications and re-pointing. Given the consistency between several of the extant window locations on the eastern and western elevations it is possible that, the majority of these are also original, if in most cases heavily restored. The internal layout of the barn may have been altered, as a second oxen house, mentioned in 1604 (*Section 3.3.5*), is not present although certain features such as the blocked small square openings in the internal north elevation of the barn may possibly be attributed to this feature. Excavations by CLAU in 1981 (CLAU 1981; *Appendix 4*) (*Section 3.5.1*), suggested that much of the barn may have originally had a floor of beaten clay, although the area of the threshing floor, between the wain doors, was seemingly always flagged as it was documented (*Section 3.5.4*) as having been paved at this juncture. The current floor, however, was re-laid in the 1980s. The excavations revealed that kerbstone and cobbles, as well as posts, probably provide evidence of the former oxen house at the northern end of the barn.
- 5.2.4 Several redundant peg holes and vertical scars on the faces on some of the aisle posts and plinths suggest that the barn was subdivided, possibly from an early phase. Although there is no firm evidence to prove this, it is possible that divisions within the barn were part of the original fabric. The function of these remains unknown but given the use of parts of the barn for housing animals it seems plausible that at least some of these were used to form partitions for stalls.

- 5.2.5 **Phase 2 - Mid Nineteenth Century:** after 1669 Gawthorpe was occupied by tenants or stewards, and the buildings and estate deteriorated during this period. In 1769, a lease included the Great Barn within a group of buildings that had agricultural/ economic value, and which were rented out.
- 5.2.6 In around 1816, following Robert Shuttleworth inheriting Gawthorpe Hall, a plan of the estate was produced which clearly illustrates the layout of the barn as a simple rectangular building occupying the same footprint as the main body of the current barn (Fig 5). The west extension, comprising the modern store/ toilet block, was probably added after 1816 and prior to 1847 when it first appears on the Ordnance Survey map of that date (Fig 9). The extension is not shown on the 1839 tithe map so the date of its construction may be narrowed down to between 1839 and 1847 (Fig 8). The appearance and character of the fabric of the toilet extension is difficult to date but features like the kneelers are consistent with an early nineteenth century date. A further lean-to extension at the north-west corner was also added between 1839 and 1847. The original purpose of this extension is unclear but given its small size and lack of evidence suggestive of accommodation for animals, it is likely to have been a store or office.
- 5.2.7 **Phase 3 - 1870:** after 1842, when Janet Shuttleworth married Sir James Kay of Rochdale, they moved to Gawthorpe and they set about restoring the hall. They employed the renowned architect Sir Charles Barry between 1850 and 1852. It is not clear if Barry worked on the barn as there are no drawings or plans of this date. What is clear is that by the time of the 1891 map, the carriage house had been added to the east side of the south end of the barn and internal divisions at the south end had been created, correlating with the positions of Rooms 1, 2 and 5.
- 5.2.8 The carriage house is of late nineteenth century, gothic revival, appearance, and although not ostentatious, it still exhibits elements of this style such as the two-centred arched carriage door openings and roof treatment. The date stone in the centre of the elevation, although weathered, reads 1870 which puts it later than Barry's involvement. It is probable that the installation of Rooms 1, 2 and 5, and the addition of the carriage house, together with the re-facing of the principal elevation, all took place around 1870. The three pedestrian doorways on the south gable elevation of the main barn are each of gothic revival appearance. The surviving stalls are also datable to the nineteenth century testified by their general appearance and by their similarity to other estate stables of the period.
- 5.2.9 **Phase 4 – Late Nineteenth to Early Twentieth Century:** by the time of the OS 1891 map a three celled structure had been added to the western elevation of the gabled extension at the southern end of the barns western wall. Although no physical trace of this building was recorded the map suggests it may have been un-roofed, and may therefore have housed smaller livestock. The walls enclosing the farm yard to the north west and the smaller yard to the east of the barn also appear for the first time on the 1891 map and it is possible that the present walls survive from this date.
- 5.2.10 At some time in the following twenty years the open fronted extension was built in the angle between the western wall of the barn and the northern wall of the gable extension. The limited surviving physical evidence for this structure

suggests that it was probably an insubstantial building, although the shading of the map indicates it was roofed (Fig 11).

- 5.2.11 If the southern end of the western wall of the barn was removed to amalgamate the floor space of Rooms 2 and 11 (*Section 3.6.9*), then it must have occurred after 1891 and before 1912, but either way it had been reinstated on the plan of 1962 (Fig 13).
- 5.2.12 **Phase 5 – Mid Twentieth Century:** it is not clear what alterations were made to the interior of the building during this period, although it is possible that the lower oxen house at the north side of the building was removed during the period when the barn was owned by Burnley Football Club, making the building suitable for use as a training facility. It is, however, likely that the porch at the centre of the northern elevation was added at this time, reflecting the buildings change in use.
- 5.2.13 The southern cell of the lean-to extension at the northern end of the western elevation was removed between 1931 and 1962 (Figs 12 and 13). The three celled structure to the west of the gabled extension, and the open fronted structure to the north of the same building, survive until at least the early 1960's; however, they had both been removed by 1968 (Fig 14).
- 5.2.14 **Phase 6 – Late Twentieth Century:** the current appearance of the barn is due in a large part to the alterations and conservation work that was carried out by the Gawthorpe Foundation Charitable Trust, primarily from the late 1970's and throughout the 1980's. (*Section 3.4.4*). The carriage house was renovated between 1977-1979 (National Trust, 1996, 38) and the remaining northern cell of the lean-to to the west was demolished between 1975 and 1984 (Plates 6 and 7).
- 5.2.15 The roof was renovated in the early 1980's and the walls were extensively re-pointed in lime mortar, making the identification of blocked openings problematic. Several windows of unknown date were blocked on the northern, eastern and western elevations but other openings, such as the two flanking doors on the northern elevation and the two first-floor level windows on the western elevation, were reopened. A pedestrian door, situated close to the cart door on the western elevation, was subsequently in-filled after 1987 (*Section 4.3.25*) while another at the northern end of the elevation was rebuilt further to the south.
- 5.2.16 The porch on the northern elevation was removed after 1975 and replaced with a pair of buttresses in 1987, while a length of wall, projecting east from the northern end of the eastern elevation, was built on the property boundary between the National Trust land and that belonging to Burnley FC.
- 5.2.17 Internally the western wain doors and the oxen house in the south eastern corner underwent conservation during this time. A photograph depicting the restoration of the shippin/ oxen house (Plate 14), shows the whole of the northern half of the frame having been removed which suggests that much of it has been replaced. Inspection of the timbers, however, reveals that the majority of them may be from the early phase. It is probable that the eastern side, close to the porch, are replacement timbers. A solid partition wall was erected to the south of the western carriage entrance, dividing the aisle from the nave and creating two new rooms with a floor above. This action may also

have necessitated the insertion of an access door in the western end of the barns east-west cross wall.

- 5.2.18 The installation of a modern concrete floor with under floor heating, in 2000, resulted in the excavation and removal of the original floor and what may possibly have been early partitions.
- 5.2.19 At the southern end of the building, doors were inserted into either end of the cross-wall between the central stable and the main barn space, while the eastern stable was converted into a kitchen, with the provision of internal access between the central stable and the carriage house. The western stable was also modified and a staircase was inserted into the north western corner to give access to the mezzanine floor above the central stable. A connecting door was inserted into the southern end of the western wall giving entry to the western gable extension, which, by this time, had been converted into a modern store/ toilet block.

5.3 SIGNIFICANCE OF THE BARN

- 5.3.1 The Gawthorpe Great Barn is a type of barn known as an aisled barn, that is a building with a central 'nave' and two side aisles, separated by the erection of pairs of opposing posts which support a horizontal arcade plate. This allowed the roof to span the greater widths demanded for wide, spacious buildings and such barns are known from at least the twelfth century. The distribution of aisled barns is predominantly concentrated to the south and east of the limestone belt of central England (Lake 1989, 58) but a large number have also been recorded in the South Pennines and Lancashire (English Heritage 2006c, 51; Clarke 1973). The majority of the regional examples were constructed between the fifteenth and mid seventeenth centuries, and were designed as multifunctional buildings with space provided for grain processing, storage and livestock (English Heritage 2006c, 53). The ease of subdividing the aisles from each other and the central nave facilitated this adaptability and in this respect Gawthorpe can be seen as a typical example of the region; however it was constructed as a very large, high status, stone walled aisled barn from the outset.
- 5.3.2 The barn is a Grade 1 Listed Building (1237628), and is undoubtedly one of the best examples of this type of construction in the whole of the North of England, and is a significance reinforced by the Listed Building description. It is stylistically similar to other stone built aisled barns in the area including barns at Wycoller Country Park in Lancashire (c1650), as well as barns further a field such as the Great Barn of East Riddlesden Hall (OA North 2009) (altered in the seventeenth-century) and Shibden Hall (seventeenth-century), both in Yorkshire.
- 5.3.3 Perhaps the most unusual, and perhaps significant, aspect of the Gawthorpe aisled barn is its shape. Most stone walled aisled great barns were long and narrow, such that the long axis of the barn was typically between three and five times that of the short axis. This was largely dictated by the techniques for truss design which favoured shorter trusses. Gawthorpe, was 63 feet x 99.7 feet (19.14m x 30.4m) and as such was 1.58 times longer than it was wide. This provides for a very broad, sub-rectangular layout which distinguishes it

not only from aisled barns in the North West but also across the country. The Gawthorpe barn width, at 63 feet (19.14m), is certainly substantially wider than the East Riddlesden barn, Yorkshire (43 feet (13.1m), but is not as long (East Riddlesden length: 125 feet (38m)). It is similarly much wider than the Wycoller barn (Michelmore 2000) and also the impressive Great Coxwell barn, Oxfordshire (Munby 1996), which is only 38 feet (12m), but on the other hand is an exceptional 200 feet (60.9m) in length. The Gawthorpe barn is also much taller than both of the northern examples, being up to 35 feet (10.7m) high at its northern end; the span of the nave is also impressive at 24 feet (7.24m). It does, however, have a relatively shallow roof pitch by comparison with many other aisle barns which reflects its very broad width. The plinth or pad stones that support the aisle posts are particularly impressive being much taller than any of the examples described above and of similar size to those at Great Coxwell Grange Barn (greatbarns.org.uk/great_coxwell_barn.html).

- 5.3.4 In terms of comparable examples from the region, there is a similarity in braced truss design with the Wycoller Great Barn, Lancashire, which also used extended pad stones to extend the height of the truss (Michelmore 2000), as such this belongs to the same broad tradition. However, the pad stones were not as high as those at Gawthorpe and the overall barn was not as high or wide as that at Gawthorpe. The form, character and overall size, particularly the height, indicate that Gawthorpe Barn was constructed to have both a large storage capacity, but particularly it was intended to be a high status structure, and to create a very imposing visual impression on any visitor to the barn. As such this is in keeping with the impressive scale and construction of the hall that was being constructed at the same time, and in a comparable opulent manner.
- 5.3.5 **Condition:** the southern section of the barn has been substantially modified with the addition of a new skin to the southern façade, the construction of a mezzanine floor and the addition of ground floor rooms and horse stalls. But these changes, have, for the most part, been additive. The re-facading of the southern elevation has preserved the original wall behind, which is evident from the ground floor rooms and the mezzanine floor. The construction of the rooms in the southern two bays has preserved the two truss assemblies, and, in the case of Truss Assembly 1, this is preserved beneath plaster, but is exposed on the mezzanine floor. The primary barn structure may in places be obscured, but is essentially still extant. Elsewhere the structure of the barn has been largely preserved; all the structural timbers are original and there has been relatively little modification to the internal aisle structure of the barn. There may originally have been a small mezzanine floor at the northern end, but this has gone and there are relatively few indications of where or how it was constructed. There is the survival, in very good condition, of ox stalls to the south of the eastern porch, and on the basis of the contemporary description of the construction of these stalls in 1602-5, it would appear that they are in their original form (White 1985, 24-7; *Section 3.3.2*). However, a similar set of stalls constructed at the same time on the opposite side of the barn has not survived, and there is currently a modern room constructed in that location. It is the view of the Listed Building inspector (*Appendix 3*) that these south-eastern stalls are the earliest surviving examples of the type in the country.

- 5.3.6 The doors and fenestration are for the most part original, but there have been a number of apertures that have been blocked and then subsequently unblocked and reused. An extension was established as part of Phase 2 at the north-eastern corner of the barn and entailed the insertion of new doors, but, with the removal of the extension in the 1980s, the doors were either replaced in ashlar or blocked. Extensive restoration works were undertaken in the 1980s, and have been reasonably documented; for the most part these works were undertaken sensitively, allowing preservation of the key elements of the fabric, and have extended the life of the building. In some respects, however, some of the repair work was undertaken so completely, that it is now difficult to determine where apertures were blocked and when changes were made.
- 5.3.7 Generally the barn has survived well, but the laser scan survey has highlighted that both the gable walls have considerable curved profiles, which raises concerns as to their structural condition. The northern wall has been supported by the addition of two large buttresses in 1987, and the southern wall is in part supported by the additional skin of walling. Despite the unnerving curve to the walls, there are no obvious cracks to the pointing in the southern wall that would suggest movement, but a structural engineer would need to comment on the present structural condition of the fabric.
- 5.3.8 Given the slightly unorthodox form of the barn, the high status emphasis of its early seventeenth century construction, the apparent originality of its frame, its considerable size and the rare survival of its south-eastern byre this would collectively indicate that the barn is of very considerable significance and would certainly justify the Grade 1 listed status afforded for the structure.

5.4 CONCLUSION

- 5.4.1 Gawthorpe Great Barn began as a seventeenth-century 'Great Barn' providing for the estate's produce as well as accommodation for animals. It was a simple, rectangular largely symmetrical, structure with an impressive aisled construction similar to other great barns in the region. There was a central stone threshing floor served by two large cart entrances with substantial wain doors. There were probably two oxen houses (an upper house and lower house), one of which survives and which were also probably paved. The main body of the barn probably had a beaten floor. The frame of the barn exhibits both assembly marks and masons or bankers marks, one of which is similar to a contemporary mark used at Doune Castle in Stirlingshire indicating a possible link as these marks were unique to an individual.
- 5.4.2 Despite its height (10.7m), there is no evidence to suggest that the barn ever had a full first floor, although it is possible additional mezzanine floors were provided at the northern end and within the aisles. There are several taller barns such as Great Coxwell, Oxfordshire, (14.6m) (Munby 1996), or The Wheat Barn at Cressing Temple, Essex (12.2m) (Hewitt 1997, 102) which have also never had a full first floor and it was not a typical feature of the tithe or threshing barn. The height of the building, while partly functional in maximising capacity and assisting with air circulation, was probably designed to show off the wealth and status of the Shuttleworth family in the same manner as the house, which was being built at the same time.

- 5.4.3 In the nineteenth-century, the barn was significantly altered and a carriage house, and other extensions, were added. Three rooms housing horse stalls/ and or stables were created at the southern end of the barn probably to serve the newly created carriage house. A mounting block was also added. The whole front of the principal elevation was covered by an additional wythe of masonry, obscuring the original windows and ventilation holes. New windows were created and doorways were added or altered. The whole modification was carried out in the style of the Gothic Revival.
- 5.4.4 Further changes during the twentieth century involved a programme of restoration that involved the stripping away of most of the additions including a small porch on the north elevation and a larger extension at the north-west corner. Later windows and doorways were removed and blocked up. One of the large wain doors was restored and the whole of the roof covering was removed and re-laid.

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APPENDIX 1: PROJECT BRIEF

Introduction

A program of desk based investigation and detailed building survey recording is required to produce a historic building survey of the Great Barn, Gawthorpe, Lancashire to inform planned building repairs scheduled for 2014. The former Coach House, attached to the eastern elevation of the Great Barn, is included within the scope of the survey.

Background

The Great Barn is a Grade I Listed Building (list entry 1237628) owned by the National Trust. The site is located 100m west of Gawthorpe Hall, which is itself located just off the Burnley Road on the eastern edge of Padiham, Lancashire (SD 80580 34052).

The 'Great Barn' is in fact a large aisled barn of circa.1605, slightly altered c.1850-60 and later further adapted in the 1980s for events. Externally the building appears constructed of sandstone rubble with quoins, with a stone and slate roof slightly swept over aisles. Within, the building exhibits a rectangular 9-bay plan with aisles. The timber framing comprises aisle posts on padstones c.2½ meters high, with braces to tie beams and wall plate; braced aisle ties with struts to aisle principal rafters; kingpost roof with angle struts; trenched overlapped purlins.

The English Heritage listing description (completed before the adaptations of the 1980s) describe the Great Barn as one of the finest aisled barns in the North West and suggests that the ox stalls of circa.1610-11 (situated in the two aisle bays to the south of the eastern wagon entrance) might possibly be the earliest dated examples in Britain.

The attached Coach House of circa.1870 was altered in 1977-79 for use as a gallery and shop, and is now a tea room. This rectangular 2-bay block is constructed of random rubble, with a hipped slate roof.

Description of work to be undertaken

A detailed Historic Building Survey is now required to form a detailed record of the Great Barn's fabric, fixtures and fittings prior to planned building repair works scheduled for 2014.

The main aims of the historic building survey are to record, identify and understand the nature, form and development of the Great Barn and its immediate environs, including all internal features and associated buildings.

These investigations should provide the National Trust with a clear understanding of the history, phasing and development and conservation significance of the Great Barn.

The recording should be undertaken in sufficient detail to produce a detailed survey record of the Great Barn in its current state, highlighting distinctive features of historic importance, as well as allowing detailed analysis and interpretation of the development and phasing of the building and its setting. The survey should also attempt to identify (from a combination of desk based analysis and field observations) any lost internal and external elements such as partition walls, timber framing, staircases, floors and ancillary buildings etc.

The program of survey work should also provide the National Trust with information that can be used to communicate the conservation value and historic interest of the Great Barn to the visiting audience.

Please note that this tender assumes that the Coach House forms part of the 'Great Barn' and will not be referred to separately.

The project will consist of the following components.

Desk Based Analysis

The extent and quality of previous research into the history and development of The Great Barn is difficult to quantify.

The known useful sources of information for the Great Barn include the early 17th century Gawthorpe building accounts deposited in Lancashire Record Office, along with the listing description of 1953 and subsequent revision of 1985. The contractor should allocate sufficient time into the project to allow a thorough inspection of the early 17th century Gawthorpe building accounts to be examined as these are regarded as critical to the project and provide the dating evidence for the construction of the foundations, gable ends, roof structure and ox stalls.

Excavations were undertaken at The Great Barn in 1981 undertaken, funded by the Manpower Services Commission, under the supervision of LUAU (now Oxford Archaeology North). The excavations were carried out in advance of alterations and improvements within the building aimed mainly at removing twentieth century structural additions. The excavation also specifically addressed the question of the possible existence of pre-1600 structures. The excavations revealed that the earliest layer visible within the barn was a clay floor. The majority of this clay floor, along with surviving areas of later floor, were removed during the 1981 excavations. A hardcore floor presumably laid immediately afterwards and the flagstone area may have been lifted and re-bedded as part of this process. A short report of these investigations is held on file by the National Trust.

The hardcore was replaced with a concrete screed and underfloor heating in 2000. A note of an archaeological watching brief on this work is contained in the files held by the National Trust, although it has so far been impossible to locate the subsequent watching brief report.

A plan showing the proposed building alterations from 1981 is also held on file, along with a second plan dated 1984 which seems to highlight archaeological features recorded by the excavations in 1981.

All existing information held by the National Trust at the Regional Office in Grasmere and at the property office at Gawthorpe will be made available to the contractor prior to the start of investigations.

One of the best sources of knowledge and information is likely to be the National Trust guidebooks that will include a description of the Great Barn and highlight useful sources. The most recent guidebook was written by Richard Dean, National Trust Curator, as such the contractor is asked to allocate time to discuss the project with Richard at an appropriate time.

It is anticipated that the contractor will be required to undertake further archive research at the local records office in order to complete the desk based analysis. This is based on the assumption that very little information appears in the files of the National Trust suggesting that little primary archive research has been undertaken relating to the Great Barn. As such the contractor should allocate sufficient resources to make a thorough investigation of the available primary and second source material.

Historic maps and photographs

The contractor will be required to source clean copies of all historic plans and surveys, together with all editions of historic Ordnance Survey maps relevant for the study area. The contractor will be provided with copies of any maps, plans and photographs held by the National Trust; however the contractor should anticipate sourcing historic maps independently. Having access to a complete set of historic maps and photographs will enable the contractor to:

- Provide a clear and comprehensive map regression and photograph catalogue which will seek to present all historic depictions of the Great Barn.
- Aid the identification of missing building, structures or associated features highlighted in historic depictions of the Great Barn.
- Develop an understanding of the development of the Great Barn building to allow its historic evolution to be examined and explained in detail.

Topographic/ Measured Survey

An accurate topographic/ measured survey will be required and should include the following elements:

- An accurate topographic plan of the study area to provide contour data and a topographic base for other survey elements commissioned as part of the project. The contractor should identify the scope and limit of the topographic survey in their tender following a site visit.

- This topographic plan should also include the outline of the Great Barn and all associated elements and structures at a scale appropriate to permit detailed recording and allow easy interpretation and reproduction. The plan should highlight any modern infrastructure such as fences, surfaces, walls, railings and signage etc.

Laser Scanning

An internal and external laser scan survey of the Great Barn will be undertaken which includes the following elements:

- A detailed and complete laser scan survey of all external elevations of the Great Barn, including the roof pitches.
- A detailed and complete laser scan survey of all internal elevations, floors and half-floors inside the Great Barn. The internal laser scan should aim to capture the maximum possible detail of the timber framing extant inside the Great Barn to facilitate detailed drawings to be produced.
- The laser scan data should be used to produce an accurate set of 2D AutoCAD floor plans (including half floors), a ceiling plan and internal and external elevations that record the Great Barn building in detail. These drawings should include all historic building detail visible on the internal and external elevations, floors and walls and highlight the location of doors, windows, hoist openings, hearths, flues and other features of historic interest.
- In addition to plans and elevation drawings, the laser scan data should also be utilized to produce eight cross section drawings. Each freestanding truss (there are six) within the Great Barn should be drawn as a cross section, with the remaining two cross sections following a tangential line through the stables and Great Barn, running through the two rows of aisle posts.
- Phasing information should be highlighted on plans and elevation drawings.
- Identification of any below-ground archaeological potential should be appropriately highlighted.

The contractor should provide separate costs for the laser scanning, production of plans, external elevations, internal elevations, two long cross sections through the Great barn and six short cross sections recording each freestanding truss.

Dendrochronology

While the early 17th century Gawthorpe building accounts provide clear dating evidence of the structure of the building and some of its fixtures, there exists an opportunity to confirm these dates using dendrochronology. The contractor is invited to outline a small scheme of dendrochronology that would seek to corroborate the development history outlined in the surviving archives. It would also seek to provide corroborative evidence for the dating of key fixtures such as the ox stalls.

The contractor is asked to include the cost of the program of dendrochronology as a separate costs in the tender as it is only fair to say that this is regarding as a non-essential item in the brief.

Final report

This research and investigation will enable the production of a final report that will present a detailed record of the fabric of the Great Barn together with a detailed account of its development history and significance. The final report will include the following:

- A narrative history of the Great Barn, charting its origins, ownership and development as far as is possible using the available sources.
- A detailed room by room (or elevation by elevation) description of Great Barn, this description should aim to describe and record the buildings fabric and highlight any associated fixtures or features.
- A chronological account of the construction, development, use and repair history of the Great Barn, again synthesized from available sources.

- An account of how the Great Barn fitted into the wider landscape and co-existed with the other elements such as nearby buildings, together with an account of what role the Great Barn served on the estate and within the local area.
- Statement of conservation significance for the Great Barn.
- Buildings and features identifiable from documentary sources but not evident on the ground shall be recorded within a gazetteer and described as far as possible in order that these features may be recognized within the context of the report.
- It should include copies of all relevant historic photographs and images to demonstrate the original appearance of the Great Barn and any recorded changes over time.
- It should also include a comprehensive photographic record showing the Great Barn as it appears at the time of the survey.
- The final report should consist of two separate volumes. An A4 volume that contains the descriptive text, gazetteer and any additional textual information and a second volume containing copies of historic maps, survey drawings and all photographic surveys of the site.

The contractor will allow for significant consultation with National Trust staff over the draft and final versions of the report.

Survey products

At the conclusion of the survey, the contractor will provide the National Trust with the following products:

- Six bound paper copies of the report. Each copy should be accompanied by a set of paper plans if not included in the report. One of these copies should be sent to the local Historic Environment Record (see below).
- Six complete digital copies of the report on CD. The report should appear as a complete 'ready to print' volume in both Word and Adobe formats. Copies of the 2D AutoCAD digital survey drawings should also be supplied in a dwg.file format compatible with AutoCAD 2000. All photographs, maps and images that appear in the report should also be supplied separately as j.peg files.
- The laser scan survey data should be provided in three formats; raw scan data, cleaned and processed scan data and as E57 standard format.

Current site conditions

The contractor will be provided with any relevant risk assessments relevant to the Great Barn. However, the contractor will be requested to submit their own risk assessment to the National Trust for approval prior to the start of work. Any hazardous areas or features inside the Great Barn will be highlighted to the contractor by a member of National Trust staff during the initial site visit. It should be presumed that lone working by the contractor and their sub-contractors inside the Great Barn will be prohibited.

Contract Conditions

The National Trust will retain copyright over the information produced as part of these investigations, including laser scan data in raw and processed forms, and that appears in the final report. The National Trust fully recognises of the originator's moral right to suitable accreditation in any publication of the results.

The project will be undertaken by the contractor acting on an independent basis. Staff working on the project will not be deemed employees of the National Trust. Tenders should reflect this fact and more specifically the Contractor will take sole responsibility for the payment of tax, National Insurance contributions, etc. If VAT is payable, this too should be indicated in the bid.

It is National Trust policy to deposit copies of all reports with the relevant regional archives, in this case the Historic Environment Record maintained by Shared Services. The contractor is requested to

provide a hard and digital copy of the report to the local Historic Environment Record at the end of the project.

Timescales

Ideally the survey should be undertaken and completed in the period between August and the end of December 2013 to ensure that a report is made available to the in advance of the start of building works planned for April 2014.

Contractors should indicate their availability to undertake the work specified as part of their tender.

Useful Contacts

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APPENDIX 2: PROJECT DESIGN

1. INTRODUCTION

1.1 PROJECT BACKGROUND

1.1.1 The National Trust has requested that OA North submit proposals for undertaking a programme of research and building survey at Gawthorpe Barn in Lancashire (centred on SD 80580 34052). Gawthorpe Barn is afforded statutory designation as a Grade I listed building, reflecting the immense importance of the site as a very well preserved, early large aisled barn. The present project design is in response to a brief by the National Trust and provides for a methodology and costs to undertake a desk-based study, a topographic survey, a laser scan building survey, and a dendrochronological survey as an option.

1.2 HISTORICAL BACKGROUND

1.2.1 Gawthorpe Barn is a large aisled barn, of c1605 date, which has nine bay plan, with aisle posts on padstones that are c 2.5m high in places. Although the principal facade was reskinned, probably in 1850/60, the rest of the barn has been subject to relatively little alteration, and the timberwork of the aisled barn appears to be substantially original. The listed building description indicates that it is one of the finest aisled barns in the North West and that the ox stalls of 1610-11 might be the earliest examples in Britain.

1.3 OXFORD ARCHAEOLOGY NORTH

1.3.1 The Project Team will be drawn from the staff at OA North, the largest archaeological contractor in north-west England, with unsurpassed experience of working in the region. OA North has the professional expertise and resource to undertake the project to a high level of quality and efficiency. All its members of staff operate subject to the Institute for Archaeologist's (IfA) Code of Conduct, and Oxford Archaeology is one of their registered organisations (no 17). One of the foremost specialists in building recording, OA North has been undertaking detailed fabric survey of buildings since 1984 and has particular and considerable experience of the investigation, recording and analysis of standing ancient monuments, historic buildings and other elements of the industrial heritage of the area, including a large number of mill complexes throughout the region.

1.3.2 OA North has in the past undertaken detailed surveys of considerable numbers of medieval buildings from the region. This includes Piel Castle, Brougham Castle, Samesbury Hall, Rufford Old Hall, Clitheroe Castle, Gleaston Castle, Levens Hall, Pendragon Castle, Bewcastle, Castle Bolton, Kendal Castle, Lancaster Castle, and outside the region Wigmore Castle (Shropshire). Work has also been carried out on several ecclesiastical monuments, such as Furness Abbey, Calder Abbey, Whalley Abbey, and Jervaulx Abbey. These were all very detailed Level 4 surveys typically undertaken by a combination of photogrammetry, manual and instrument surveys. With the exception of Whalley Abbey, these surveys were undertaken in part by personnel who will also be involved in the present project which will therefore benefit from many years of buildings survey experience.

1.3.3 Recent projects of relevance include a Level 3 and 4 building recording of the sixteenth century Grade II* Two Lions public in Penrith, Level 3 building recording and excavations at Clitheroe Castle and building recording and excavations at the Grade I listed fourteenth century Ordsall Hall in Salford. OA North is currently surveying the Great Barn at Sizergh as part of the National Trust / LLHG Dig in the Park project.

1.3.4 OA North has the professional expertise and resources to undertake the project detailed below to a high level of quality and efficiency. OA North is an Institute for Field Archaeologists (IfA) registered organisation, registration number 17, and all its members of staff operate subject to the IfA Code of Conduct (1994).

2. AIMS AND OBJECTIVES

- 2.1 The following programme of works has been designed to best meet the work required as defined in the project brief:
- **Documentary research:** comprising a collation and review of readily accessible sources, in particular those already compiled by the National Trust and also the Lancashire Record Office. This will entail an assessment of previous historical studies of the site, and is intended to develop an understanding of the sequence of investigation of the barn. The work should produce a narrative history of its development and use.
 - **Topographic Survey:** the production of a landscape record of the area in the immediate environs of the barn. It would generate a topographic base for the other survey elements.
 - **Measured Survey:** the building will be subject to an English Heritage Level 3 measured survey standards (English Heritage 2006); this will provide a basis for an understanding of the building in terms of its history, its development, how each part of the structure was used and its management and outreach requirements. The survey would be undertaken by laser scanning.
 - the identification of archaeological and historical features and an assessment of their functions and significance;
 - information for the purposes of display and interpretation;
 - **Dendrochronological Survey (Optional):** an option is to be provided for undertaking a limited dendrochronological programme which would provide a date for key timbers of the aisled barn.
 - **Reporting, dissemination and archiving:** following completion of the fieldwork, the data will be collated, processed and interpreted to produce:
 - a written and illustrated report outlining a narrative history of the barn, its development, and how it fitted into the wider landscape. It would present the history of research and an evidence base for the uses of the various areas and rooms of the building.
 - assessment of the significance of the data generated by this programme;
 - an archive for submission to the National Trust.

3. METHODS STATEMENT

3.1 DOCUMENTARY RESEARCH

3.1.1 The principal objectives of the desk-based research may be defined as:

- to develop an understanding of the sequence of investigation and research carried out at Gawthorpe Barn;
- to chart the progressive development of interpretation of the barn;
- present a comprehensive map regression for the barn and its environs;
- identify any lost structures, buildings or landscape features apparent on early cartographic sources;
- produce a comprehensive narrative history for the development and use of the barn.

3.1.2 The desk-based research will seek primarily to collate the wealth of documentary research that has been undertaken previously. In the first instance, the research will comprise a thorough review of the sources made available by the National Trust, and would include examination of the National Trust guide books and discussions with Richard Dean. The building accounts were deposited with the Lancashire Record Office and these will provide a valuable source. A general examination will be undertaken of all records within the Record Office that may be relevant to the barn.

- 3.1.3 In addition, historic map regression analysis will be undertaken. This will comprise any unpublished plans of the site held by the National Trust or held within the Lancashire Record Office, but will also include any photographs or engravings. Clean copies of historic maps will be obtained from NT or Lancashire Record Office sources. The map regression will help to identify missing structures and also inform the development of the building.
- 3.1.4 Following the collation of the information derived from the above sources, limited additional research will be carried out to inform gaps in the current understanding of the site's development. The principal sources consulted may include:
- Trade directories;
 - Contemporary journals and newspapers;
 - Archives of trade associations;
 - Building Control Plans;
- 3.2 TOPOGRAPHIC SURVEY**
- 3.2.1 It is proposed that a detailed Level 3 topographic survey be undertaken of the ground in the immediate environs of the barn as defined by the project brief. The survey would be undertaken by a combination of photogrammetry, using aerial photographs taken from a UAV (Unmanned Aerial Vehicle), and total station survey. The survey will create an accurate ground plan, which will show all historic features of the complex, surfaces and will be modelled to provide contours.
- 3.2.2 **Survey Control:** survey control will be established over the site by closed traverse and internally will be accurate to $\pm 15\text{mm}$. It is proposed that the control network be located onto the Ordnance Survey National Grid by the use of Differential Global Positioning Survey (GPS), which will locate to an accuracy of $\pm 0.05\text{m}$.
- 3.2.3 **Detail Survey:** it is proposed to map the environs of the building by photogrammetry. This is a long established technique which has been updated and refined such that it is now an extremely simple and cost effective means of recording features and landscapes in three dimensions. It uses aerial photographs taken from a small electrically powered model helicopter (UAV) which has the ability to carry a light weight camera up to altitudes of 250 feet. Because of the proximity of the buildings the UAV will be flown an adequate separation away from the walls. Survey control is introduced to the photographs by the placement of survey control targets across the site which are located by means of the total station survey.
- 3.2.4 The photogrammetric processing is undertaken using Agisoft software which provides detailed modelling using the overlap of up to 120 photographs, and creates a very detailed DTM (Digital Terrain Model) across the site. The photographs are then digitally draped over the model to create an accurate three dimensional model of the ground surface. The primary output, however, is an accurate two dimensional image, overlying a DTM, which can be used to generate accurate plans and contours across the extent of the scheduled area. In this instance the DTM will be output into a GIS system to generate the detailed contour coverage for the site.
- 3.2.5 **Total Station Survey:** where there are gaps in the coverage from the aerial photography additional survey will be undertaken using a total station; which will be generated by EDM tacheometry using a total station linked to a pen computer running TheoLT software. The digital data is transferred onto the pen computer for manipulation and transfer to other digital or hard mediums. The survey data will be accurate to $\pm 0.01\text{m}$. The topographic survey will record all structural components, that relate to the water power systems and it will aim to identify, locate and record all elements of the archaeological landscape, as well as modern infrastructure. It will include the extents and limits of the cobbled areas but not the individual cobbles.
- 3.2.6 **Drawing-up in the Field:** the base survey drawings created by the photogrammetry will be combined with those created by the total station survey and the Ordnance Survey topography to produce a combined plan of the whole topographic survey area. Following the creation of this base drawing they will be taken back to the field to enable the detailed drawing up of all

features. The survey will record all pertinent detail including any breaks of slope. On completion of the field survey the drawings will be enhanced within the CAD environment to produce the final drawings.

3.3 MEASURED SURVEY

- 3.3.1 **Introduction:** the measured survey will be carried out to English Heritage 3 guidelines (English Heritage 2006). The internal and external surfaces will be recorded by laser scanning which will generate a 3D point cloud, but will be used to generate 2D plans, elevations and cross sections.
- 3.3.2 **Laser Scanning:** OA North proposes that the external and internal surfaces be surveyed by means of Laser Scanning. This entails the automated recording of literally millions of survey points, across the surface of the building and provides an enormous density of 3d points which can then be viewed and manipulated in AutoCAD (using Pointools or Cloudworks software). The density is such (typically 5 to 10mm separation between points) that views of the survey point clouds have photographic-like realism, but it is also possible to have photographs draped over the point cloud to improve the visualisation of the elevations and is presented as an optional cost. The technique can produce a detailed survey of a structure such as Gawthorpe Barn in a short amount of time. The resultant point data can be used as a record in its own right, or can be enhanced by drawing around the salient features within AutoCAD to produce 2d drawings, or by rendering the point cloud to create a model. The advantage of the technique is that it provides considerable amounts of surface detail data, which can be re-interrogated at any stage to provide further information as required, such as new cross-sections or plans. The scanning will capture all architectural details (and the stonework surrounding them), including windows, doors, jambs, cills, string courses and lintels, glazing bars, roof and chimney outlines, quoin stones, voussoirs, window openings, rainwater goods, outlines of stone work and plaster, positions of pipework, and any significant visible structural cracks.
- 3.3.3 Laser scanning provides data from only a single set up, and additional set ups can be used to fill in any detail that is obscured by obstructions. The other considerable advantage is that it provides a detailed and accurate depiction of the stones, and therefore reduces the requirement for extensive and time consuming drafting of the stone detail.
- 3.3.4 The survey will be undertaken by APR Services and will entail multiple set-ups of the scanner sufficient to record the external and internal faces of the mill buildings and components. Multiple set-ups ensure that there are no or very few shadows or gaps within the digital record. The survey will be undertaken using a Reigl VZ400 laser scanner to produce a point cloud (in pod format) with a resolution of 5 to 10mm. To undertake the internal detail of the building it is proposed to use a short range Faro Focus scanner. The scan data will be provided as pointools POD files.
- 3.3.5 Horizontal survey control will be established by closed traverse and will be tied into Ordnance Survey co-ordinates using differential GPS. Vertical control will be with respect to Ordnance Survey Datum or site datum.
- 3.3.6 **Fly Around visualisation of the Model:** because the whole building will be subject to laser scanning, there will be produced a complete three dimensional model of the whole building. This means that it will be possible, as an option, to provide a fly around version of the model. This will help understand the form of the barn and is a powerful interpretation tool that brings the building alive to the general public.
- 3.3.7 **Drawing Outputs:** once the laser scan point data for the mill has been obtained, horizontal and vertical slices through the model will be obtained to produce accurate plans, cross-sections and elevations. While the laser scan data will provide slices through the structure there will need to be a certain amount of enhancement to ensure that all pertinent architectural detail is incorporated into the plans or profiles. This will require enhancement of the sliced laser scan data in the field to generate the plans and cross sections which will reflect all appropriate plan / section detail and the drawings will be output within a CAD environment. The drawings will be annotated with salient information, including wear marks, wear patterns on floors, and would include changes of building material, apertures, hoist openings, carpenter's marks, graffiti and daub marks relating to historic and contemporary use, and all internal original detail.

- 3.3.8 The elevations will show individual dressed stones, breaks in masonry and all significant architectural details, but will not include all stones; instead the laser scan data will be presented as a back drop to show the individual stone detail. The drawings will show all phasing information. Areas of below ground potential will be highlighted.
- 3.3.9 The survey will produce the following final drawings:
- Scaled plans of all floors of the building, and also the ceiling plan, which will show the location of each element and features of specific architectural and archaeological interest;
 - External and internal elevations of the barn
 - Eight cross sections through the lines of the free-standing trusses and two sections through the stables and barn, extending through rows of aisle posts.
- 3.3.10 **Photography:** in conjunction with the archaeological survey a photographic archive will be generated, which will record significant features as well as general views. This photographic archive will be maintained using high-quality digital cameras with 16 mega pixel resolution. The photography will provide general views, and wider context. It will record then internal and external character and will provide for internal and external detail, including opening, timber framing, assembly marks and other significant features. A metric scale will be used for all photographs.
- 3.3.11 **Description:** a detailed description of the complex will be carried out to English Heritage Level 3 guidelines as appropriate, utilising *pro-forma* sheets. This provides for a comprehensive analytical account for buildings of special importance and the following methodology will be followed.
- 3.3.12 The written account will provide the understanding required in order to place the building in its historical, architectural and cultural context. The descriptive record will include the following accounts:
- A general description of the buildings, which will include details of the plan, form and function. Allied to this, a detailed description of the materials used and development sequence and phasing, including any alterations, repair and rebuilding, will be provided;
 - An account of the wider context within which the buildings are situated. For example, its relationship to places and buildings within the local area, as well as its historical relationship to the area;

3.4 DENDROCHRONOLOGY

- 3.4.1 It is proposed to undertake a limited programme of dendrochronological dating of the timbers. The number and locations of the samples will be subject to the results of the building survey, and will include those timbers that are perceived to be original as well as timbers that relate to specific modifications to the design. The sampling will be by coring the timbers in situ and will be taken from parts of the timber that are not clearly visible at ground level.
- 3.4.2 The dendrochronological sampling is defined as an option, and provisionally we would be looking to date five timbers. However, this may vary as a result of the survey work.

3.5 REPORT PRODUCTION

- 3.5.1 **Final Report:** a draft version of a written synthetic report will be submitted for comment and discussion to the National Trust Archaeologist within 12 weeks of completion of the final stage of works. The final report, incorporating any comments, will present a well-ordered synthesis of the programme of investigation, and will include the following:
- A narrative history of the barn examining its origins and development based on the desk based assessment;
 - An account of the development of the buildings based on fabric survey and documentary evidence. This would include a description of any buildings or structures that have been lost;

- An account of how the barn fits within the wider landscape and within the context of other estate barns in Lancashire.
- A detailed description of the historic fabric and a gazetteer of key elements
- An account of how the spaces were used and how this developed
- Assessment of the conservation significance of the barn.

3.5.2 The report will include the following:

- a site location plan related to the national grid;
- the dates on which the fieldwork was undertaken and by whom;
- a concise, non-technical summary of the results;
- table of contents;
- acknowledgements;
- the precise location, address and NGR of the site;
- a description of the methodologies employed, work undertaken and results obtained;
- plans, elevations, cross section drawings and photographs at an appropriate scale. These will include line drawings and depictions of the laser scan plots showing individual stones;
- a complete bibliography of sources from which data has been derived;
- a copy of the project brief will be included in the appendices;
- a copy of this project design in the appendices, and indications of any agreed departure from that design;
- copies of photographs representing the structural components.

3.5.2 Prior to the dissemination of the final report, plans, elevations and/or data will be made available to the client during the course of the works. A copy of the draft report will be submitted to the National Trust for review and comment. Six bound copies will be submitted and one copies of the final version in pdf format will be submitted on CD. CAD files in AutoCad.DWG format, including the final versions of the Laser Scanning, will be included on the discs.

3.6 ARCHIVE

3.6.1 The results of all archaeological work carried out will form the basis for a full archive to professional standards, in accordance with current English Heritage guidelines (*Management of Archaeological Projects*, 2nd edition, 1991) and to National Trust standards. The project archive represents the collation and indexing of all the data and material gathered during the course of the project. OA North conforms to best practice in the preparation of project archives for long-term storage. This archive will be provided in the English Heritage Centre for Archaeology format.

3.6.2 The archive will contain:

- copies of relevant documentary material (bibliographic, cartographic and pictorial sources) arranged in date sequence
- survey control information, including a diagram showing traverses and control network; list of co-ordinates, control points and traverse stations; digital survey data;
- Field and final drawings;
- Photographs and pro-forma written accounts of site components and individual contexts;
- Structured catalogues and indices of site documents, drawings, photographs, etc
- Any appropriate project management records.

4. HEALTH AND SAFETY

- 4.1.1 OA North complies with the Health and Safety at Work Act, 1974, provides a Health and Safety Statement for all projects and maintains a Unit Safety policy. All site procedures are in accordance with the guidance set out in the Health and Safety Manual compiled by the Standing Conference of Archaeological Unit Managers (1997). A risk assessment will be completed in advance of any on-site works and copies will be made available on request to all interested parties. The principal archaeologist on site will hold a copy of the risk assessment at all times. It has been assumed that the client and/or principal contractor will have produced risk assessments and any induction procedures must be made available to OA North prior to commencement of work. All project staff will be CSCS qualified.
- 4.1.2 **Unsafe Structures:** OA North staff will assess the risks during the survey and if unacceptable health and safety risks arise, the OA North project manager will be informed and work will cease until measures taken to negate those risks can be arranged.
- 4.1.3 **Welfare Facilities:** health and safety requirements stipulate that suitable welfare facilities must be provided, and it is understood that toilets, a water supply and hand washing facilities will be provided.

5. PROJECT MONITORING AND COMMUNICATION

- 5.1.1 **Access:** liaison for site access during the project will be arranged with the National Trust unless otherwise instructed prior to commencement of the archaeological investigation.
- 5.1.2 **Monitoring and communication:** the National Trust will be notified a week in advance of the commencement of the fieldwork. Whilst the work is undertaken, they will be kept fully informed of the work and its results through regular email and telephone updates, as appropriate. These can include details of staff deployed and the level of progress. The presence and location of any significant findings, risks, etc, identified during the course of the works will be communicated to the Client as soon as they have been reasonably confirmed. Any proposed changes to the project design will be agreed with National Trust.

6. QUALITY ASSURANCE

- 6.1.1 OA is a Registered Archaeological Organisation with the Institute for Archaeologists (no 17). OA is not at present ISO certified but operates an internal QA system governed by standards and guidelines outlined by English Heritage and the Institute of Field Archaeologists.
- 6.1.2 **Standards:** it is OA's stated policy to adhere to current professional standards set by IFA, English Heritage, Association of Local Government Archaeological Officers, Museums Organisations.
- 6.1.3 OA helps the profession to develop and establish standards by serving on national working parties (eg recently on archives). OA conforms with current legislation and national and local policy standards for archaeology health and safety and other relevant matters. OA has established technical manuals, procedures and policies which control its work covering field recording, finds retention and discard, finds storage and handling, environmental sampling and processing, archiving and post-excavation. These have been developed to conform with best professional practice.
- 6.1.4 **Staff:** OA ensures that its staff are fairly recruited, fairly employed, and properly qualified for their work whether by formal qualification or by established and verifiable experience. OA ensures that staff remain committed and enhance their abilities using annual staff appraisals, supporting formal and informal training and educational courses. OA have established terms and conditions of employment and a system of staff representation to ensure regular consultation on employment matters. To ensure that staff are kept informed of OA's activities

OA has a quarterly staff newsletter and regular meetings of staff at all levels to deal with issues of technical quality control and management.

- 6.1.5 **Procurement of services and materials:** OA procures subcontracted work on the basis of value for money, considering quality, track record and service, as well as cost. OA regularly reviews quality of subcontracted work and uses tendering procedures for major sub-contracts. Procurement of materials is on the basis of quality and availability, as well as cost, especially in respect of long-term storage of archives (OA adheres to archive quality photographic materials and processes, archive quality boxes etc).
- 6.1.6 **Working Practices:** management procedures ensure that all work conducted within the Company and all end product reports to clients are monitored and evaluated whilst they are in progress, during compilation, and after completion.
- 6.1.7 **Data Acquisition and Security:** in gathering data from other sources OA has procedures to ensure that a record is made of all sources consulted (whether productive of information or not), the limits of search, and the date of search. Data is filed according to the project to which it relates. For fieldwork projects OA always removes records and finds from site every day, and ensures equipment is secured. OA has a networked computer system. In addition to providing standardised software suites for use by all personnel, the computer administration facility monitors logs and checks all activity on the network to ensure that operating quality is maintained. OA has daily backup of all computer systems and up-to-date anti-virus software. OA routinely arranges for microfilming of primary fieldwork archives.
- 6.1.8 **Archives:** OA has standard procedures for archiving records to professional archival standards, and has well established procedures for making arrangements with landowners and recipient institutions for the deposit of archives and finds in appropriate publicly accessible institutions.

7. STAFFING PROPOSALS

- 7.1 The project will be under the management of **Jamie Quartermaine BA Surv Dip MIFA** (OA North Senior Project Manager). All correspondence should be addressed to Jamie Quartermaine.
- 7.2 The fieldwork will be directed by **Chris Wild BSc** (OA North Project Officer). Chris has extensive of experience in the recording and analysis of historic textile mills throughout the North West, including Murrays' Mills in Manchester.
- 7.3 The laser scan survey will be carried out by **APR Services Ltd**, which is a long established laser scanning and survey company. APR have carried out many types of surveying including laser scanning and have undertaken laser scanning at buildings such as Shakespeare's Globe Theatre, Kenilworth Castle, St Albans Cathedral and even a scan of the Kitty Hawk aircraft for archive purposes.
- 7.4 The curriculum vitae of the OA North staff involved are included in *Appendix 1*.

APPENDIX 3: LISTED BUILDING DESCRIPTION

Name: GREAT BARN CIRCA 100 METRES WEST OF GAWTHORPE HALL

List entry Number: 1237628

Location

GREAT BARN CIRCA 100 METRES WEST OF GAWTHORPE HALL

Grade: I Date first listed: 01-Apr-1953

Date of most recent amendment: 12-Feb-1985

List entry Description

SD 83 SW IGHTEHILL GAWTHORPE

4/18 Great Barn c.100 metres west of Gawthorpe Hall (formerly listed with Gawthorpe Hall)

1.4.1953 GV I

Large aisled barn, c.1605, slightly altered c.1850-60, now (1984) in course of restoration and adaptation as arts centre. Coursed sandstone rubble with quoins, stone slate roof slightly swept over aisles. Rectangular 9-bay plan with aisles. Opposed segmental-headed wagon entrances to internal porches in the middle bay, that on the east side with a chamfered doorway in the left side wall, various slit breathers (some blocked); in addition east side wall has three 2-light double-chamfered mullioned windows at 1st floor level, west side has various altered or blocked doorways and windows. North gable has 3 doorways (one to centre and one at each end) all with chamfered surrounds, and two 2-light window on a slightly lower level each side; and breathers on 4 levels above. South gable (fronting courtyard) has C19 openings to former stables: 3 arched doorways, four 4-light windows above, and an arched opening in the gable. To the left at this end is a single-storey gabled extension, probably C18, which has gable coping with kneelers and ball finial; to right is attached coach house (q.v.). Interior: aisle posts on padstones c.2½ metres high, with braces to tie beams and wall plate; braced aisle ties with struts to aisle principal rafters; kingpost roof with angle struts; trencled overlapped purlins (2 pairs in both aisles and nave); stone partition wall to 2 bays at south end. One of the finest aisled barns in the North West. Ox stalls, c.1610-11 situated in the two aisle bays to the south of the eastern wagon entrance, possibly earliest dated exmple in Britain.

Listing NGR: SD8058034052

Selected Sources

Unpublished Title Reference - Title: Part 25 Lancashire - Journal Title: Register of Parks and Gardens of Special Historic Interest in England

APPENDIX 4: CLAU EXCAVATION REPORT 1981

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Excavations at the Great Barn, Gawthorpe Hall, Padiham, Lancashire.

NGR: SD 8054 3404.

During October and November 1981 excavations were carried out in the Great Barn at Gawthorpe Hall near Burnley. The excavations took place in advance of restoration work undertaken as a Manpower Services Scheme in conjunction with the Nelson and Colne College. The excavations were undertaken on behalf of the National Trust and the Cumbria and Lancashire Archaeological Unit at the University of Lancaster. The great barn, built in 1603, is one of the largest aisled barns in Lancashire. Since the 19th century many internal changes have taken place including the provision of a stable in the southern part of the barn and Burnley Football Club's eventual use of it as changing room and training area. The current restoration work will remove most of these accretions.

The first aim of the excavation was to reveal and examine any floor surfaces relating to the barn before it was used as a changing room. Through this it was hoped to learn something of changes in internal design and construction, representing changes in the use of the barn. The excavations also aimed at establishing whether there were any pre-barn structures on the site and if the ground surface was altered for the construction of the barn.

The central nave was the only area not totally affected by building work. Here, a substantial floor of beaten clay was exposed. This contained inclusions of small grit, lime and charcoal material put in presumably to give the floor added strength. Around the aisle posts, moisture had eroded

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much of the clay floor and, in the aisles later alterations had obliterated any trace of the clay floor and its relationship to the barn walls. The clay floor was the original floor of the building.

At a later date, probably in the 19th century, a line of kerb stones was laid across the north end of the barn between the first and second aisle posts. Possibly this was the edging to a large cobbled area that survives in two places in the aisle. Such a cobbled surface would have been essential if the barn was later used for cattle stalling. Also found in the nave floor surface were two lines of pinewood posts about 2.2m, apart. The post holes occurred at 1.9 - 2.4m, intervals running up to the central flagstone area. In the adjacent area they were replaced on the same alignment by slots for vertical planks. It is difficult to date these features but in terms of construction they were put up after the kerb stones. As they are so close together in the nave area, it is unlikely that they were structural in supporting an upper storey. It is more likely that they represent further alterations for cattle stalling, or internal partitions for storage purposes and of 19th century date.

Part of the southern half of the barn was converted in a stable, probably in the mid-19th century, indicating that the role of the barn changed somewhat. The area remaining was investigated. Apart from the slots for the vertical planks, the clay floor contained patches of clinker and coal material that were compressed into hollows in the surface. The hollows occurred quite regularly over the whole area. It is thought that this material was deposited to level out the ground and give it further strength so that agricultural equipment could be stored there. It is unclear if the clinker material would have replaced any earlier surface. From the pattern of the central

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flagstones, the area could have been paved but no bedding of sand was observed. It is equally possible that the depressions were the result of wearing and erosion of the floor through general use.

A large area of the surviving floor was removed in order to understand how the clay floor was laid and whether the ground surface was altered to facilitate construction of the barn. The clay floor was partly laid directly onto natural clay, but at the north end it was built over a redeposited clay platform containing sandstone fragments. It was impossible to measure the depth of this due to the building alterations, but the platform was at least 0.2m. deep. During this survey, any possibility of an earlier structure resting under the barn was eliminated. But a series of two soakaway drains were found running roughly parallel just inside the nave from the aisle posts. These ran the length of the building eventually curving to join together in front of an original doorway where they are assumed to leave the barn in the direction of the nearby river Calder. The soakaway drains consisted of a 'V' shaped trench cut into natural clay and filled loosely with river cobbles. They were then sealed when the ground surface was levelled to take the clay floor. The drains probably formed part of a larger drainage system extending to the courtyard and buildings on the south. Further investigation might thus indicate the extent to which the building of the barn was related to other changes in the planning of the farm in the early 17th century.

Finds were notably absent apart from in the clinker spreads where fourteen sherds of 18th and 19th century pottery were incorporated into the clinker material. Some pot sherds of 19th century date and an iron stake were found in disturbed layers mixed with building rubble. No 17th century and earlier pottery was recorded.

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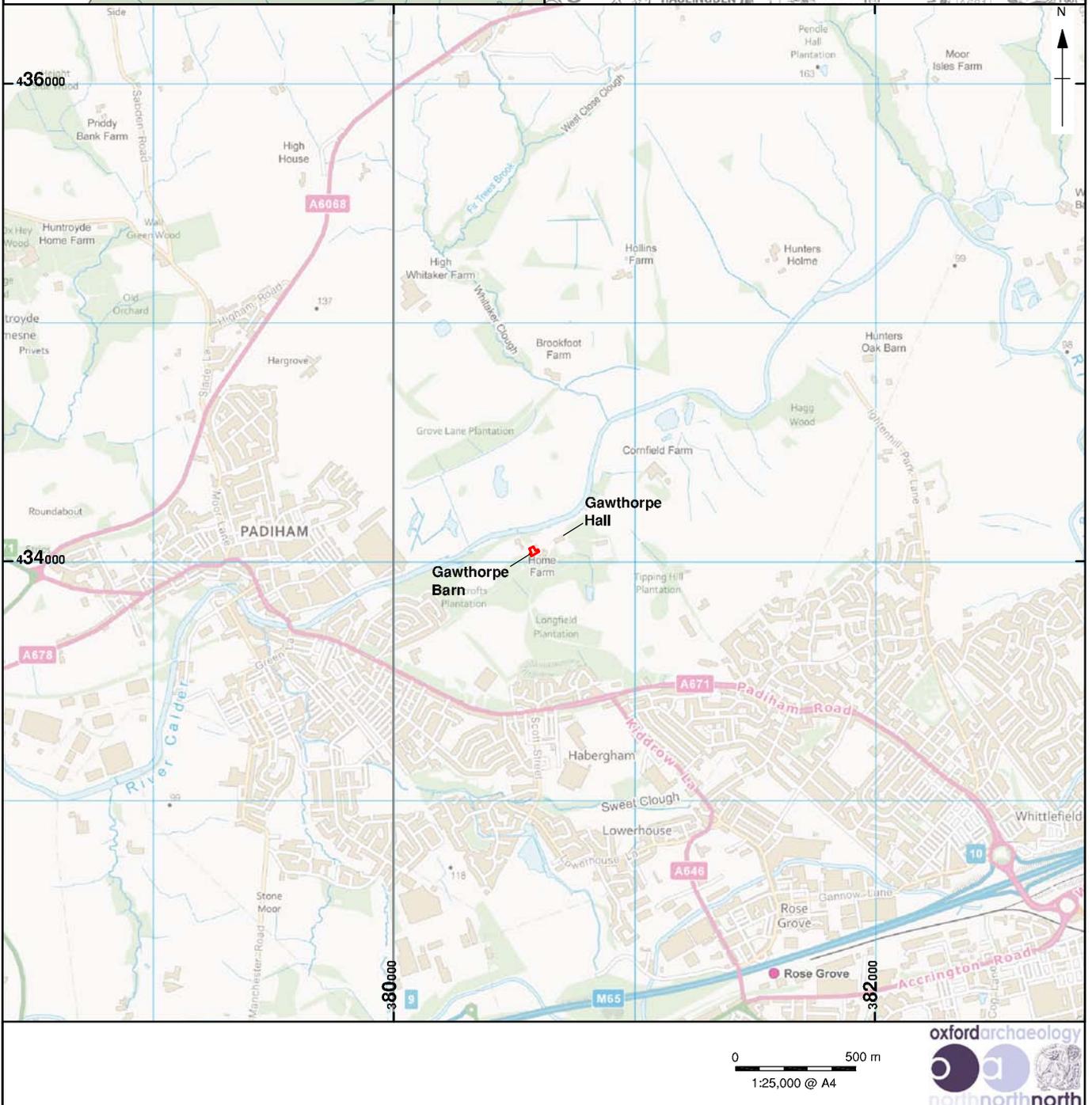
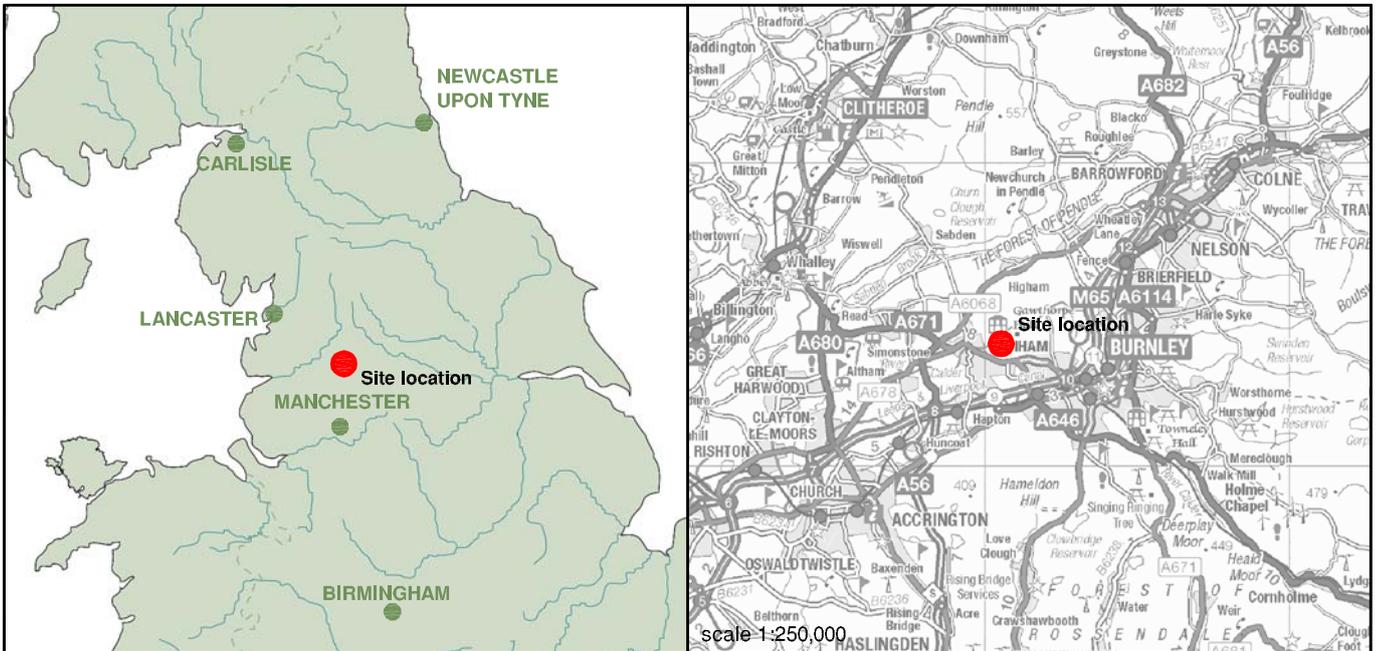
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JQ*L10668*AMS*020614

Figure 1: Site location



 Gawthorpe Barn

0 2.5 km
Approx 1:100,000 @ A4



Figure 2: Extract from Saxton's map of Lancashire, 1577



Figure 3: Extract from Speed's map of Lancashire, 1610



 Gawthorpe Barn

0 250 m
1:10,000 @ A4

oxfordarchaeology
northnorthnorth

Figure 4: Extract from Yate's map of Lancashire, 1786

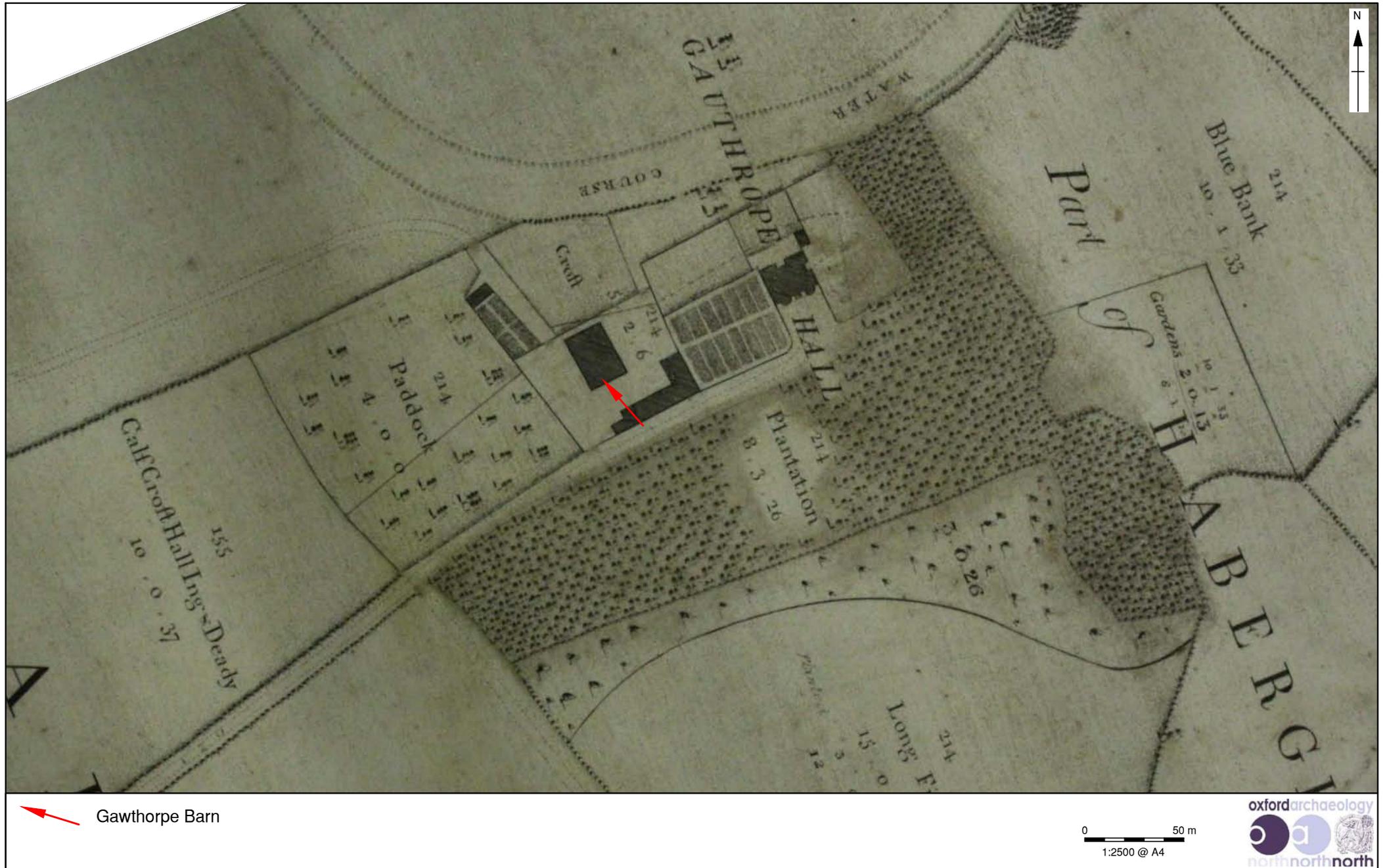


Figure 5: Extract from Gawthorpe Estate plan, 1816



Figure 6: Extract from Greenwood's map of Lancashire, 1818



 Gawthorpe Barn

0 250 m
1:10,000 @ A4



Figure 7: Extract from Hennet's map of Lancashire, 1829



Figure 8: Extract from the Padiham Tithe Map, 1839

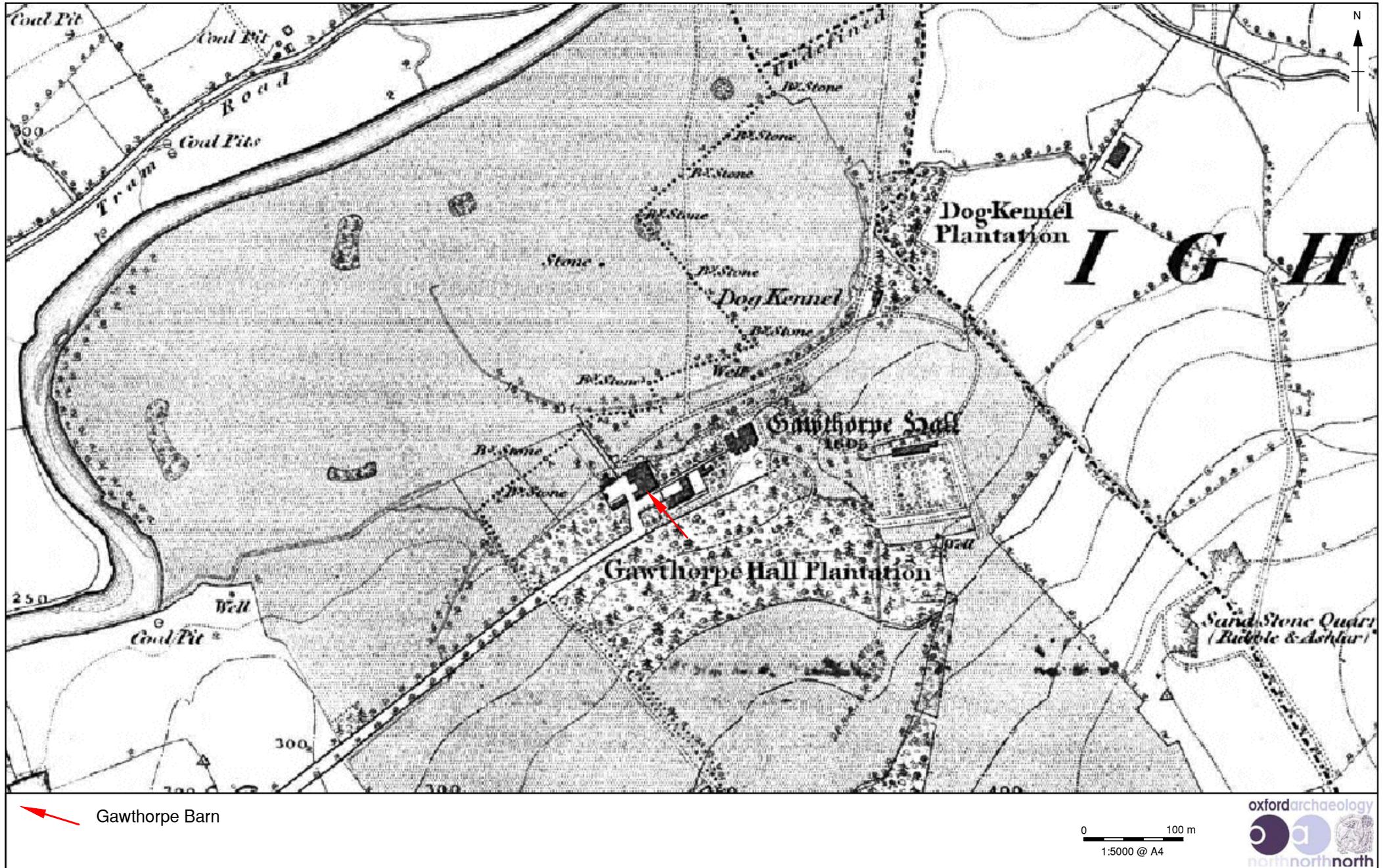
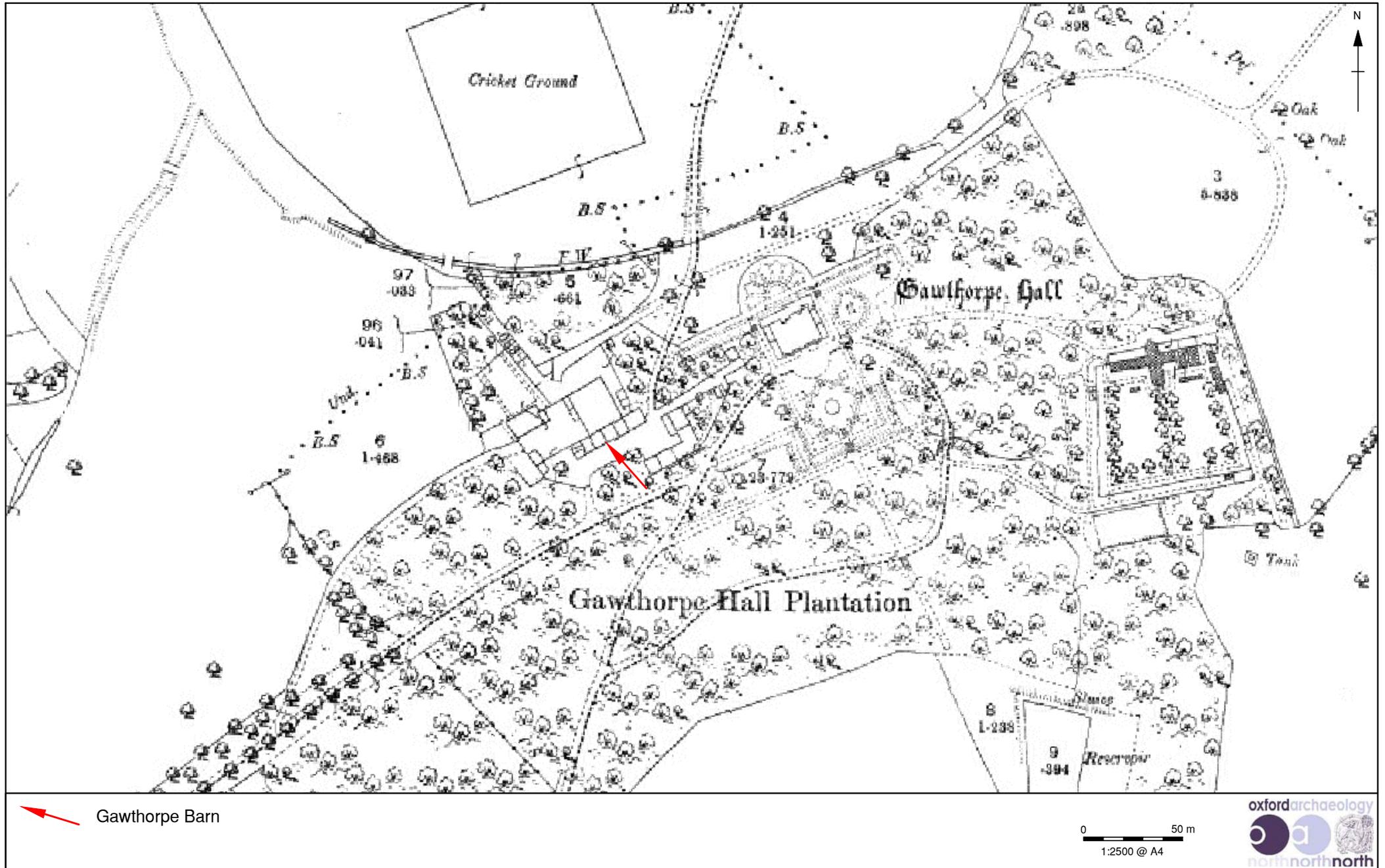


Figure 9: Extract from the Ordnance Survey First Edition 6" to 1 mile map, 1847



 Gawthorpe Barn

0 50 m
1:2500 @ A4

oxfordarchaeology

northnorthnorth

Figure 10: Extract from the Ordnance Survey 25" to 1 mile map, 1891

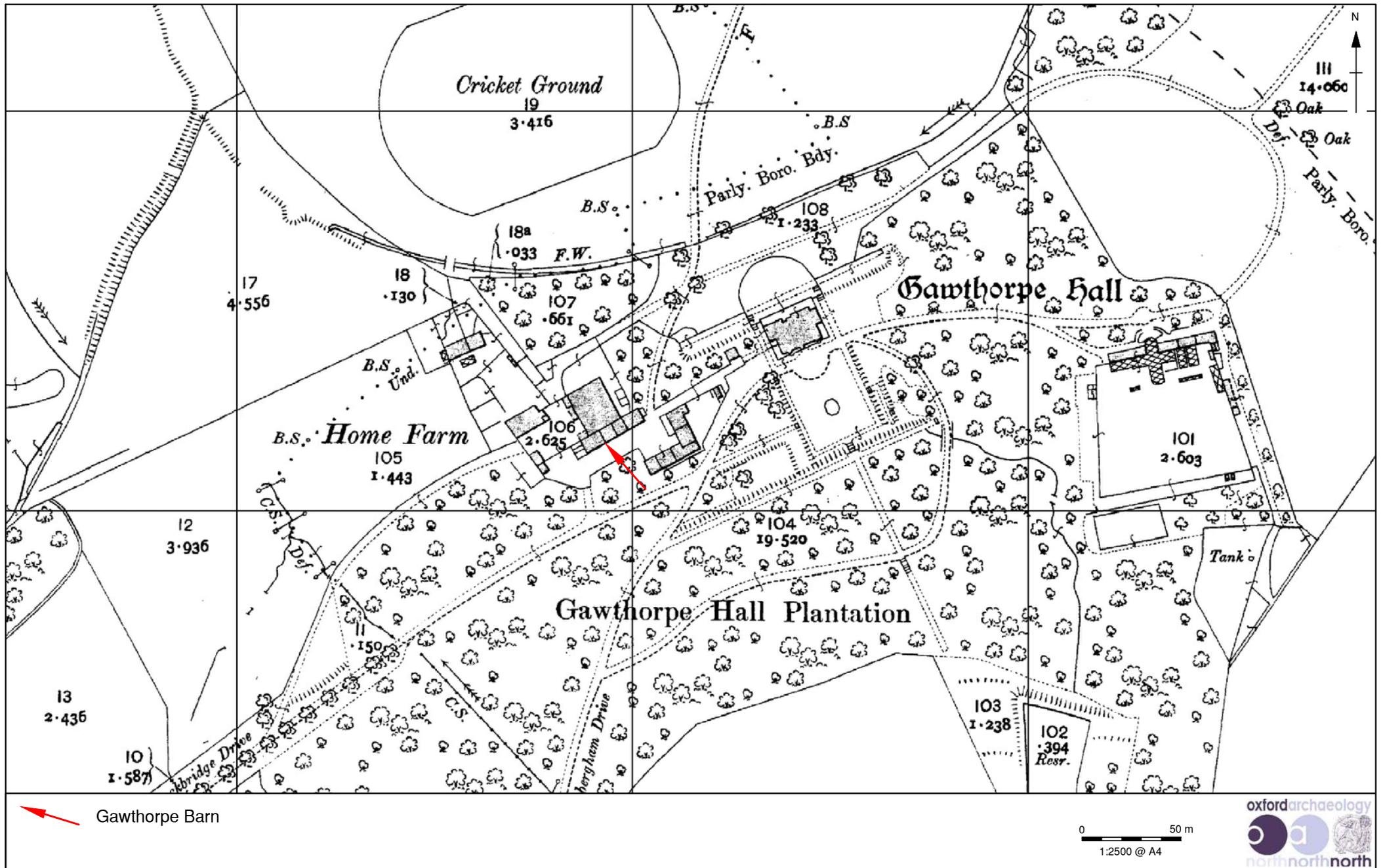


Figure 11: Extract from the Ordnance Survey 25" to 1 mile map, 1912

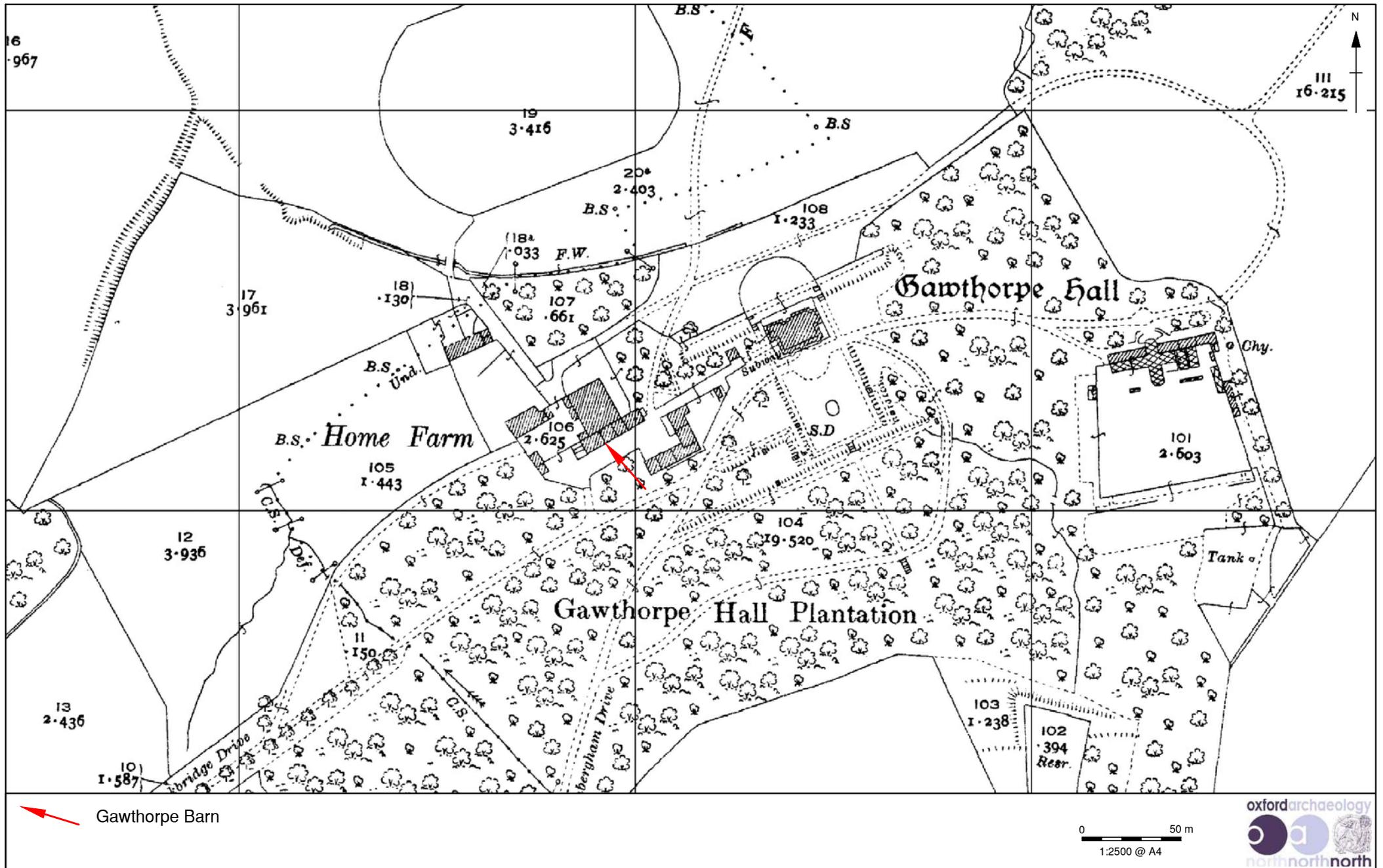


Figure 12: Extract from the Ordnance Survey 25" to 1 mile map, 1931

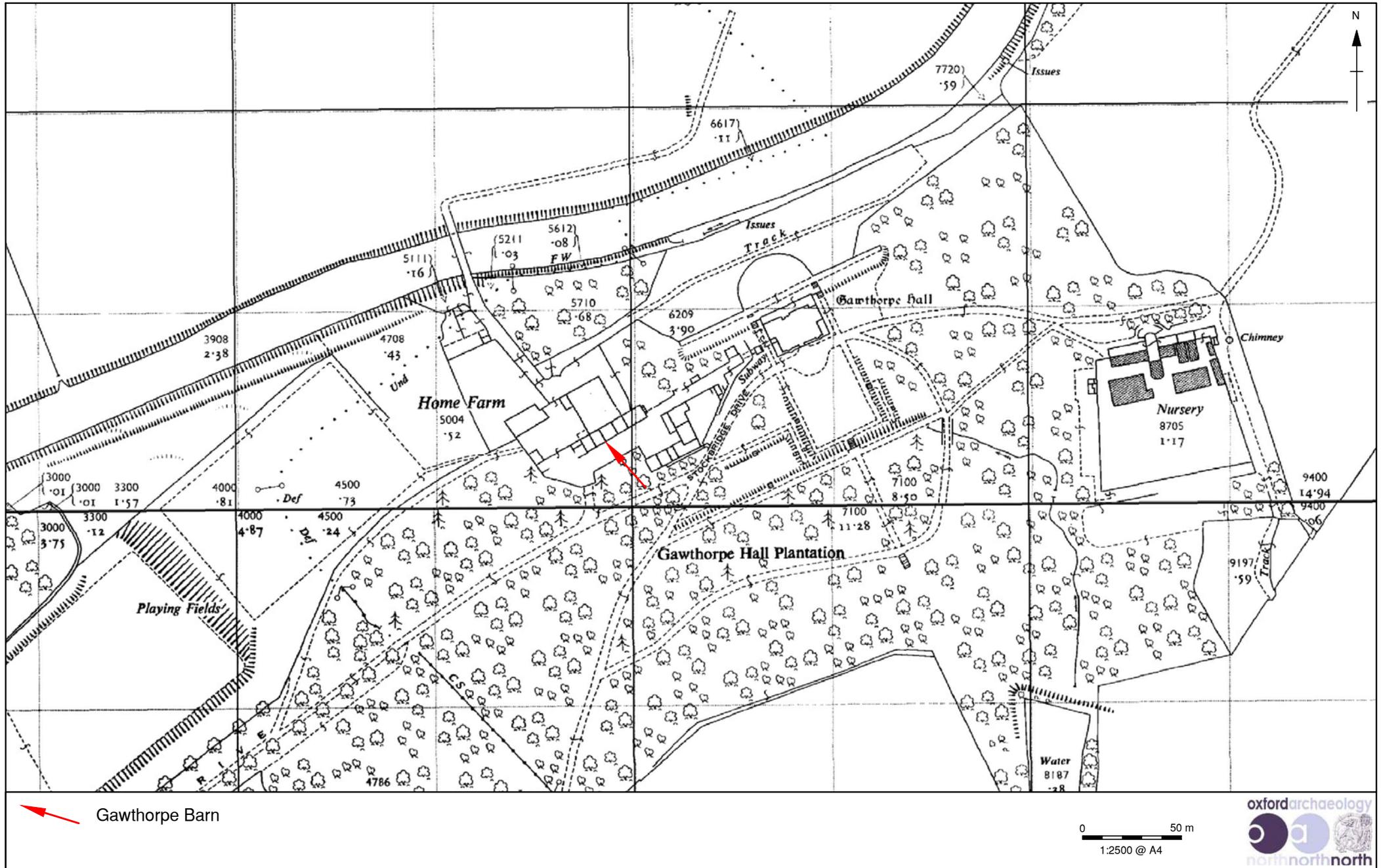
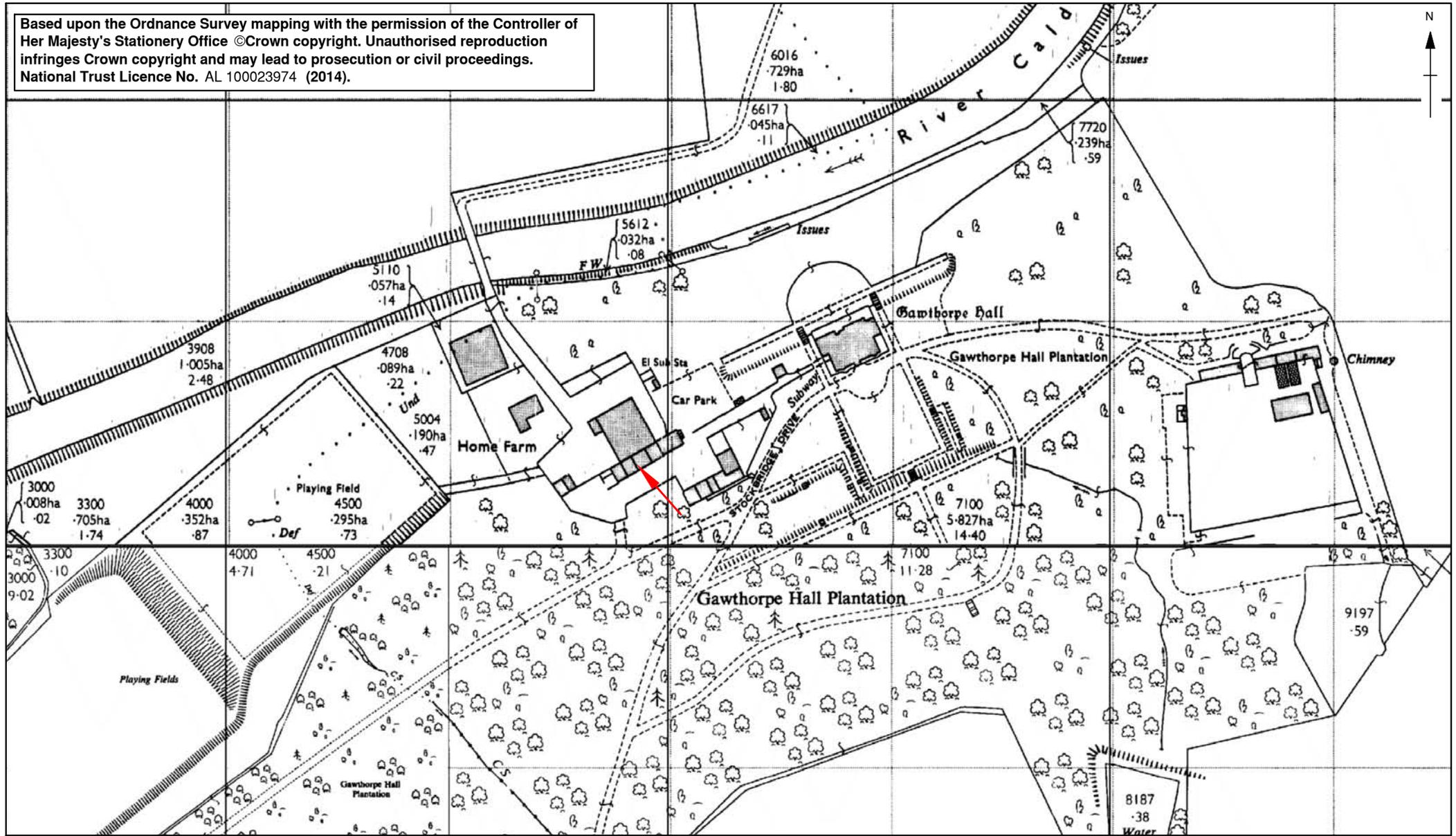


Figure 13: Extract from the Ordnance Survey 25" to 1 mile map, 1962

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 Gawthorpe Barn

0 50 m
1:2500 @ A4



Figure 14: Extract from the Ordnance Survey 25" to 1 mile map, 1968

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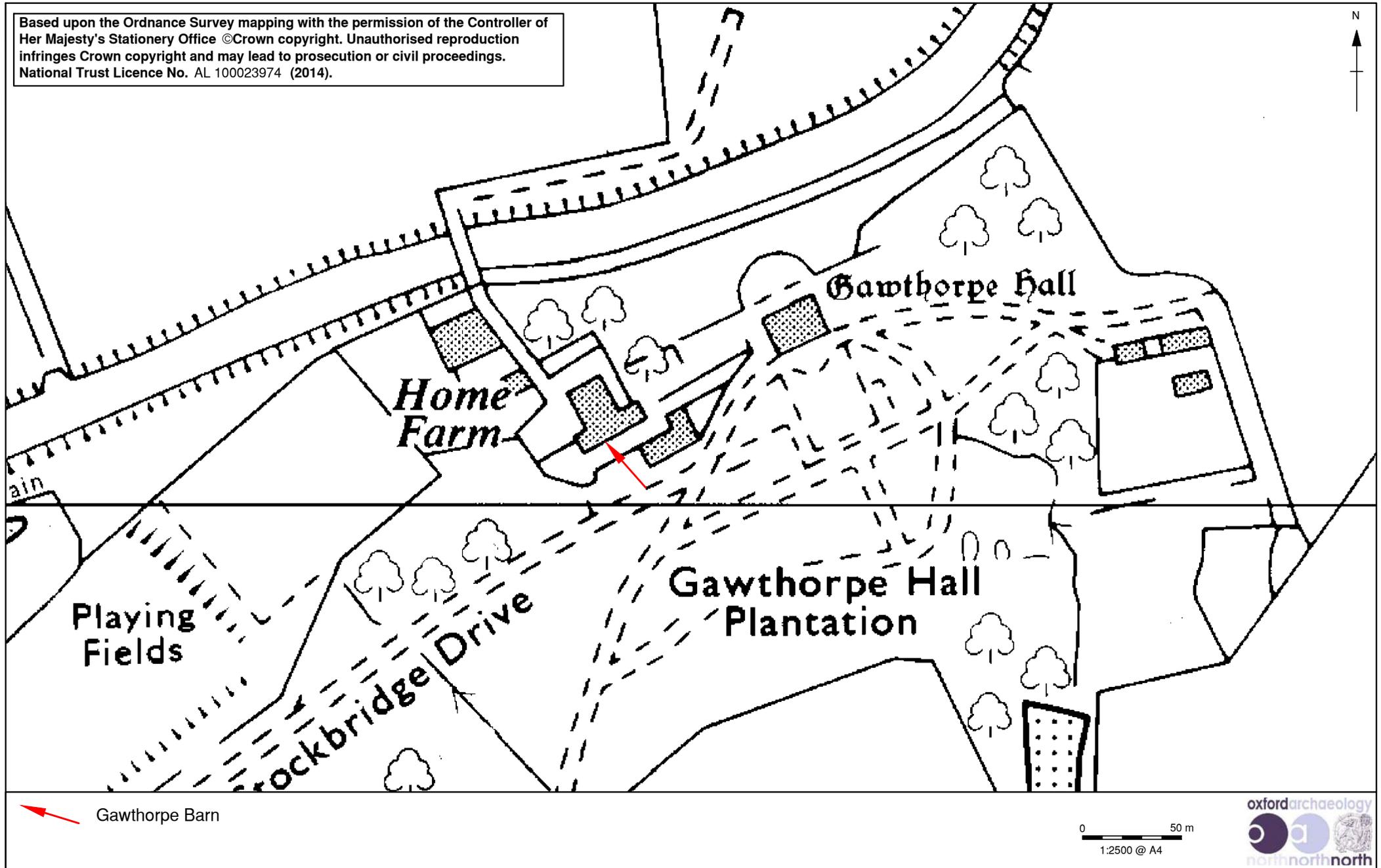


Figure 15: Extract from the Ordnance Survey 1:10,000 map, 1977

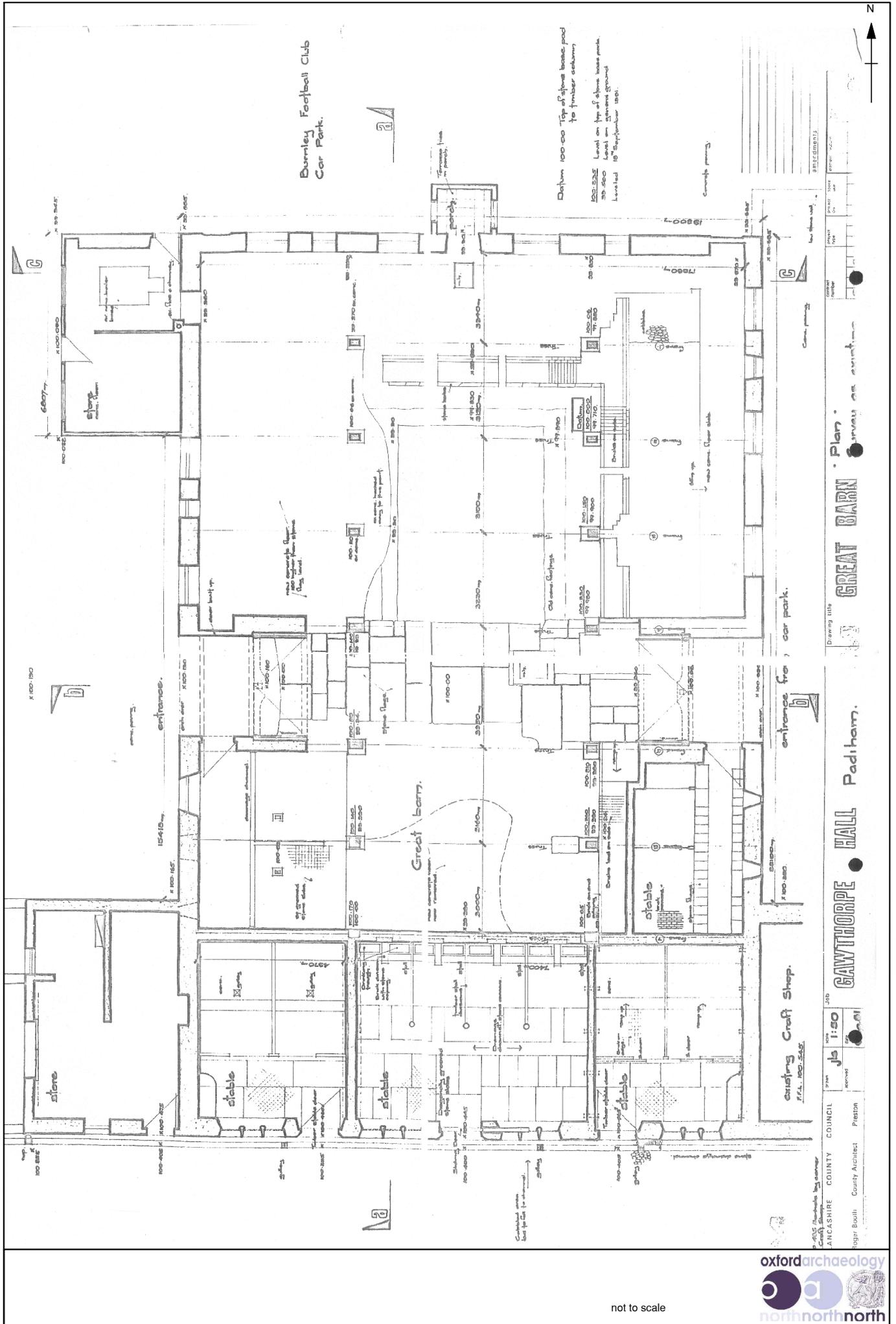
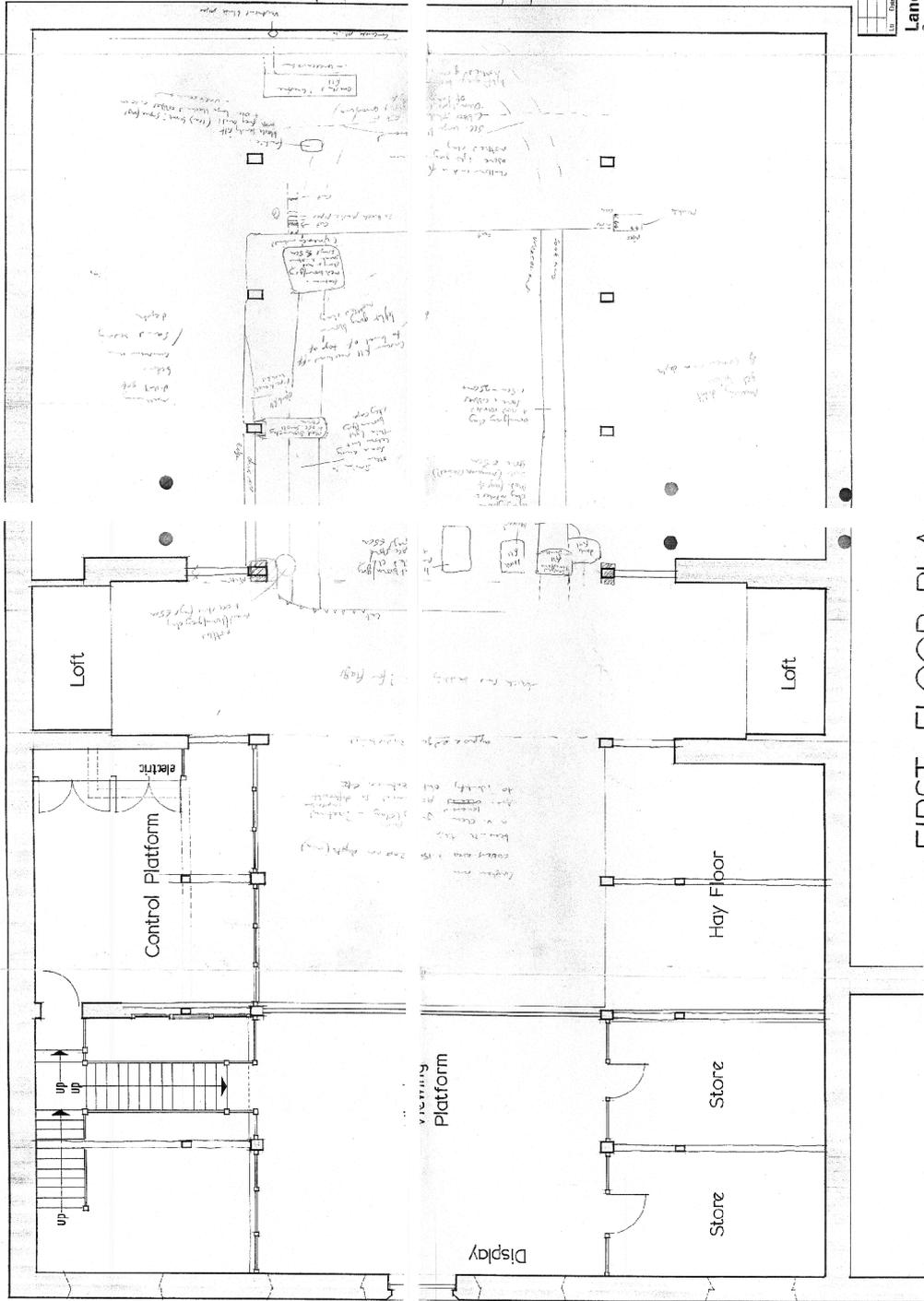


Figure16: Gawthorpe Hall Ground Floor plan, 1981 (LCC)

JQ*L10668*AMS*030514



FIRST FLOOR PLAN

U.S. Date	U.S. Date	U.S. Date	U.S. Date
Lancashire County Council Department of Property Services General Services and Facilities Unit 100-105 County Hall, Preston PR1 2JH			
GAWTHORPE GREAT BARN, PADHAM.			
Drawn by	Scale	Project No.	Revision
DB	1:50	13/200/1/1/1/1	
ED No.	100/100	27/5/87	



not to scale



Figure17: Gawthorpe Barn First Floor plan, 1984 (LCC)



Figure 18: Ground floor plan of Gawthorpe Barn



Figure 19: Plan of Gawthorpe Barn at approximately first floor level

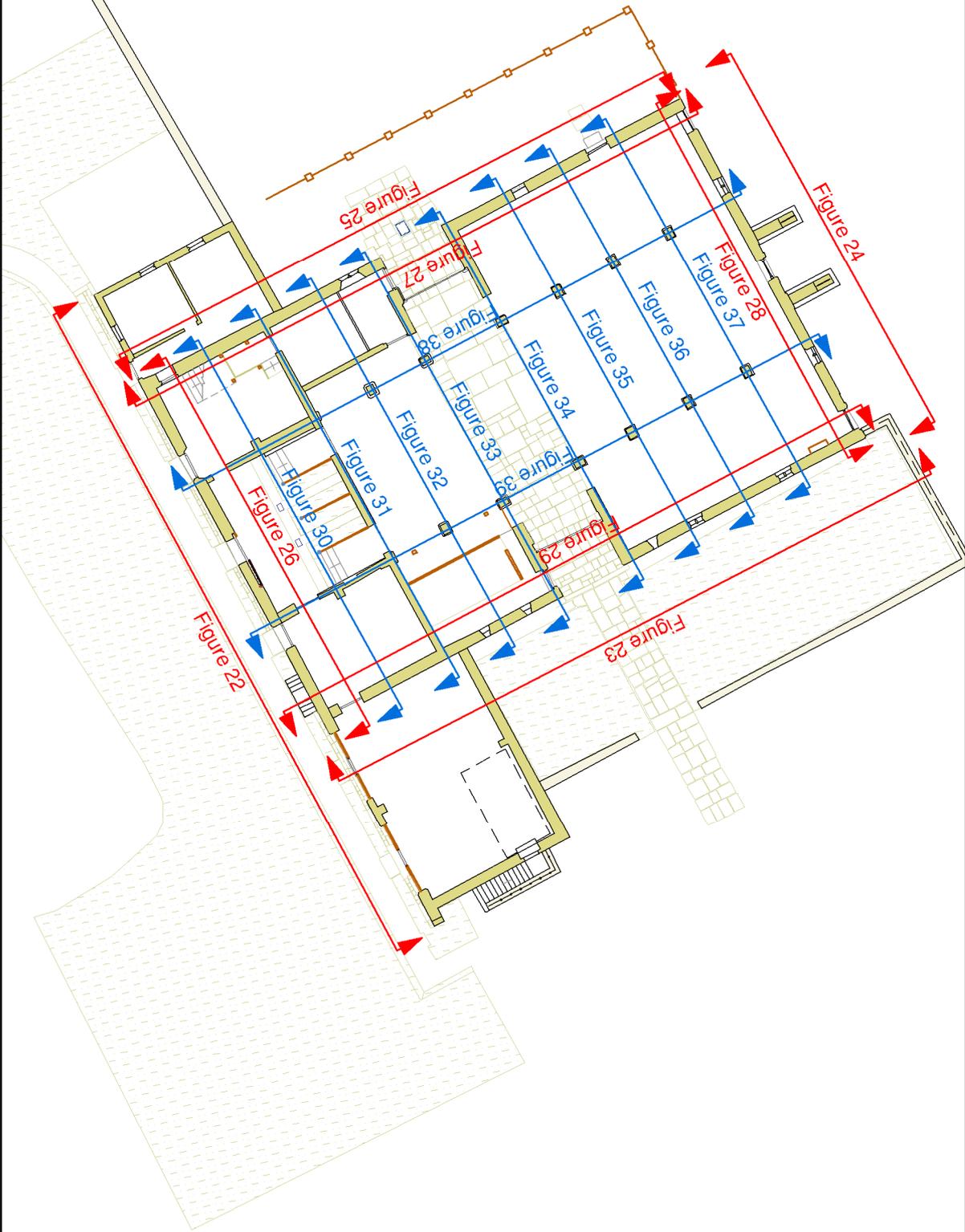
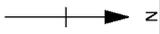
- Wall
- Wood
- Rafters



0 5 m
1:200 @ A3



Figure 20: Gawthorpe Barn: Reflected Roof Plan



- Elevations
- Sections

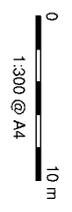


Figure 21 : Location of elevations and sections

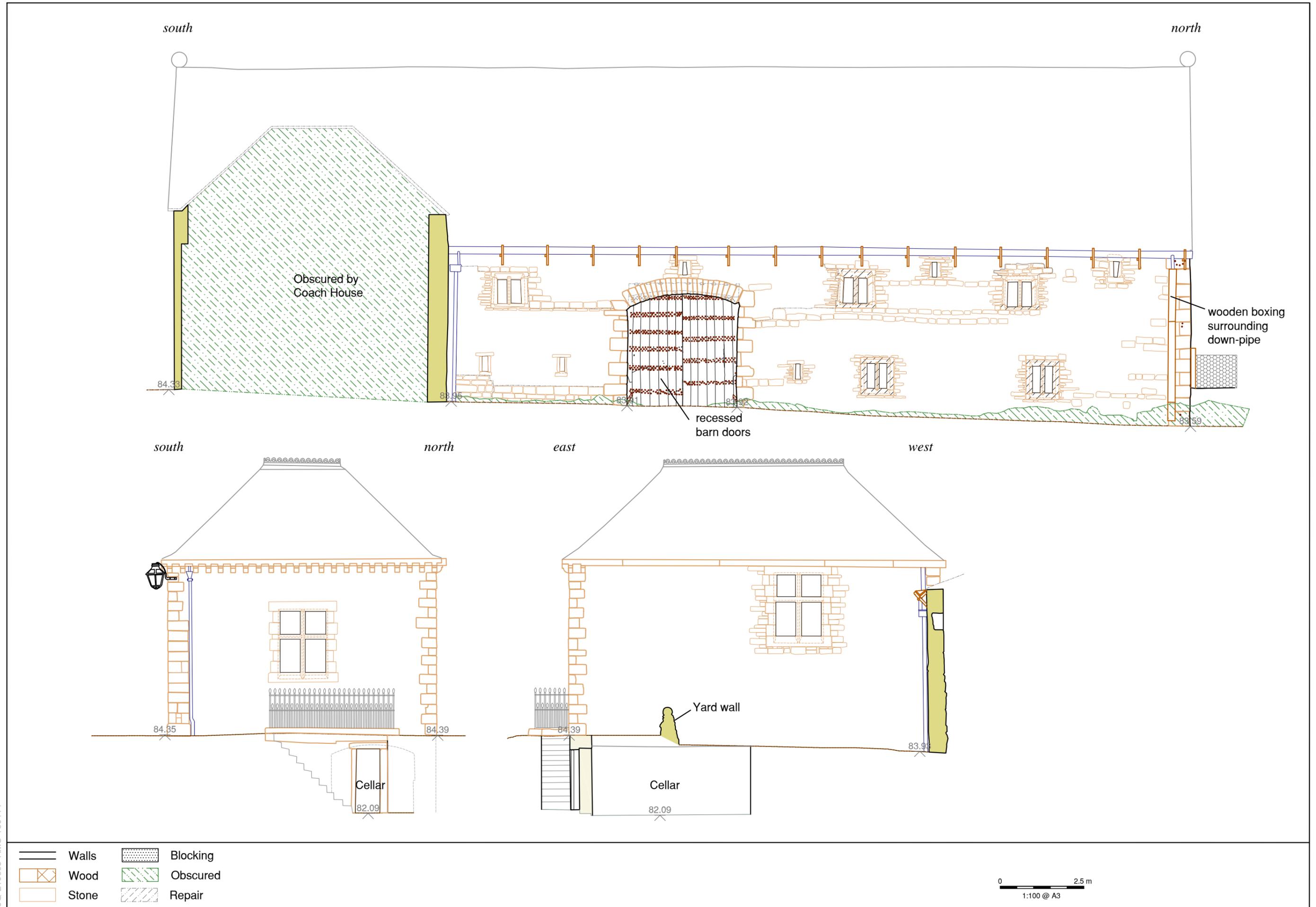
JQ*L10668*AMS*150414



- | | | | |
|---|-------|---|----------|
| — | Walls | ▨ | Blocking |
| ⊗ | Wood | ▧ | Obscured |
| □ | Stone | ▩ | Repair |

0 2.5 m
1:100 @ A3

Figure 22: South-facing external elevation of Gawthorpe Barn and Coach House



JQ*L10668*AMS*150414

Figure 23: East-facing external elevation of Gawthorpe Barn and east- / north-facing elevations of the Coach House

east

west



- | | | | |
|---|-------|---|----------|
| — | Walls | ▨ | Blocking |
| ⊗ | Wood | ▧ | Obscured |
| □ | Stone | ▩ | Repair |

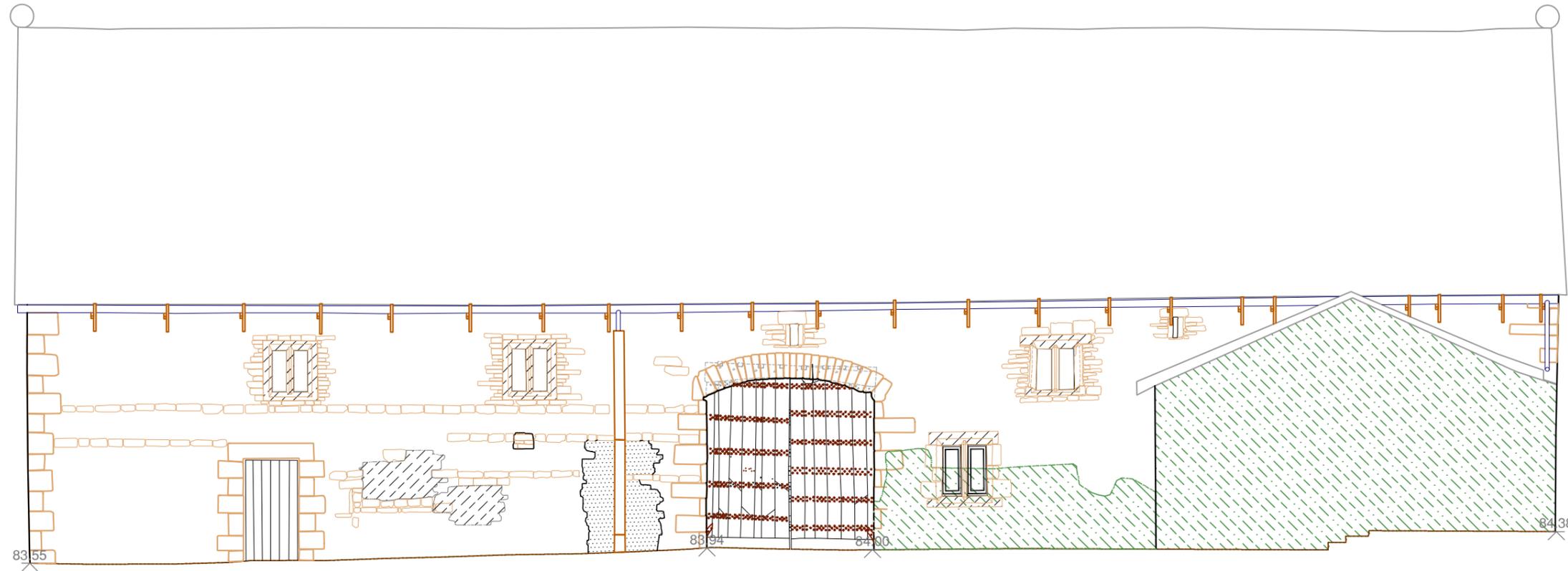
0 2.5 m
1:100 @ A3

JQ*_L10668*AMS*150414

Figure 24: North-facing external elevation of Gawthorpe Barn

north

south

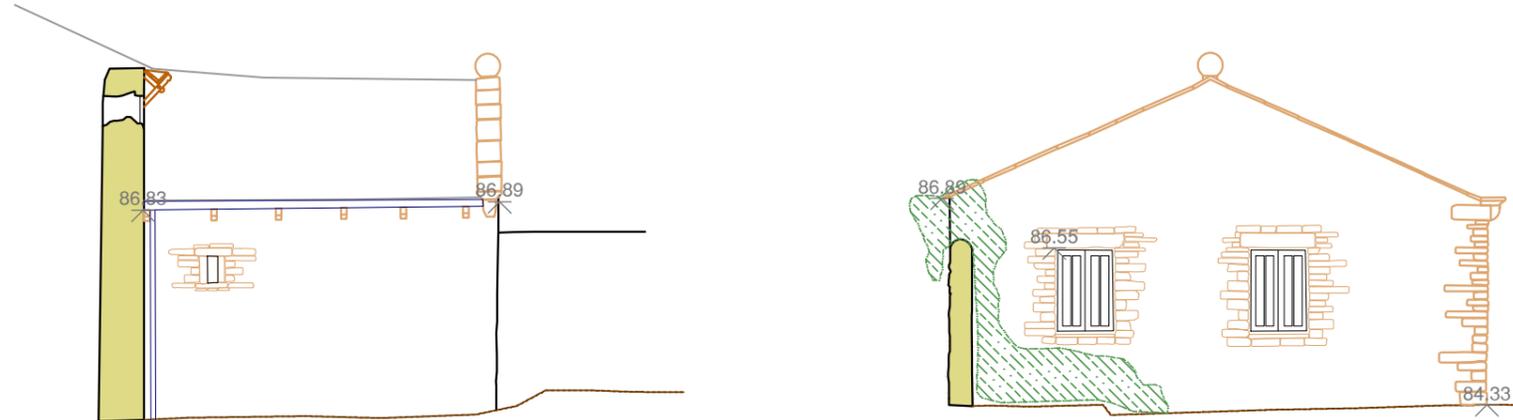


east

west

north

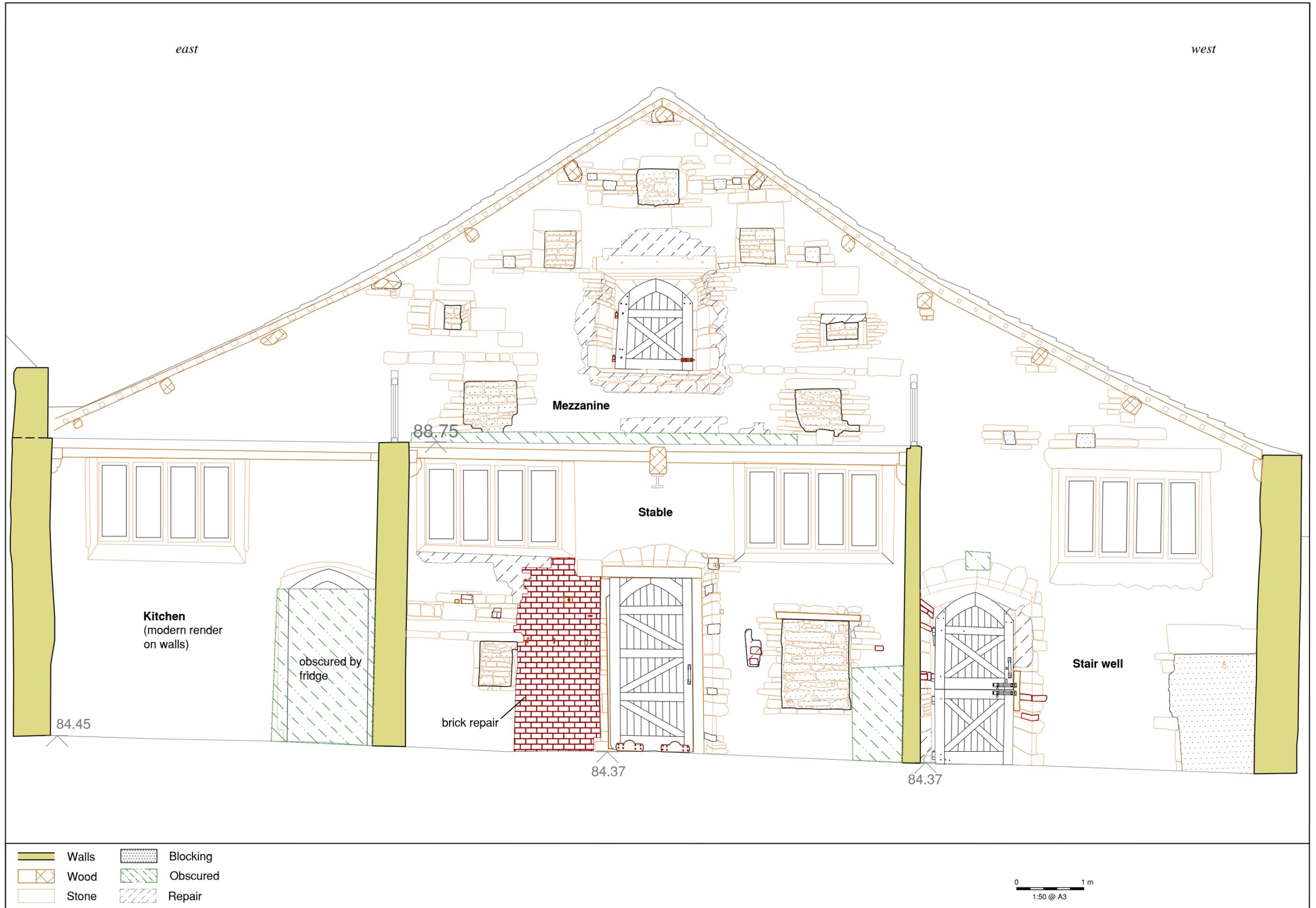
south



- | | |
|---|--|
|  Walls |  Blocking |
|  Wood |  Obscured |
|  Stone |  Repair |

0 ——— 2.5 m
1:100 @ A3

Figure 25: West-facing external elevation of Gawthorpe Barn and the west- / north-facing elevations of the Toilet Block



JQ*L10668*AMS*010414

Figure 26: North-facing internal elevation of Gawthorpe Barn

south

north

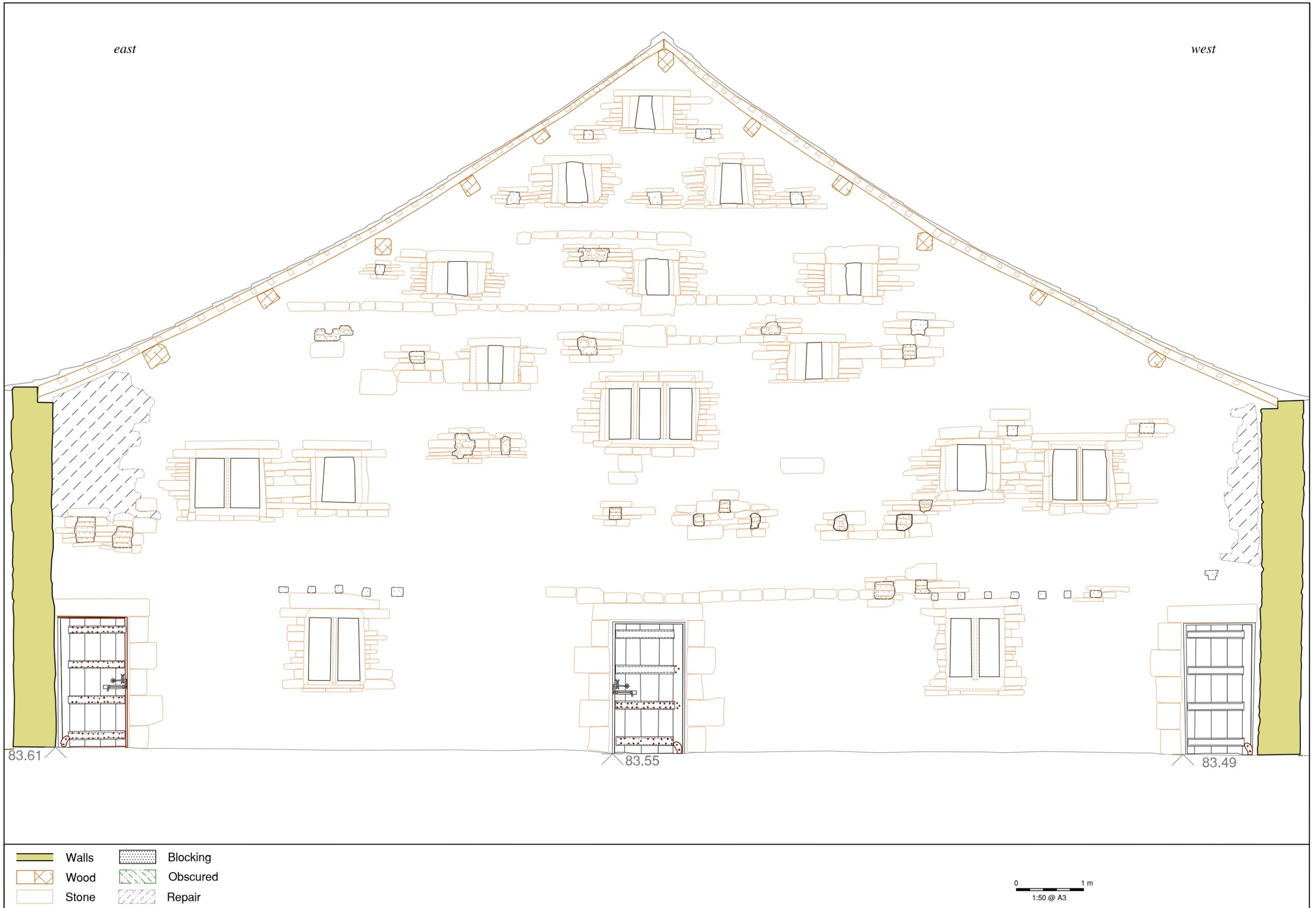


JQ*L10668*AMS*080414

- | | |
|---|--|
|  Walls |  Blocking |
|  Wood |  Obscured |
|  Stone |  Repair |

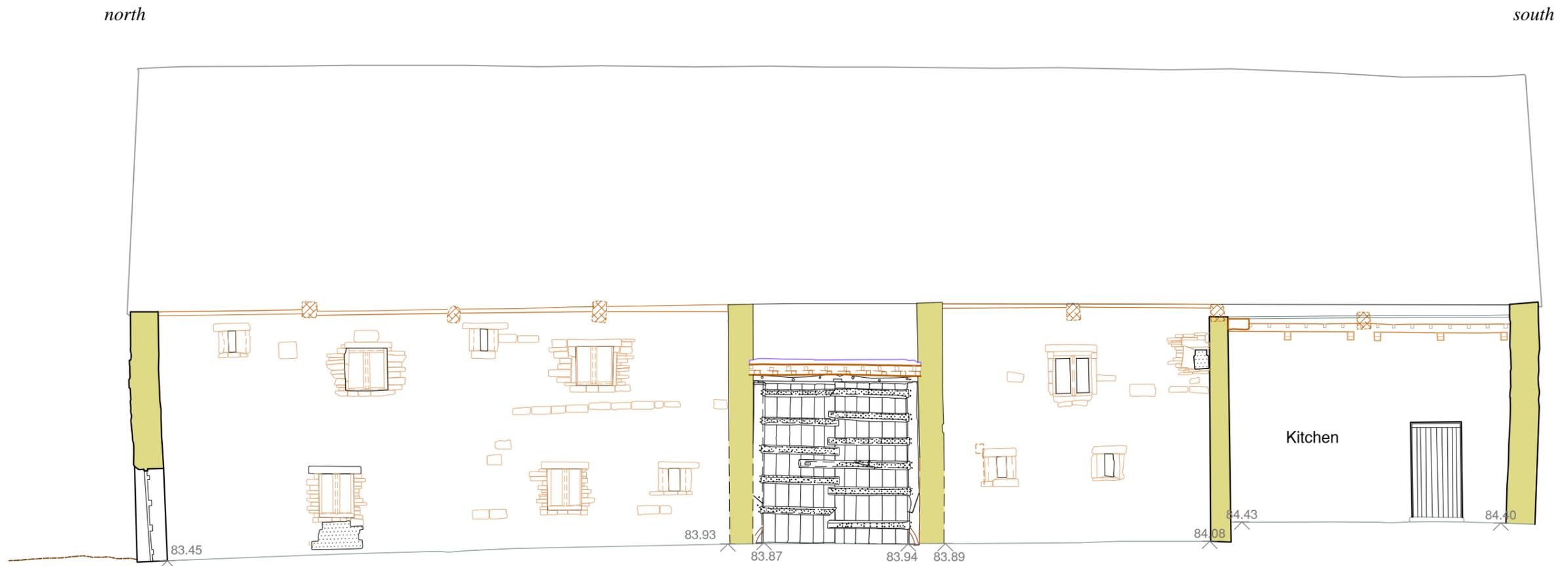
0 2.5 m
1:100 @ A3

Figure 27: East-facing Internal Elevation of Gawthorpe Barn



JQ*_L10668*AMS*150414

Figure 28: South-facing internal elevation of Gawthorpe Barn



north

south

Kitchen

83.45

83.93

83.87

83.94

83.89

84.08

84.43

84.40

JQ*L10668*AMS*010414

- | | |
|---|--|
|  Walls |  Blocking |
|  Wood |  Obscured |
|  Stone |  Repair |

0 2.5 m
1:100 @ A3

Figure 29: West-facing Internal Elevation of Gawthorpe Barn

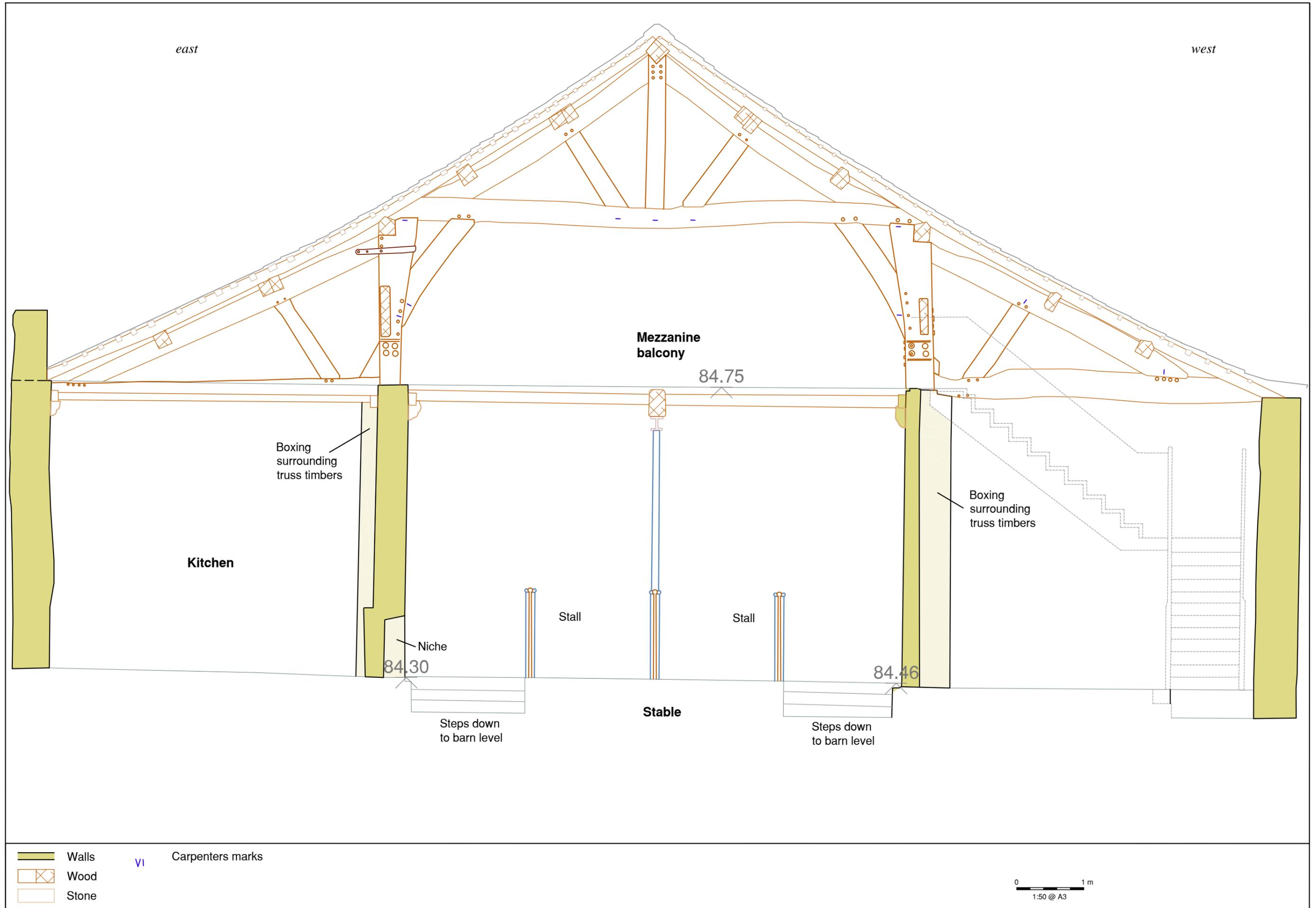
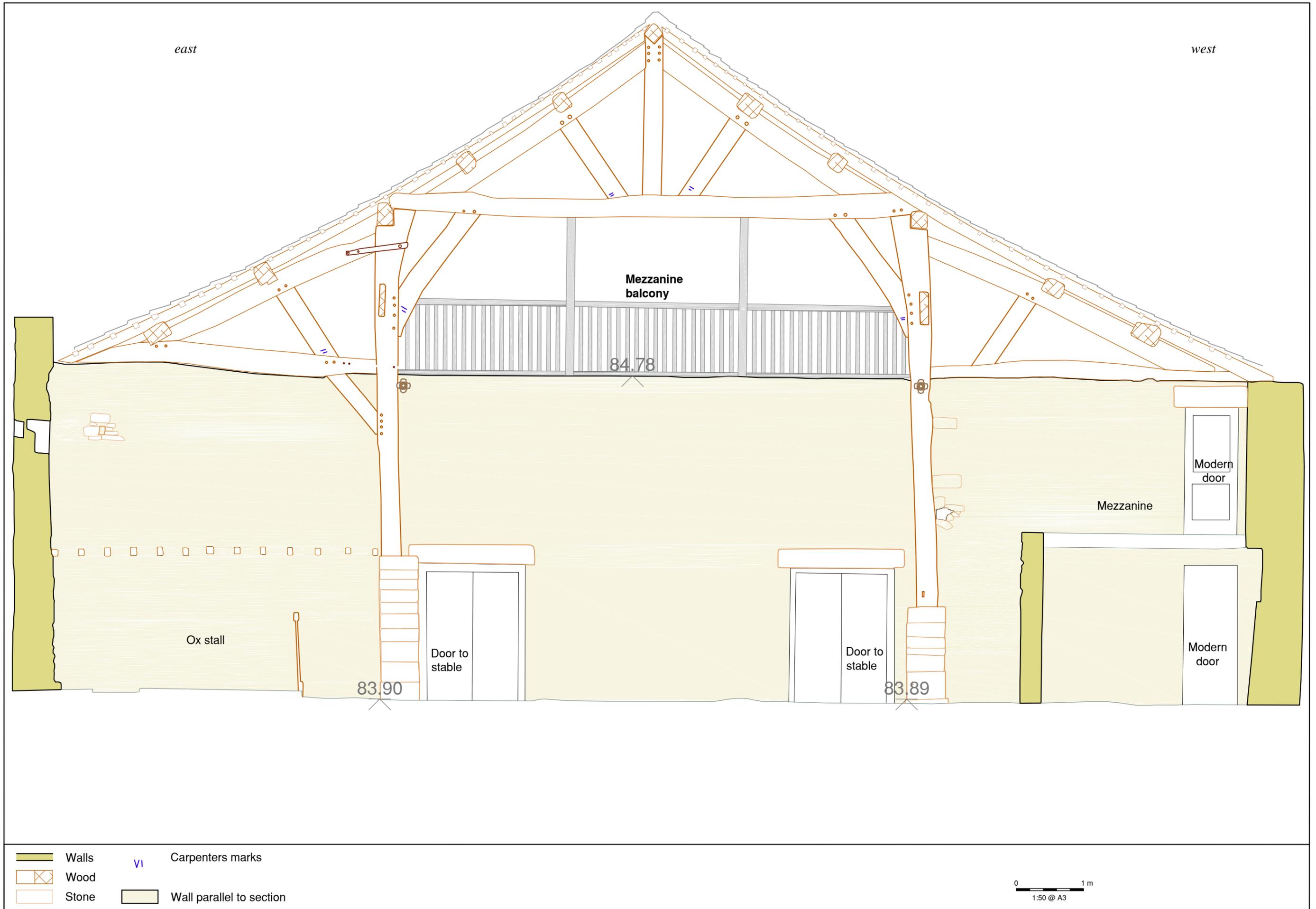
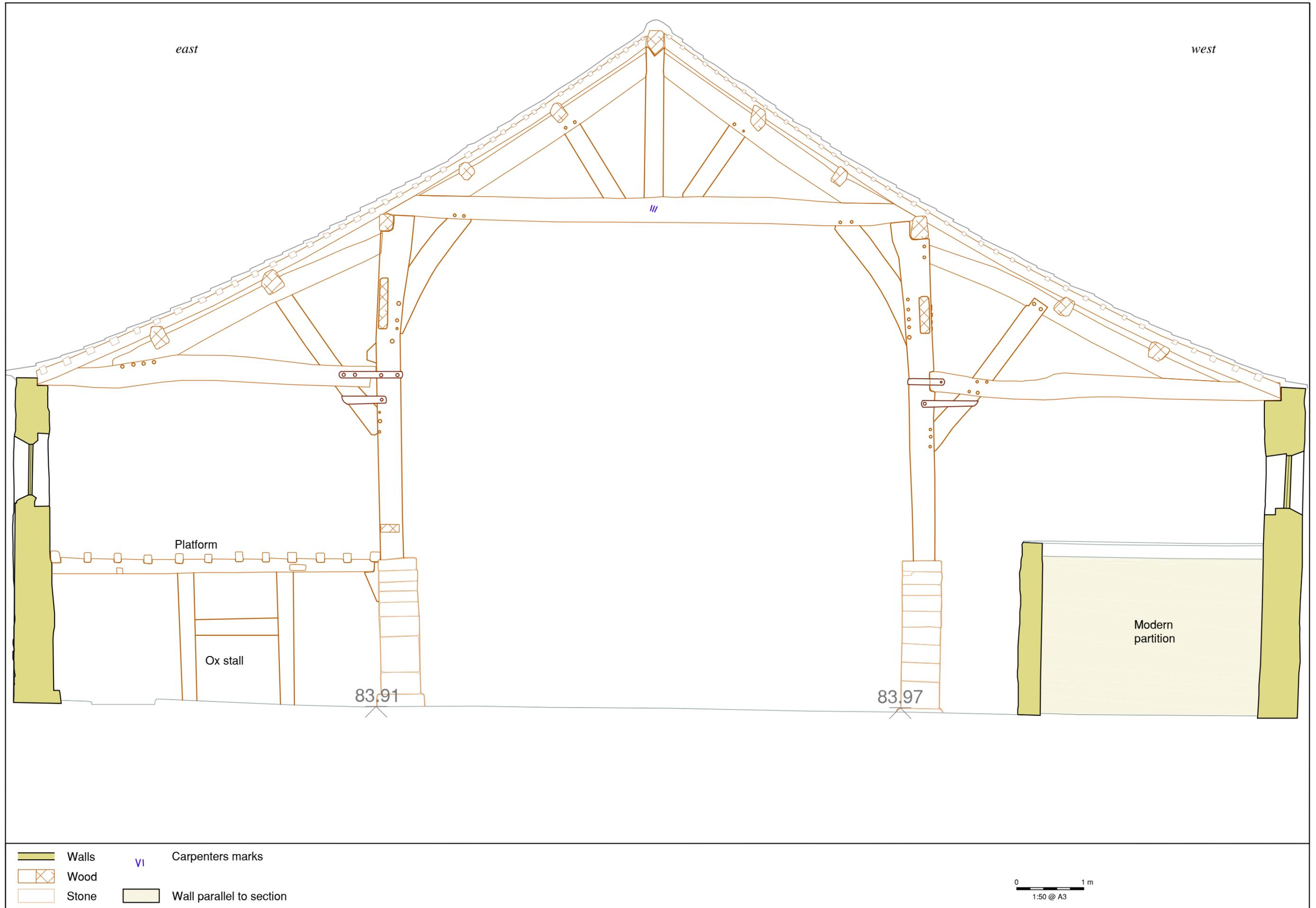


Figure 30: North-facing section through Truss Assembly 1 of Gawthorpe Barn



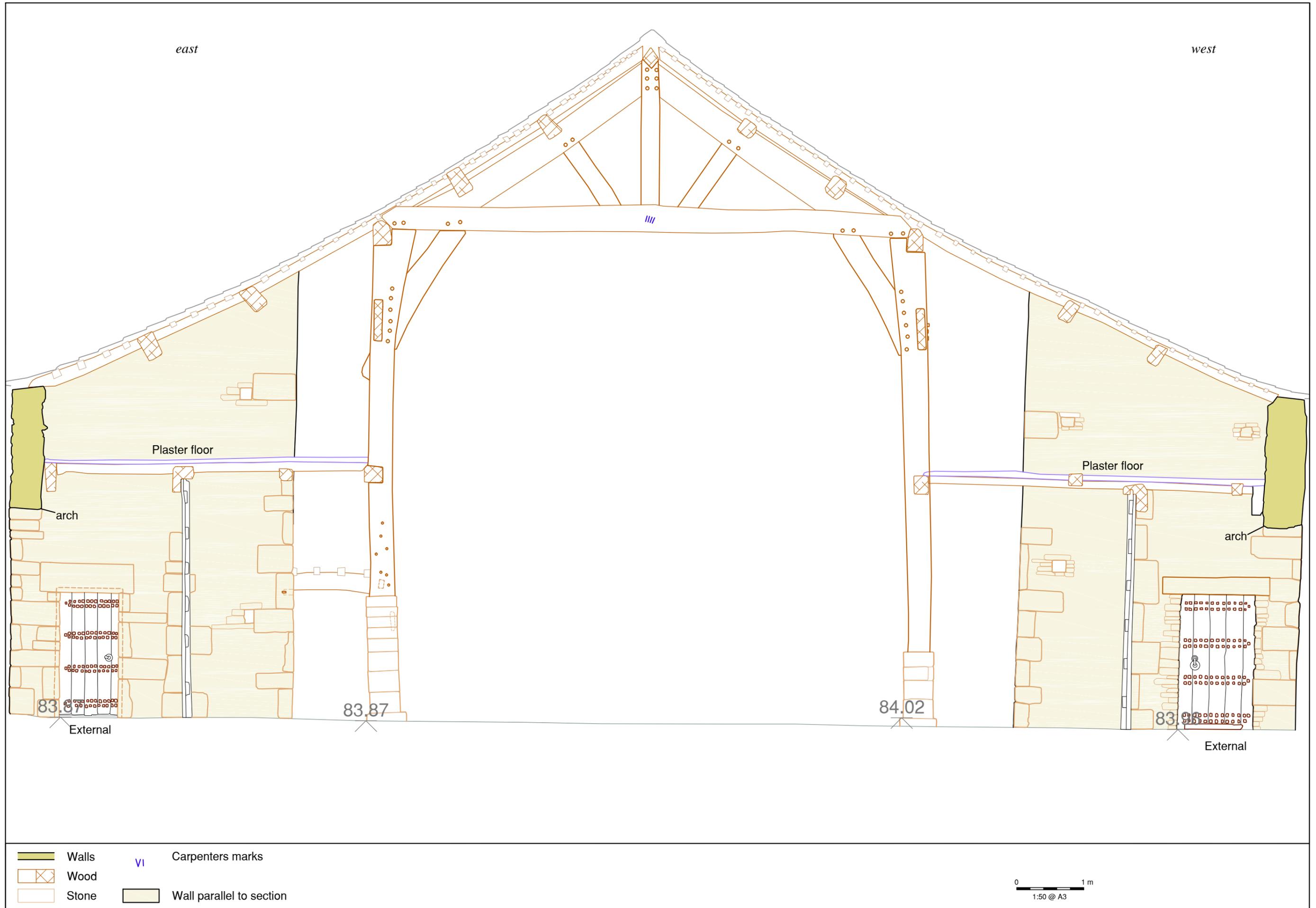
JQ*L10668*AMS*010414

Figure 31: North-facing section through Truss Assembly 2 of Gawthorpe Barn



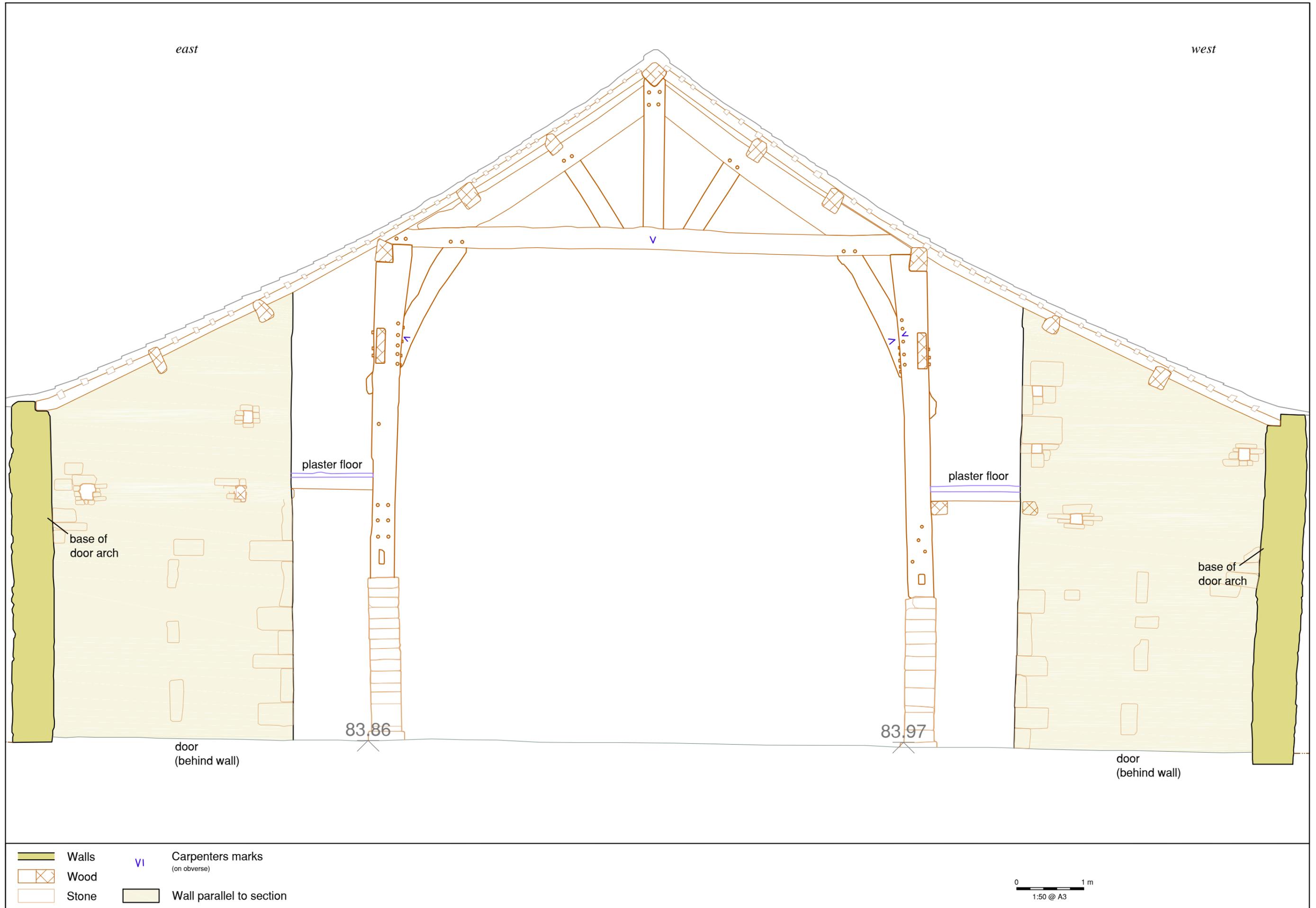
JQ*L10668*AMS*010414

Figure 32: North-facing section through Truss Assembly 3 of Gawthorpe Barn



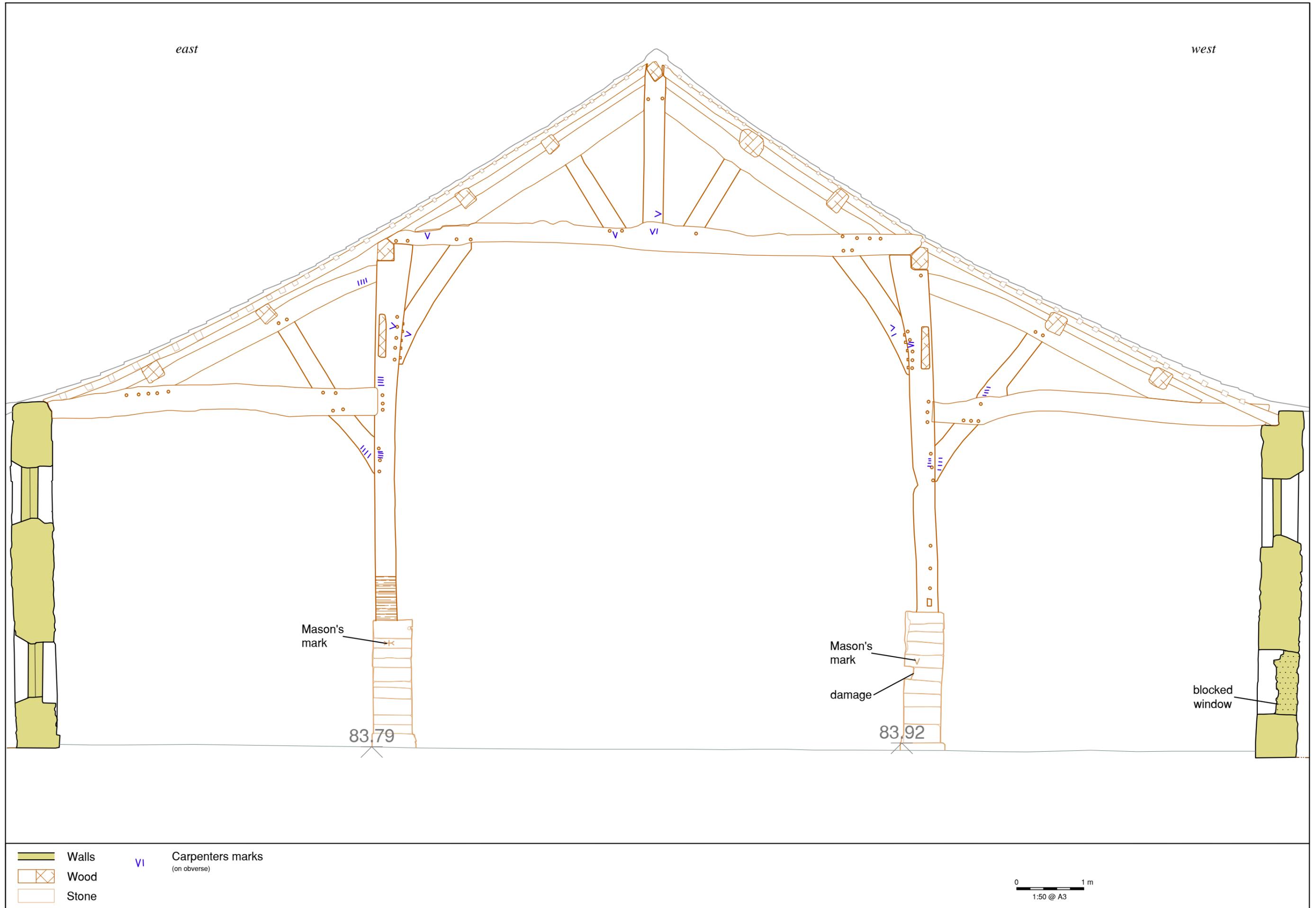
JQ*L10668*AMS*010414

Figure 33: North-facing section through Truss Assembly 4 of Gawthorpe Barn



JQ*L10668*AMS*010414

Figure 34: North-facing section through Truss Assembly 5 of Gawthorpe Barn



JQ*L10668*AMS*010414

Figure 35: North-facing section through Truss Assembly 6 of Gawthorpe Barn

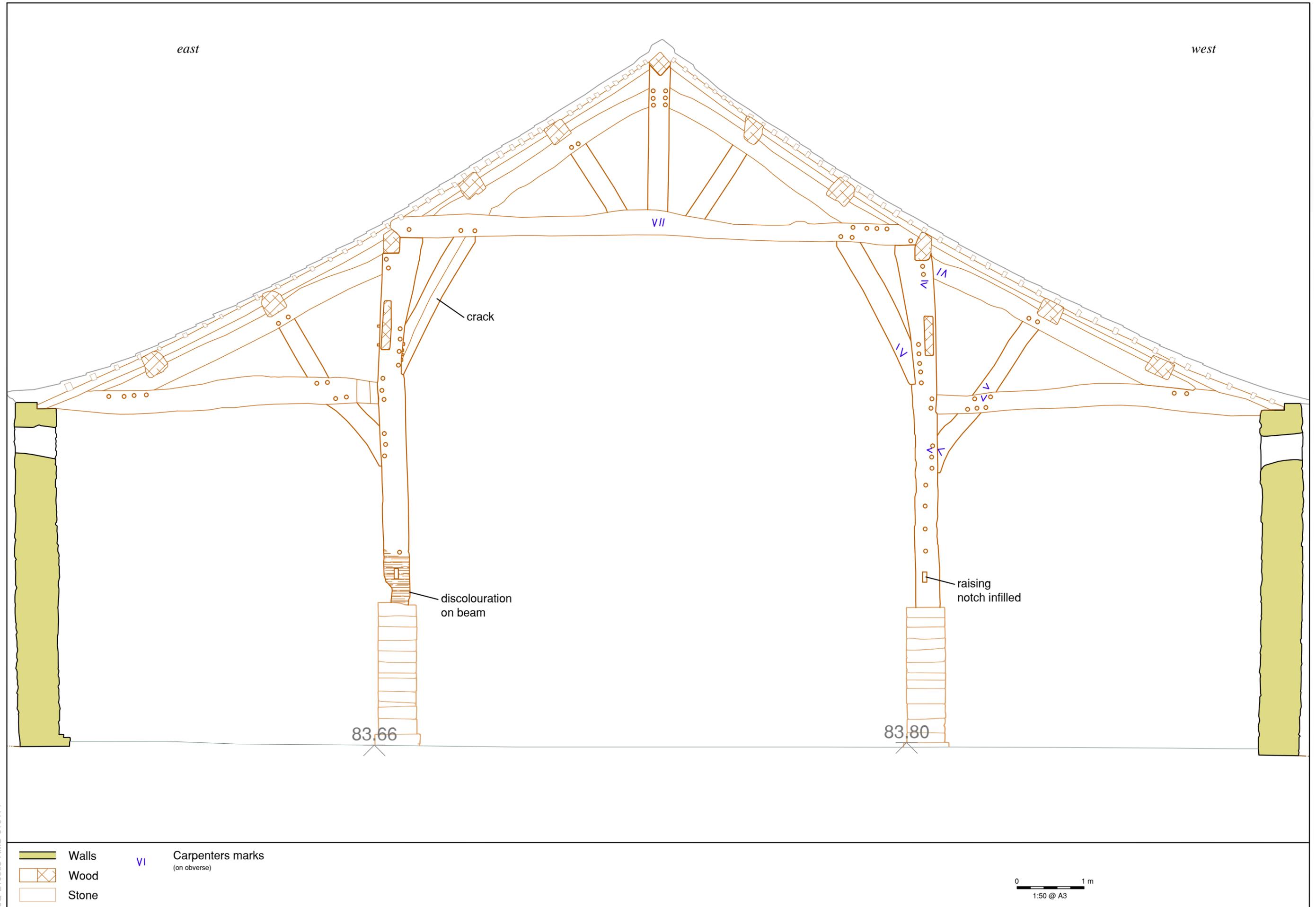


Figure 36: North-facing section through Truss Assembly 7 of Gawthorpe Barn

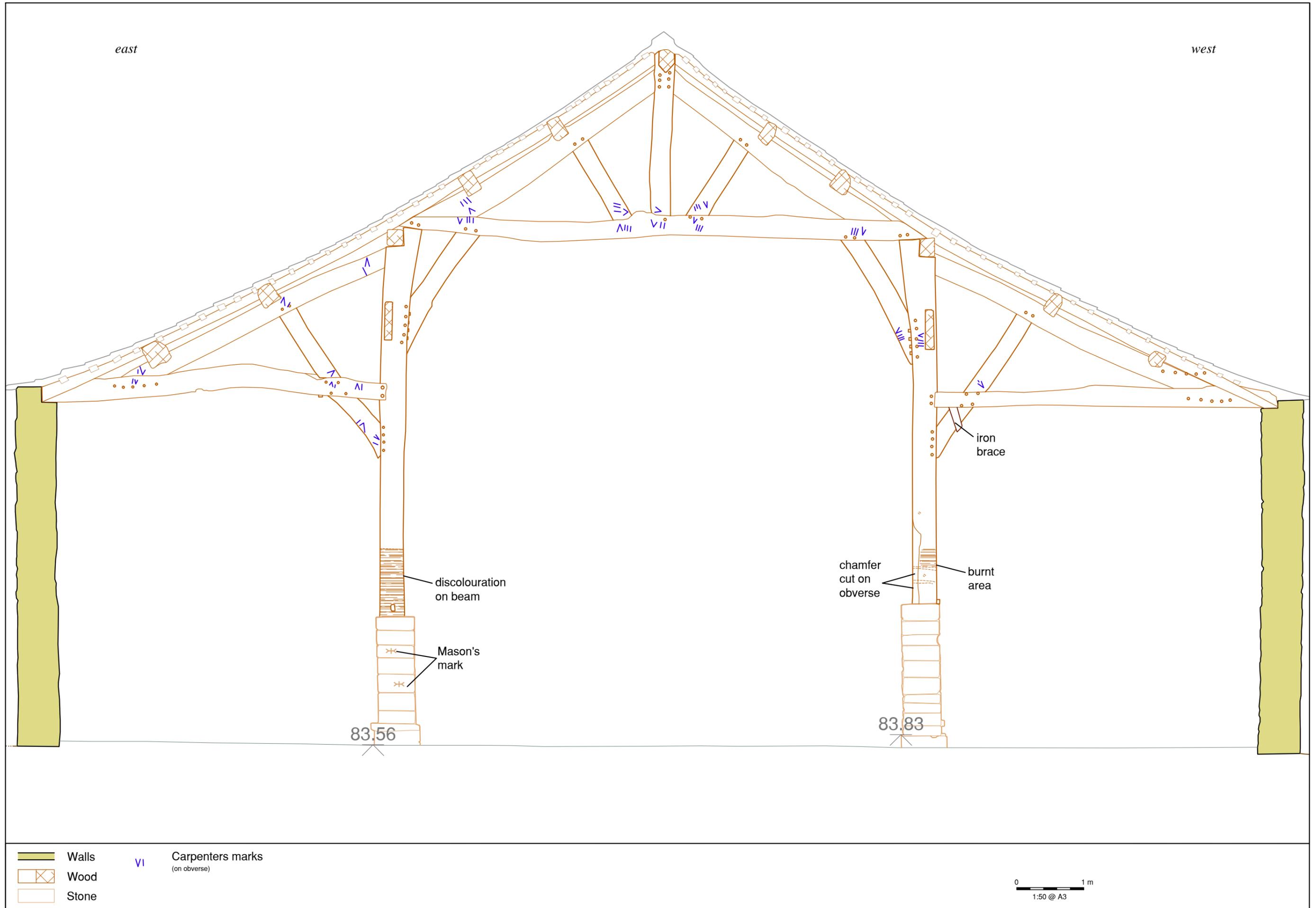
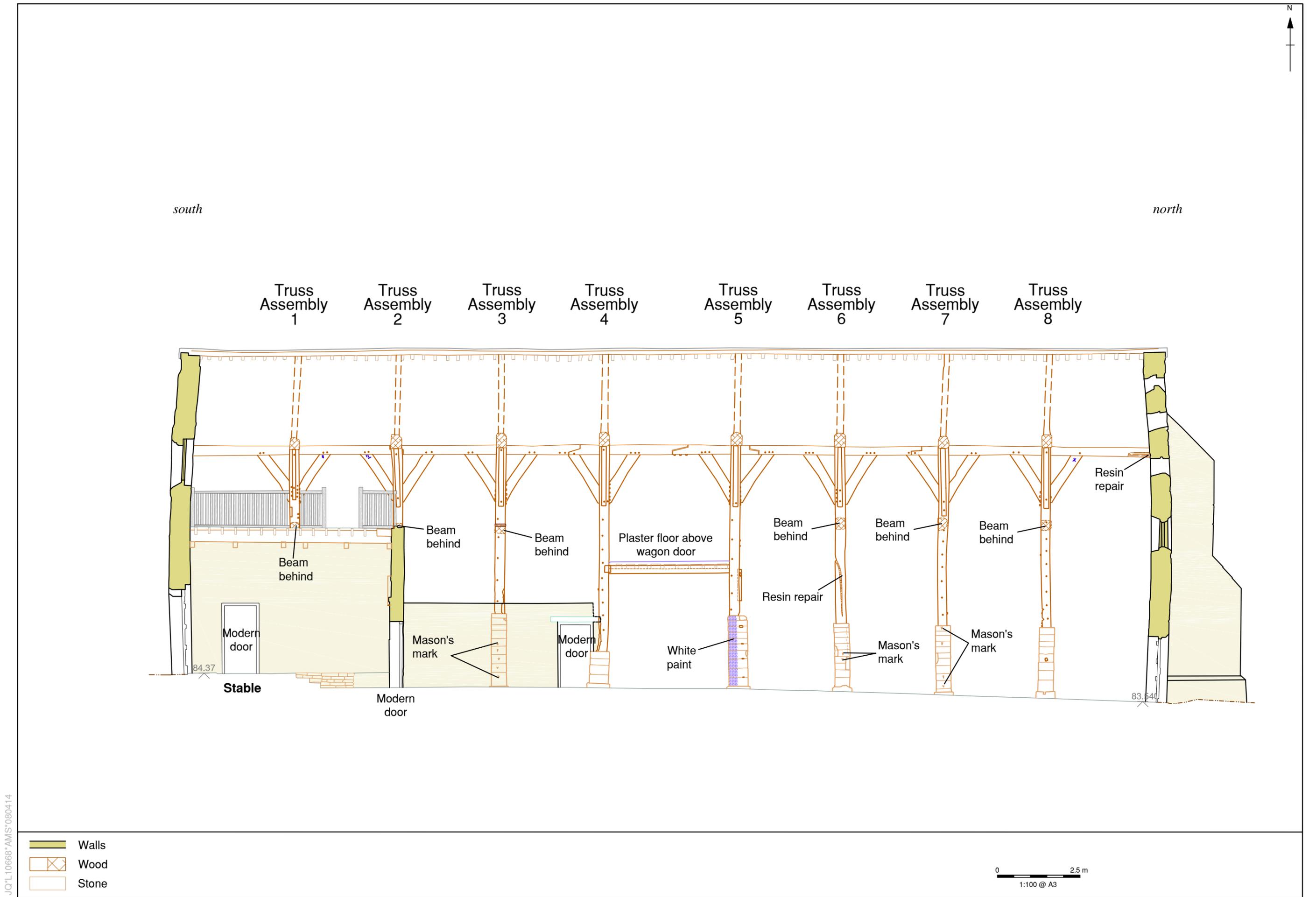


Figure 37: North-facing section through Truss Assembly 8 of Gawthorpe Barn



JQ*L10668*AMS*080414

Figure 38: East-facing long section of Gawthorpe Barn

JQ*L10668*AMS*010414

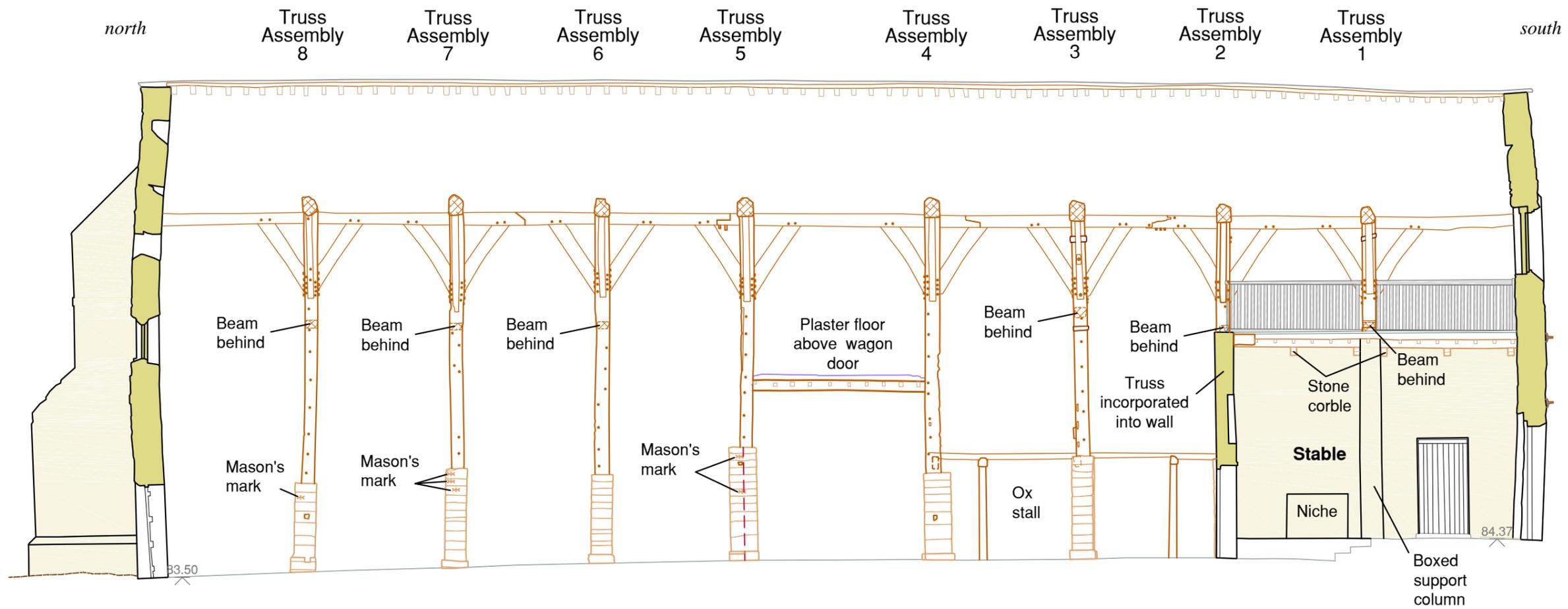


Figure 39: West-facing long section of Gawthorpe Barn

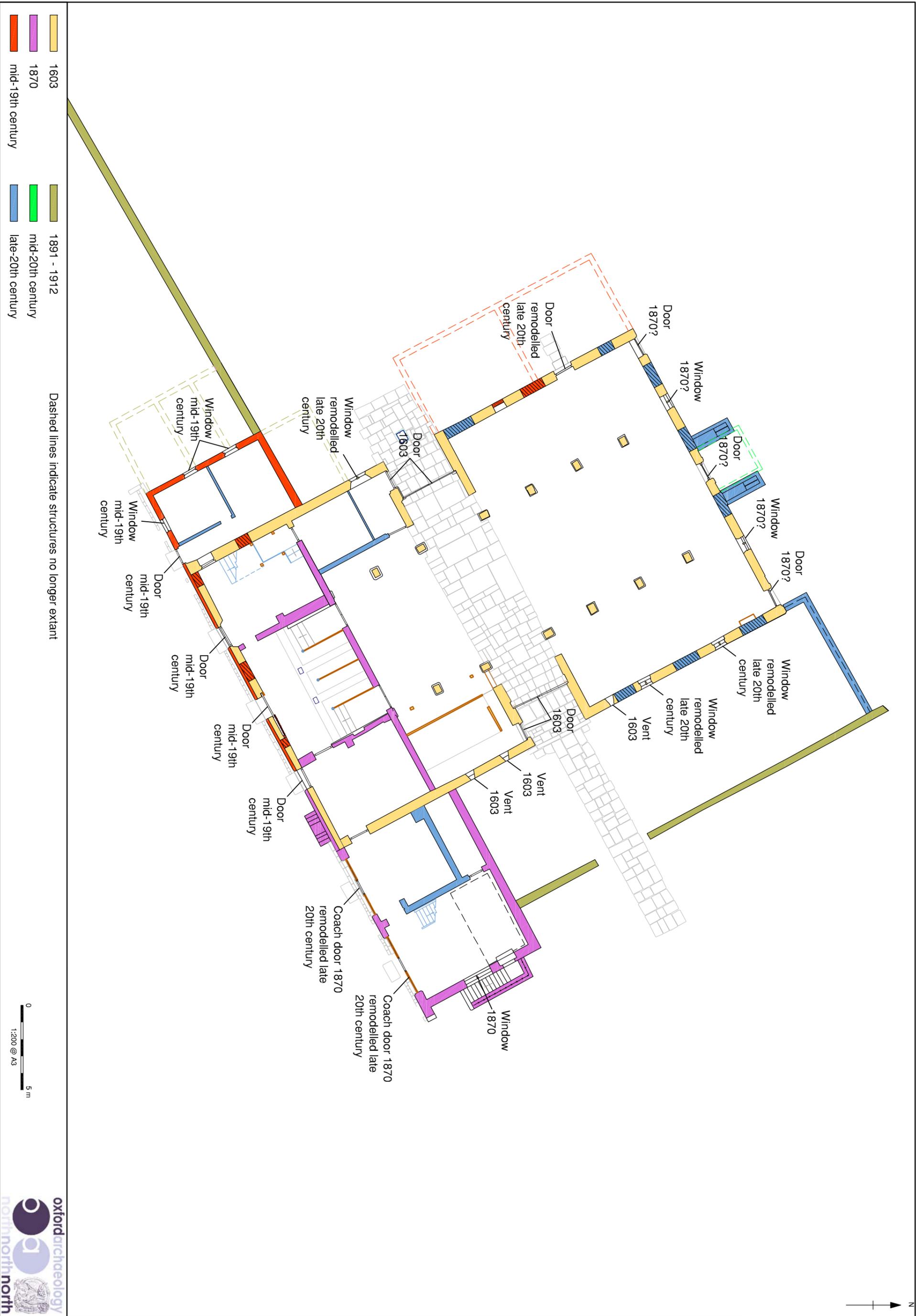
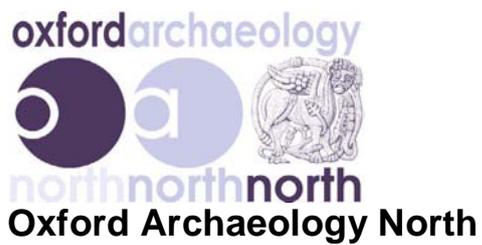


Figure 40: Phase Plan



Mill 3
Moor Lane Mills
Moor Lane
Lancaster
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f: (01524) 848606
e: oanorth@oxfordarch.co.uk
w: www.oxfordarch.co.uk

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