



WYAS  
**Archaeological  
Services**

**First White Cloth Hall  
Kirkgate, Leeds  
West Yorkshire**

Archaeological Watching Brief  
and Structural Watching Brief

Report no. 3460  
October 2020

**Client:** H. H. Smith & Sons Co Ltd



# **First White Cloth Hall**

## **Kirkgate, Leeds**

### **West Yorkshire**

#### **Archaeological Watching Brief and Structural Watching Brief**

##### *Summary*

*Archaeological Services WYAS undertook an archaeological watching brief and structural watching brief at the site of the First White Cloth Hall (FWCH), Leeds, West Yorkshire between May 2019 and September 2020. The First White Cloth Hall was constructed in 1711, with alterations to the structure occurring in the 19th and 20th centuries. The west range and later constructed north range were demolished in 21st century and unfortunately during renovations the south range too collapsed. The watching brief comprised the monitoring of groundworks at the site, including the ground level reduction and the excavation of twenty pile pad pits, eight test pits, a foundation trench and a pipe trench. Made ground deposits were encountered as well as a potential cut relating to the construction of the FWCH building. Ground level reduction identified a 19th-century cellar to the south end of the west range and stone foundations relating to the west wall of the west range.*

*The structural watching brief comprised the recording of the east and partial remains of the south ranges at various stages throughout of the renovation works. During the recording of the structure it was determined that two phases of stonework were present in the east wall of the building, which relate to an earlier building of a possible medieval date. Also encountered were timbers interpreted as a King-post truss encased within the east wall of the east range. Suitable roof timbers of the structure were analysed by The Nottingham Tree-ring Dating Laboratory. This established that several timbers used in the roof structure date to the 15th century, with others also dating to the construction of the FWCH building.*

## Report Information

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 Project Management: Jane Richardson  
 Fieldwork supervisor: Liz Govier  
 Fieldwork: Liz Govier, Matt Wells, Paul Bracken, and Steffan Golby  
 Report: Liz Govier  
 Illustrations: Liz Govier  
 Photography: Site staff  
 Research: Liz Govier  
 Specialists: Zoe Horn (artefacts)  
 Jane Richardson (animal bone)

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© Archaeological Services WYAS 2020  
 Nepshaw Lane South, Morley, Leeds LS27 7JQ  
 Telephone: 0113 535 0163.  
 Email: [admin@aswyas.com](mailto:admin@aswyas.com)



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### Document Issue Record

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## **1 Introduction**

Archaeological Services WYAS (ASWYAS) was commissioned by H. H. Smith and Sons Co Ltd to undertake an archaeological watching brief and structural watching brief at the First White Cloth Hall (FWCH), Kirkgate, Leeds, West Yorkshire. The archaeological work was undertaken between May 2019 and April 2020, prior to and during the groundworks associated with the redevelopment of the site, to fulfil a condition attached to the approved planning application (17/07710/10 and 17/07711/LI). The works were carried out in accordance with a Specification prepared by West Yorkshire Archaeology Advisory Services (WYAAS; Appendix 1).

The development encompasses the repair and refurbishment of the existing structure, reinstatement of the demolished west wing, the provision of a new covered courtyard with atrium, a new circulation wing to the rear and shopfronts to the Kirkgate elevation.

The FWCH structure was constructed in 1711, with later 19th and 20th-century alterations. It is a Grade II\* Listed building and lies within Leeds City Centre Conservation Area.

### **Site location, topography and land-use**

The FWCH is situated on the southwest side of Kirkgate within central Leeds, West Yorkshire (centred on SE 30446 33418; Figs 1 and 2). To the northwest lies derelict land after the demolition of structures which stood at 102-104 Kirkgate, to the west and southeast lie existing retail properties and to the southwest and south lies a carpark. The site itself is occupied by the partial remains of the First White Cloth Hall. At the commencement of archaeological works, the east range and part of the south range were still standing, though in poor condition. The west range and buildings which were later constructed within the courtyard were demolished in 2010 on health and safety grounds. The cellarge which underlay the west range and courtyard structures had been fully excavated of backfilled material and at the start of works were accessed by a grassy ramp of rubble from the northwest (where 102 Kirkgate stood).

The site topography is of variable heights due to recent 21st-century demolitions and excavations, however the ground floor level of the east range of the structure is 31.75m above Ordnance Datum (aOD).

### **Soils and geology**

The solid geology which underlies the site is mudstone, siltstone and sandstone of the Pennine Lower Coal Measures, with no superficial deposits recorded (BGS 2020). The soils are of unrecorded urban deposits (SSEW 1983).

## **2 Archaeological and Historical Background**

The site lies within an area of known archaeological potential. The earliest remains known in the area consist of a scatter of prehistoric and Roman period remains. The site also lies within

the historic core of Leeds, with origins first in the post-Roman Kingdom of Elmet and, later, Northumbria, and documentary sources attest to its importance as early as the 10th century. The earliest focus of settlement is thought to have been on Kirkgate, evidenced by 9th and 10th-century cross fragments, which have been recovered from the church of St Peter (the original parish church). By the 13th century, the town had developed into a significant regional centre, with the borough of Leeds created in 1207, followed by new expansion of the town onto Briggate. Leeds developed into an important centre of cloth trade and manufacture, expanding in size and population.

Lying along the Kirkgate street frontage, the site itself is likely to have been part of the settlement at least as far back as the medieval period. The exact nature of this settlement is unknown though 19th-century documentary sources suggest that in *c.* 1430 the site was occupied by a chantry priest with an almshouse and hospital (Ducatus Leodiensis 1816). According to Thoresby, these structures were still standing, though in a ruinous state in the early 18th century, just prior to the construction of the First White Cloth Hall.

The First White Cloth Hall is one of the oldest extant buildings in central Leeds, its construction dating to 1711. It was built as a response to a cloth hall built by the merchants of Wakefield in 1710 at a time characterised by fierce competition between local towns to attract merchants and the emerging pre-eminence of Leeds as a commercial centre in the region. The FWCH is a Grade II\* Listed building (Heritage List No.1375042) and is a rare example of an early 18th-century arcaded cloth hall. In 1756 a second, much larger cloth hall opened on Meadow Lane in Leeds making the first cloth hall redundant, although the structure continued in use and was adapted throughout the 18th, 19th and 20th centuries. The first significant changes to the structure appear to date around the time of the opening of the Second White Cloth Hall. Jefferys' Map of 1770 also notes the southern range as an assembly room. In the earlier 19th century (Wrathmell 2005), further developments include the construction of retail buildings on the Kirkgate frontage, construction within the courtyard which linked the west and east ranges and apparently the addition of cellars underneath much of the site (Gwilliam 2015).

### **Previous work**

The FWCH has been subject to a series of archaeological investigations, focussed largely on the standing structures. These include an initial building recording (Plummer 1997) and building recordings of the now demolished structure extending southwards from the east end of the cloth hall's south range (Cressey 2013a), the structures which filled the original cloth hall's courtyard (Cressey 2013b) and the western range of the cloth hall itself (Cressey 2013c).

In 2015, building recording was undertaken by ASWYAS, which provided an updated interpretation of the site, drawing on the 1997 recording, with updated photographs of the remaining south and east ranges included (Gwilliam 2015). More recent work includes an archaeological watching brief and evaluation (Wells 2018). The work involved the

monitoring of boreholes and test pits across the site. An evaluation trench was later excavated within the footprint of the original building. The works exposed several parts of the foundations of the FWCH building and identified the remains of several flagstone floors relating to the early 19th-century cellarage and its later alterations.

### **3 Aims and Objectives**

The aim of the archaeological watching brief was to identify and record the presence/absence, extent, condition, character and date (as far as circumstances permitted) of any archaeological features and deposits which were disturbed or exposed as a result of the groundworks at the site. The central and west end of the south range were of particular interest as these areas did not appear to have been cellared completely in the early 19th-century. Here the potential for undisturbed deposits and archaeological features pre-dating the FWCH structure potentially existed.

The aim of the structural watching brief was to identify and objectively record by means of photographs and drawings any significant archaeological and architectural features and evidence for the original and subsequent historical form and functions of the FWCH building.

The objective of the proposed programme of archaeological monitoring and recording was to enable the identification and recording to a professional standard of any previously unknown buried archaeological deposits and hidden structural elements which may have been encountered during the groundworks and structural refurbishment. This work was intended to record the historic fabric of the structure and to mitigate the destruction of any buried archaeological remains that may be revealed/disturbed through ‘preservation by record’.

### **4 Methodology**

#### **Archaeological Watching Brief**

The work was carried out between the 4th September 2019 and 20th January 2020 and involved the monitoring of the excavation of eight Test Pits, ground level reduction of the site, and the excavation of twenty pile pads, foundation trench and pipe trench. Excavations were undertaken either by hand or by a machine excavator fitted with a flat ditching bucket.

All work was undertaken in accordance with accepted professional standards and guidelines (Historic England 2008; CIfA 2014a-b), in accordance with the ASWYAS site recording manual (ASWYAS 2011) and in compliance with the Specification (Appendix 1).

All works were accurately recorded, a site plan was produced at a scale of 1:100. All plans and sections include spot heights that relate to Ordnance Datum in metres.

Environmental samples were taken from deposits that could be securely dated and/or placed in the site’s stratigraphic sequence, and in accordance with the English Heritage (now Historic England) 2011 Environmental Archaeology guidance document. Samples were to be

no less than 40 litres (wherever possible). Sampling focused on deposits that had the potential to assist with the research objectives.

### **Structural Watching Brief**

Guidance for the production of the structural watching brief, was taken from Historic England 2016 document *Understanding Historic Buildings: A Guide to Good Recording Practice*. Reference has also been made to the updated Chartered Institute for Archaeologists' *Standard and Guidance for the Archaeological Investigation and Recording of Standing Buildings or Structures* (2014c).

A rapid desk-based appraisal, comprising an assessment of the relevant easily available historic maps, was also undertaken.

Site inspections were carried out during works between the 2nd May 2019 and the 23rd September 2020 and included:

- Written descriptions and drawings of the exposed historic fabric;
- Phasing of the buildings;
- A photographic record of the structure at various stages of the works including the overall character of the buildings, as well as detailed views of any architectural features, and fixtures and fittings as necessary to illustrate the report.

A full written, drawn and photographic record was made of all archaeological work undertaken. An inventory of the primary archive is presented in Appendix 2 and ASWYAS currently hold the site archive in a stable and secure location.

## **5 Results**

### **Archaeological Watching Brief**

The groundworks monitored comprised the excavation of eight test pits (TP1-8), the ground level reduction of site and the excavation of twenty pile pads pits (PP1-20), a foundation trench and a pipe trench. The following results are discussed by phase of groundworks monitored, broadly presented in the sequence they were undertaken. A concordance of contexts is presented in Appendix 3.

#### *Test Pits 1 to 8 (Fig. 3)*

TP1 and TP2 were located in the cellar (29.56m aOD) of the FWCH at the north end of the east range. TP1 (Plate 1) was located against the east wall and TP2 against the west. The flagstone slabs were lifted in the area of the test pits prior to their hand excavation. TP1 measured 0.50m by 0.40m by 0.31m deep and TP2 measured 0.20m by 0.20m by 0.17m deep. The test pits within the cellar established that the early 19th-century cellar brick walls were laid onto a foundation of two courses of undressed and dressed stone measuring *c.*

0.26m in height. Levelling deposits for the flagstone floor surface were encountered. Both of these test pits were later utilised for pile pad pits and were excavated further. The deposits underlying the flagstone surface are discussed below.

TP3 was excavated at ground floor level (31.75m aOD), located roughly centrally along the west wall of the east range. The concrete floor surface in the area of the test pit had been removed prior to machine excavation and the test pit measured 0.95m by 0.70m by 0.18m deep. Underlying the modern demolition surface layer (101) were made ground deposit (112) which comprised a mixed deposit of mid-grey-brown silty clay and yellow-brown re-deposited natural. TP3 was later excavated further and used for PP19.

TP4 (Fig. 4, S. 01 and S. 02; Plate 2) was excavated at ground floor level, located *c.* 2.00m from the south wall of the south range. The test pit measured 2.60m by 0.75m by 1.30m deep, and was excavated from the horizon of deposit (101). At the base of the test pit a shallow feature (109) with vertical sides and a flat base was encountered, which measured 0.70m by 0.55m by 0.14m deep. The feature contained a single fill (108) which comprised a dark grey brown silt. Capping the deposit were irregular shaped stone slabs (110) and a single brick. It was not clear what the purpose of the feature was, but it could be the truncated remains of a construction cut for a culvert, with stone slabs 110 forming the base and the brick the side.

The feature (109) appears to have been truncated by cut 104, which truncated made ground deposit 112 and measured 1.15m long by 1.02m deep. The side of the cut was steep and the base flat. It contained four fills which appeared to have been deposited in quick succession and tipped from the west side of the feature. The basal fill (105) comprised 0.30m to 0.70m of mid-grey clay silt, with frequent small angular limestone inclusions, and brick and tile fragments. This was overlain by up to 0.28m of 106, a very dark grey silt deposit with an assemblage of midden-like material comprising animal bone, clay pipe fragments, pottery sherds, brick, tile and glass fragments. Overlying 106 was up to 0.36m of deposit 103, a light yellow-brown silty clay with abundant limestone inclusions. The final fill of the feature was deposit 102, *c.* 0.12m thick and comprising a mid-grey-brown clay silt with some re-deposited natural clay present. This in turn was sealed by deposit 101. The finds retrieved from the fills of the feature (104) indicate a probable 19th-century date for the truncation of the possible culvert. During the later ground level reduction of the site, the total limits of cut 104 could not be established due to the mixed nature of made ground deposit 112.

TP5 was located at ground floor level, against the east wall of the east range towards the south end. The test pit was excavated from the horizon of 101 into made ground deposit 112, and measured 0.75m by 0.45m by 0.21m deep.

Test Pits 6 to 8 were excavated by machine and were positioned along the alignment of the footprint of the east wall of the west range. The test pits measured 2m in length by 0.50m in width and were excavated to a depth of *c.* 2.50m, and were northeast to southwest aligned. TP6 was located at the northeast end of the wall footprint, TP7 was located roughly centrally

along the footprint, directly to the south of the cellar stairwell of No. 100, and TP8 was located towards the southwest end on the edge of the south range footprint of the FWCH.

TP6 reached bedrock (100) at a depth of 2.40m (*c.* 28.60m aOD), which was overlain by 0.60m of what appeared to be a natural superficial deposit (141), which in turn was overlain by 1.80m of demolition material (140). The horizon of the natural (140) indicates that the former basement level of No. 100 was *c.* 29.60m aOD.

TP7 (Plate 3) reached natural (141) at a depth of 1.40m (*c.* 29.60m aOD), which was overlain by 0.60m of a re-deposited natural with charcoal flecking (114), in turn sealed by demolition deposit 140. The south side wall (131) of the stairwell into the cellar of No. 100 was encountered within the test pit. The wall was constructed of handmade brick and roughly dressed stone and survived to a depth of 2.30m.

TP8 (Plate 4) did not reach natural, but exposed 0.50m of re-deposited natural (114) at the base of the test pit. Deposit 114 was overlain by 0.30m of made ground deposit 123, a dark grey-brown clay silt. Remains of walls were encountered in the southeast facing section of the test pit. Walls 143 and 144 were constructed of handmade bricks. Wall 143 was the south wall of the south range, and wall 144 appeared to be a former ground floor partition wall of the south range. Abutting the south side of the south wall (143) was brick wall 145. It was constructed of early to mid-20th-century machine made frogged bricks, stamped with 'LFC°L<sup>D</sup>'. The internal side of the bricks had a white glaze finish. The stamped brick was manufactured at the Leeds Fireclay Company Ltd, a company founded in 1938 with the principle brickworks based at Wortley, Leeds. The company closed *c.* 1957. Wall 145 relates to 20th-century extensions and alterations to the south side of the FWCH building. All three walls (143, 144, and 145) survived to a height of *c.* 0.80m.

#### *Ground level reduction (Fig. 5)*

The ground level of the site was reduced to 31.00m aOD. Only the central area of the east range remained in situ, and the cellar at the north end of the east range was excavated to separate depth (discussed below). During the ground reduction at the south end of the east range, machine excavations stopped at 31.68m aOD due to the identification of two pit features (119 and 121). Both features appeared very shallow in nature and were cut from the horizon of made ground deposit 112. The features were potentially of a relatively modern date, and were associated with disturbance caused by the laying of the concrete floor at the south end of the east range.

Plate 5 is a working shot and shows the mixed made ground deposit 112. The mid-grey-brown silty clay deposit (112) with yellow-brown re-deposited natural patches can be seen truncated by pits 119 and 121, both of which were filled with a black gritty clay deposit (120 and 122) containing coal inclusions. Pit 119 (Fig. 8, S. 07; Plate 6) was rectangular in plan, was northeast to southwest aligned and measured 1.20m long, by 0.95m wide and was 0.11m deep. Pit 121 (Fig. 8, S. 08) was sub-circular in plan and measured 1.20m in diameter and was 0.08m deep.

After the recording of the features, the ground level reduction continued (Plate 7 to 9) with the machine horizon finalised within deposit 123, a made ground deposit comprising a dark grey-brown clay silt. The deposit underlay made ground deposit 112 and was present across the site. In the footprint of the west range of the FWCH building and along the rear boundary of site, a deep mounding demolition debris deposit (140; Plate 7) *c.* 2.40m deep was removed. This deposit relates to the demolition of the west wing (No. 100) and central infilling building (No 99) in 2010. The brick debris also appeared to contain material from the former buildings which extended to the south of the FWCH, now a car park area. In this area of demolition debris made ground deposit 112 was not encountered.

In the west corner of site amongst the demolition debris (140), the remains of a cellar were encountered, the cellar was located at the west end of the south range, and the foundations of the west wall of the west range were also observed. The foundations (137; Fig. 6, S. 06; Plate 10) survived to a maximum height of 0.95m and length of 4.30m, and were constructed of random rubble stone, bonded with a pale grey lime mortar. Signs of burning to the wall were observed. At the south end, the foundations had been cut by the construction cut (138) for the later built cellar at the west end of the south range, which was likely constructed when the south range south wall was re-built in the late 19th/early 20th century. The void between the construction cut (138) and cellar wall 136 was filled by deposit 139, a yellow-brown silty clay.

The cellar (Fig. 6, S. 06; Plate 11) encountered comprised a wall forming the partial remains of a square room. The wall (125) was constructed of bricks two skins wide, the outer skin was constructed of handmade bricks and the inner skin was constructed of early to mid-20th-century machine made frogged bricks which were stamped with 'LFC°L<sup>D</sup>'. The internal side of the bricks had a white glaze finish. A concrete surface (126; 31.00m aOD) was encountered along the internal east side of the cellar, and it extended to the west for 1m. The internal base of the cellar was not reached, and the level of the concrete surface (126) was much higher suggesting a possible half landing or perhaps the cellar floor was later raised in the late 20th century.

Against the external north side of wall 125 a small rectangular brick feature (Fig. 6, S. 06; Plate 12) composed of brick walls 134, 135 and 136 was encountered. The feature was 1.11m long, by 0.68m wide and survived to a maximum height 1.16m. The walls were constructed of handmade bricks and appeared contemporary with the outer skin of wall 125. It was not clear what the rectangular brick feature was, but it possibly related to staircase access into the cellar.

#### *Pile Pad pits 1 to 20 (Fig. 7)*

The pile pad pits measured *c.* 0.50m by 0.50m (the exceptions to these measurements are detailed below) and were excavated up to a depth of *c.* 1.50m.

Pile Pad pits 1 to 7 (Plate 13) were excavated within the cellar at the north end of the east range. PP2 and PP5 utilised and extended TP1 and TP2 to a length of 1m. A sequence of



levelling deposits (Fig. 8, S. 09; Plate 14) were encountered underlying the early 19th-century flagstone surface of the cellar. Natural geology (115) was reached at a depth of *c.* 0.46m (*c.* 29.10m aOD), which was overlain by 0.24m of a pale grey silty clay with lenses of mid-yellow-brown silty clay (116) and appeared to be re-deposited natural. Deposit 116 was overlain by 117, a 0.22m thick made ground levelling deposit composed of dark grey clay containing charcoal flecking and fragments of brick, which was sealed by the cellar flagstone surface. Prior to the excavation of PP7, the passageway which led to the original staircase access into the cellar was cleared of building debris (Plate 15). At the south end of the passage a large sloping stone slab was encountered in situ and was determined to be the base riser for the staircase. No further evidence for the construction of the staircase was encountered on the east and west elevation of the passageway, possibly suggesting the remaining steps were constructed of a free standing timber structure. Within PP7, a northeast to southwest aligned ceramic drain was encountered, underlying the flagstone floor, and in the north corner of the cellar where PP6 was located, there was a drain access point (Plate 16), which appeared Victorian in date.

Pile Pad pits 8, 19 and 20 were located centrally within the east range at ground floor level (31.75m aOD; Plate 17). The extant floor surface in this area comprised modern concrete, which was removed in the areas of the pile pad pits prior to their hand excavation. PP19 utilised TP3 and PP20 was 1m in length. PP8 (Fig. 8, S. 10; Plates 18 and 19) was positioned along the east wall of the east range, undercutting the wall by 0.12m. Earlier deposits underlying the wall were encountered, so too was the sequence of deposits within the building which were consistent with PP19 and PP20. The northwest facing elevation showed that natural (141) underlying the east wall was at a depth of 0.29m. This was overlain by made ground deposit 118, which comprised a re-deposited natural, which in turn was overlain by 0.10m of mid-grey-brown clayey silt levelling deposit (142). Overlying the levelling layer was the stone section of the east wall of the FWCH. On the northwest facing section, visible for 0.15m in width on the north side and extending beyond the base of PP8, is the brick built cellar wall (111) of the east range. The wall is early 19th century in date, and was constructed underpinning the masonry of the east wall. No construction cut for the cellar wall was visible, indicating the wall was constructed flush against its cut.

The northeast facing elevation showed a cut (143) truncating deposits 142, 118, and 141. The cut was >0.69m deep, it had a near vertical side, and the base of the cut was not reached. The lowest fill encountered was deposit 123, a made ground deposit observed to extend across the majority of the site. This was overlain by 0.57m of made ground deposit 112, which in turn was sealed by modern demolition/trample layer 101. The cut likely relates to the construction of the FWCH. The location of the cut suggests that the stone element of the east wall of the structure was already in situ at this time and likely pre-dates the construction of the FWCH building, and was incorporated into it. The underlying made ground and levelling deposits 118 and 142 likely relate to the construction of the stone building which pre-dated the FWCH building. It is possible that the cut relates to the construction of the cellarage along the street

frontage of the site in the early 19th century, but considering the made ground deposits 112 and 123 were identified under the south and west ranges where cellaring was not present, it suggests that the cut pre-dates the construction of the cellars.

PP19 and PP20 exposed brickwork underpinning the west wall of the east range, which relates to the construction of the early 19th-century cellars along the street frontage of the site.

Pile Pad pits 9 to 18 were located within the footprint of the south range (Plates 20 and 21). They were machine and hand excavated after the ground level reduction of the south corner of site had been completed. The ground level reduction horizon was within made ground deposit 123. PPD13 was 0.70m in length and PP15 measured 2.00m in length. The deposits encountered within the pits were consistent across the area and a sequence of made ground deposits were recorded (Fig. 8, S. 11 and S. 12; Plate 22). Made ground deposit 113 was encountered at a depth of 1.00m. It was 0.50m thick and comprised a light grey brown clay. This was overlain by 0.78m of made ground layer 114, which comprised a re-deposited mid-brown-grey clay with charcoal flecking. This in turn was sealed by made ground deposit 123.

PP13 (Plates 23 and 24) was located to the east side of the covered passage way which was constructed through the south range in the early 19th century. A culvert with a stone base, brick sides and stone slab capping was encountered at a depth of 0.30m. It measured 0.40m wide, by 0.35m high and extended beyond the limits of the pile pad pit on a northeast to southwest alignment. Located *c.* 0.50m above the culvert, visible within the northeast facing section above the pile pad pit, was a ceramic drain of a probable late 19th/early 20th-century date. The culvert likely dates to the construction of the passageway.

#### *Pipe Trench (Fig. 7)*

The Pipe Trench was located along the west side of the west wall of the east range. It was *c.* 9.50m long by *c.* 0.70m wide and opened out into a larger area at the north end *c.* 2.50m by *c.* 2.50m (Plate 25). During the ground level reduction in preparation for the machine excavation of the Pipe Trench, the remains of wall 124 (Plates 26 and 27) was encountered. Wall 124 had a northeast to southwest alignment and was constructed of handmade bricks bonded with a lime mortar. The wall was two skins wide and was the foundation for the west side passageway wall, which was constructed in the early 19th-century through the south range. On the east side of the wall, infilling the passageway area, was a 1.10m thick deposit of dark grey-brown clay silt with frequent rubble debris. At the base of the deposit, a ceramic drain was visible and likely related to the drain identified above PP13. To the west side of wall 124 was made ground deposit 123.

During the excavation of the Pipe Trench, the area directly to the north side of the passageway was found to comprise 0.52m of made ground deposit 123 overlying made ground deposit 113 (Plate 28). At a later date, at the south end of the Pipe Trench, a perpendicular trench was excavated on a northwest to southeast alignment, 0.60m wide and

was *c.* 0.55m deep. Deposits observed comprised 0.08m of made ground 123 overlying deposit 114.

#### *Foundation Trench (Fig. 7)*

The Foundation Trench (Plates 29 to 31) measured *c.* 15m long and was excavated by machine to a depth of 2.40m. The south 5m of the trench was *c.* 0.60m wide and the remaining length was *c.* 0.40m wide. Natural geology was reached at a depth of 0.40m (*c.* 30.60m aOD) and was overlain by made ground deposit 123. As made ground deposit 113 and 114 were not encountered overlying the natural here, it was determined that made ground deposits 113 and 114 were localised to the south range area of the building.

#### **Structural Watching Brief**

The FWCH building fronts Kirkgate Street, on a northeast to southwest alignment, and originally had a U-shape plan form. For ease of description, and also in conformity with the earlier archaeological reports, the building is described as having a north to south alignment, with the extant buildings described as the east and south ranges. The south range of the FWCH is of two storeys, but the north end of the east range has an upper, attic floor as well as a cellar.

At the commencement of work, the building comprised the east range and the partial remains of the south range, but unfortunately during the renovation works the partial remains of the south range collapsed. Fortunately the roof timbers had been removed prior to this for renovation and re-instatement, and any re-useable material from the structure was also retrieved for re-instatement.

The east range is discussed first followed by the south range, with the internal walls discussed in a clockwise order. Not all of the plaster was fully removed due to further structural concerns, yet structural elements not identified previously were still observed and recorded.

The results discussed below address the areas of key interests listed in the Specification, in addition to features revealed during the renovation works. The location of the building is shown on Figure 2, with the location of the photographs taken are depicted on Figures 14 to 16. An archive listing and concordance of the photographs is provided in Appendix 4. A selection of photographs taken at the commencement of work have been included (Plates 32 to 48).

#### *North wall of the east range*

The exterior north elevation (Plate 49) of the east range is brick-built and had been finished with 20th-century render. The lower part of the original elevation had been removed (Plate 50) to make way for a late 19th-century shop frontage. Surviving on the east side, formerly only visible at first floor level, are side alternate chamfered stone quoins (Plates 51 and 52).

The revealed brickwork indicates two phases of construction with later repair in the form of modern blockwork above the shop front opening. The lower brickwork at ground floor level appears to be consistent with the west elevation bricks. No bond style could be discerned due to its heavy truncation, but potentially the bricks against the quoins at ground floor level and directly above the modern blockwork are original.

The west side of the ground floor and the first and second floor level of the elevation is constructed of machine made bricks with fairly thin mortar joints, laid to a five course Common bond. This phase of brickwork does not appear to have been tied into the west elevation of the range (Plate 53) and has subsequently pulled away from the structure slightly, with modern ties used at the upper level of the elevation to hold the wall in place. This secondary phase of brickwork likely dates to when the range was converted into a house by James Boyne in the early 19th century, which correlates well with the bricks and brick bond type used.

Beneath the eaves there is a brick corbel and four slots indicating the position of other corbels. The first floor has two window openings, each with a flat arch stone lintel and a projecting flat-faced stone sill. At second floor level there are two attic windows.

Internally much of the elevation retained its 19th-century plaster, however small areas of brickwork exposed appeared consistent with the external interpretation of the elevation (Plate 54).

*East wall of the east range and east gable of the south range (Fig. 9)*

Externally only the east gable end of the south range is visible from the east side (Plate 55). The remainder of the building abuts No. 97 Kirkgate. The ground floor level of the elevation is constructed of roughly coursed stonework, which is overlain by brickwork associated with the construction of the FWCH in 1711. Overlying this, is mid to late 20th-century brickwork laid to a three course Common bond, which extends above the original height of the eaves. There are two inserted high-level windows and two brick blocked first-floor windows. Formerly attached to the elevation there was a fireplace and chimney flue, which have been recorded previously. Additional features were identified internally and are discussed below.

Internally (Plate 56 to 58) the stonework visible externally was seen to survive to a maximum height of 4.80m. The masonry (Plates 59 and 60) is present for roughly half the length of the elevation. Roughly centrally located along the elevation there is a vertical join with brickwork associated with the construction of the FWCH. Here the stonework continues to the north acting as a plinth for the first phase brickwork. At the north end the plinth has been underpinned by early 19th-century brickwork associated with the construction of the cellar at the north end of the range.

Directly below the vertical join between the masonry and brickwork there is what appears to be a former corner of an earlier building (Plate 61). Here the masonry is more evenly coursed and the stone is dressed. This suggests that the stonework belongs to an earlier stone built

building, with two phases of that building possibly identified. The corner of masonry identified within the elevation appears to be the rear corner of a building that would have extended to the north fronting Kirkgate. Abutting this corner and partially overlying it, suggesting it was tied in, is a possible second phase, indicating a rear extension to the stone building.

At the north end of the elevation, at first floor level, earlier timbers were identified (Fig. 10; Plates 62 to 65). The timbers were not fully exposed, as they were not beneath the plaster but encased within the east wall, sealed by a skin of brickwork and mortar associated with the construction of the FWCH. The timbers appear to be a part of a former King-post truss rather than a timber framed building. A possible purlin was also identified supporting a rafter. The purlin was only seen in section but appeared to be a roughly shaped tree trunk. The presumed King-post had a pegged mortise and tenon joint with the presumed tie-beam, both had been carved with the Roman numeral I. The Roman numeral II was also identified on the tie-beam. Towards the upper section of the King-post there appeared to be a mortise slot for a strut. Evidence for lathe and plaster was also observed on the king-post.

At the south end of the east wall, on the east gable end elevation of the south range, two blocked windows were identified at first floor level. The openings were likely part of the FWCH construction and were blocked when the range was converted into a house, but this could not definitely be determined. The south side window had been blocked with probable early 19th-century brickwork and the north side window had been blocked with mid to late 20th-century brickwork. The external side of the elevation was formerly abutted by an extension to the rear of No. 97, which fronted Fox and Grapes Yard. It is likely that the windows were blocked when the extension were constructed. Some plaster was visible on the reveal of the south side window, suggesting it remained open during the building's use as an Assembly Room in the mid to late 18th century, and perhaps for a short time in the early 19th century when the east and west ranges were converted into houses.

#### *West wall of the east range (Fig. 11)*

The external west elevation (Plate 66) of the building at ground floor level comprises a colonnade of five blocked arches (Plates 67 and 68). It has been previously suggested that the colonnade was blocked in the 18th century, possibly at the time when the south range was converted into an assembly room. At first floor level there are six round-arched windows, they have brick voussoirs, formed from alternate courses of headers and stretchers, and have a central projecting sandstone keystone. The three windows at the north end retain their original chamfered stone springers. Partial remains of the sandstone window sills are present for the second and third window from the north end. The level of these stones indicates that the sills of the three windows at the south end of the elevation have been lowered.

The yellow sandstone sills have been chiseled to be flush with the external face of the elevation. This presumably occurred when the north range frontage was constructed and the section of wall plastered, rendering the three north end windows obsolete of their original

function. The sandstone sill remains are fragmented (Plates 69 and 70), two pieces remain in situ for the second window from the north end, and one piece is in situ for the third window. Figure 11 illustrates their location. The ends of the sills appear to have a slight cyma reversa ogee profile and taper in at the base. The fragments are 0.13m thick, with the positioning of the pieces indicating the sills would have had a length of *c.* 1.70m.

The removal of the plaster, which formerly obscured the north end of the first floor (Plate 71), has revealed two blocked doorways. The north end window had been altered to form a doorway, with the level of the base of the blocked doorway suggesting it was made prior to the lowering of the first floor level of the building. The doorway would have provided access into the north range, which was constructed in the early 19th-century, suggesting that the lowering of the first floor of the east range did not happen at the same time as the construction of the north range, but perhaps later in the late 19th century. At this time the doorway would then have been blocked. The second doorway is located between the second and third window from the north end, at the lowered first floor level, suggesting it was made when the north end of the east range was remodeled. The brick infill of the opening suggests it was blocked in the early 20th-century.

Between the two doorways is an area of brick repair appearing to block a square shaped recess/hole. It is positioned at a first floor level which potentially was the original FWCH first floor level. The repair likely relates to when the cross-beam was removed and lowered during the remodeling of the north end of the east range.

Internally the removal of plaster from the west elevation at ground floor level revealed parts of the colonnade of five blocked arches (Plates 72 to 77). At first and second floor level very little of the plaster was removed from the west elevation (Plates 78 to 81). The later inserted brick built fireplace at first floor level and the chimney breast at second floor level had been removed (Plate 82). Here the brickwork was soot stained. Where brickwork was revealed, it appeared consistent with that identified externally.

#### *North wall of the south range* (Fig. 12; Plates 83 to 88)

The detail of the arcade arch at the east end of the north elevation of the south range was recorded prior to its collapse. The arch comprised a square-sectioned stone column set on a roll mould decorated plinth. The column retains its original margin dressed surface detail, and projecting flat-faced stone capital. The east side column was incorporated into the east wall, but its west face, projecting stone capital and roll mould decorated plinth could still be seen. The base of the north face of the column could partially be seen, and the good preservation of the surface dressing of the column was visible. Springing from each of the capitals was a round-arch with a central projecting sandstone keystone. The arch was constructed of rubbed handmade brick voussoirs laid in alternate courses of two headers to one stretcher.

The west side of the arch was blocked, and formerly formed a small passageway from the rear of the building into its central courtyard. The passageway was constructed in the early 19th century. The west side blocked area of the arch had a horned sash window fitted, and the

base of the blocked area had late 20th-century repair. The sill of the window also had a skim of modern concrete.

At first floor level there were two cross-beam timbers, the area beneath the west side timber had been repaired internally, and on the external side a patress plate had been used to secure the beam.

#### *South wall of the south range*

Four phases were identified on the south elevation of the south range (Plates 89 to 94). The first phase related to the construction of the FWCH, the second to the blocking of openings and the construction of the cross-passage, the third related to the late 19th/early 20th-century re-building of much of the wall, and the fourth to mid to late 20th-century alterations.

The earliest brickwork identified was located at the east end of the elevation at ground and first floor level. Here original brickwork and blocked window openings could be seen. At ground floor level the partial remains of two round-arched windows with brick voussoirs were recorded, and at first floor level the partial remains of three blocked windows were recorded. The windows were likely blocked in the early 19th century when the rear extension to the east side of the south range was constructed. At this time a fireplace with a stone mantle appears to have to have been constructed, with the stack formerly projecting out from the south side of the elevation. Also during the second phase, a large opening was formed at the east end of the elevation to provided access into the new extension and the passageway providing access from the rear north side of the building into the central courtyard area was constructed.

The third phase comprised the re-build of much of the south elevation. The external side of the elevation was constructed of machine made bricks lain to Common bond with Flemish every sixth course and had thin mortar joints. The interior of the three brick deep wall was constructed of handmade bricks lain to a six course Common bond. The sixth course of bricks were lain rowlock. The wall faces appeared to be of a contemporary build but the internal part of the elevation had re-used brick, presumably from the wall it re-built.

The fourth phase related to the infilling of a doorway towards the west end of the elevation, the blocking of the fireplace and the opening at the east end of the elevation being reduced in size. Later timber paneling (matchboarding) and a patch of concrete skim was also observed.

No evidence relating to the Assembly Room created at first-floor level in the mid-18th century was observed.

#### *Ground floor and first floor levels*

The original ground floor level of the east range appears to be fairly consistent with the current level, with some flagstones identified underlying the modern *c.* 0.03m thick concrete surface. Notably no foundations were identified underlying the east wall of the east range in the area south of the north end cellar.

The ground floor level within the south range had been raised on the west side of the passageway, and timber joists and floorboards had been built into the room, presumably when the range was partially re-built in the late 19th/early 20th century.

The original first floor level of the building has been difficult to determine, but the presence of two joist slots on the south elevation, a blocked possible beam slot at the north end of the west elevation and the level of the altered window to form a doorway at the north end of the west elevation of the east range suggest that the floor level was positioned directly above the voussoirs of the arches of the ground floor level.

The most recent first floor levels of the east range had been lowered when the second floor was constructed in the 19th century. As suggested previously some of the joist, beams and floor boards appear to have been re-used during the alterations.

### *Roof*

A cupola was mentioned by both Ralph Thoresby (the early 18th century antiquarian) and Daniel Defoe (in his publication 'A Tour through the Whole Island of Great Britain' published between 1724 and 1725), and it has been suggested based on Cossin's map of Leeds of 1726, that it was mostly likely to have been positioned in a central position on the south range.

During the archaeological works no structural evidence was encountered for the existence or position of a cupola on the roof (Plates 95 to 101).

Tree-ring analysis of suitable roof timbers was undertaken by Alison Arnold and Robert Howard of the Nottingham Tree-ring Dating Laboratory. The report concludes that several of the timbers have been re-used from an earlier 15th-century structure with other timber dating to the construction of the FWCH. Their report is presented in Appendix 5.

### *Catalogues*

During the renovation works, an archaeological catalogue of 88 salvaged sandstone pieces was undertaken. Of these, 53 sandstone pieces/blocks had been recently uncovered, both on site and stored in a nearby railway arch. The remaining 35 sandstone blocks were observed within the southwest facing elevation of a retaining wall located adjacent to Kirkgate, below roadside level. The stones are believed to have come from the original First White Cloth Hall. The catalogue is provided in Appendix 6.

The removal of the roof timbers was monitored and a catalogue of five roof trusses and associated roof timbers was produced. This catalogue is presented in Appendix 7.

Timbers were exposed in the east wall of the east range and a catalogue was produced (Appendix 8).



## **6 Artefact Record** by Zoe Horn

### **Pottery**

From fill 103 of pit 104 three sheds of pottery were retrieved, including a handle, possibly from a redware 19th-century Chinese style teapot. It has a branch form, and a mid-brown hard fabric, slip coated but not glazed. A body sherd of a wheel thrown brown, tan and cream 'wood grain' colour coated ware jar or mug was also recovered from 103, as well as a body sherd from a wheel thrown bowl or puncheon, with a light yellow glaze to its internal surfaces.

From made ground deposit 112, a small rim sherd of a thin hard grey fabric with a dark brown glaze, possibly from a cup or small bowl was found.

Nine sherds were recovered from made ground deposit 113, including three sherds of a vessel with a rounded base and deep footring, possibly of an earthenware jug or flagon in a pinkish fabric, with an orange slip and glaze. Four body sherds of a wheel thrown greenish brown glazed bowl or cauldron with a possible handle scar identified were also retrieved, as well as two small body sherds of a yellowware bowl.

Three sherds from a plain whiteware plate or charger were recovered from cellar levelling deposit 117.

A creamware storage jar, recovered during ground level reduction at the site, is recorded as unstratified. It has a ridged outer surface and with the maker's stamp on the base which reads 'Not genuine unless bearing Wm P. Hartleys label'. Sir William Pickles Hartley (1846 to 1922), was a jam manufacturer and philanthropist, he founded the Hartley's jam company in 1871.

The pottery assemblage includes examples of early 18th-century coarsewares produced in small-scale 'country potteries' often financed by local entrepreneurs employing or backing professional potters (e.g. from made ground layer 113). Formal tablewares of a 19th-century date include single sherds of White Salt Glazed Stoneware (from levelling layer 117), slipware (from fill 103 of pit 104), and Creamware (U/S). All of these types are commonly found in 18th century and early 19th-century assemblages.

### **Clay tobacco pipe**

Five clay tobacco stem fragments were recovered from fill 106 of pit 104. The fragments had a relatively narrow stem bore and dated from the mid-18th century onwards.

### **Stone**

A sub-rectangular stone roof tile, measuring a maximum of 350mm, by 215mm wide, by 25mm thick was retrieved from fill 110. The roof tile has squared edges with four possible nail holes, indicating re-use. The tile is a pale to medium brown sandstone, fine grained, well sorted, well compacted, with appreciable muscovite mainly concentrated on bedding planes and associated laminae; thin bedded. Coal Measures, similar to Elland-Flags type.

## 7 Environmental Record

### Soil sample by Jane Richardson

The bulk environmental sample (from fill 108 of pit 109) was processed by ASWYAS using a Siraf style water flotation system (French 1971) for the recovery of carbonised plant macrofossils and charcoal. The flot was dried before examination under a low power binocular microscope typically at x10 magnification. The flot contained small fragments of cinder-like material but no recognisable plant remains or charcoal fragments. No charred material was recovered from the retent portion either. The retent has already been discarded, and the flot is recommended for disposal also.

### Animal bone by Jane Richardson

Animal bones were recovered from two deposits: a made ground deposit (113) which contained a single sheep-sized rib fragment that had been gnawed by a rodent, and the fill (106) of pit 104. The pit contained sheep skull fragments (some butchered), a sheep metatarsal and a sheep first phalanx. Larger fragments, only identifiable as cattle-sized long bone fragments, were also present. The assemblage is too small to be analysed further, but should be retained as part of the site archive.

## 9 Discussion and Conclusion

The objectives set out prior to the commencement of the archaeological works at the site were directed to ensure that the archaeological works and the record produced would enhance the understanding of the development of the FWCH building and to address specific areas of interest, as set out in the Specification.

During the renovation works, evidence for an earlier stone structure was encountered. The masonry revealed on the east elevation of the east and south range has been interpreted as displaying two phases of an earlier stone structure. Roughly centrally located along the east wall, a dressed corner was observed, which is believed to represent the rear corner of a building fronting Kirkgate. This exposed masonry appears to have been abutted and keyed into by the extension to its rear, also constructed of stone and bonded with a lime mortar. The Specification mentions that 19th-century documentary sources suggest that the site was occupied by the house of a chantry priest in *c.* 1430, with a hospital and almshouse behind ('Ducatus Leodiensis' 1816). According to Ralph Thoresby, these buildings were still standing in the early 1700s, but in a ruinous state. It seems possible that the earlier structural remains incorporated into the east wall of the FWCH building were remains from medieval buildings, and may relate to the ruinous building Thoresby mentions.

Stonework was also utilised for the west foundation wall of the west range and within areas of the cellars fronting Kirkgate, but it is not clear if these too are in situ incorporated structures or simply walls utilising re-used materials. The presence of the timbers

encountered within the east wall between first and second floor level suggest that there was a building already in situ to the east side of the FWCH site, with brickwork indicating that a single skin of bricks was constructed abutting against it.

Two deposits, a redeposited natural and a made ground/levelling layer (118 and 142), have also been interpreted as relating to the earlier stone structures. These deposits had been truncated by what has been interpreted as a probable construction cut for the FWCH building. This cut likely represents the preparation of the site with the removal of the former ruined structures mentioned by Thoresby, and probable accumulated deposits, which were replaced with made ground deposits (such as 123 and 112) prior to the construction of the FWCH.

It has been interpreted during the most recent works at the site that the original ground floor level of the FWCH would have been fairly consistent with recent ground floor levels. It is possible that the original first floor level was located directly above the voussoirs of the arcade arches. The original level is implied by a beam slot, two joist slots and the base of a later inserted blocked door.

The construction of the second floor in the east range has formerly been attributed to the early 19th century, and was believed to be contemporary with the construction of the north range. During the renovation works, it was determined that the alteration to the east range occurred at a slightly later date, a short time after the north range had been constructed. This was determined by the placement of a blocked doorway on the west exterior elevation of the east range, at former first floor level, which would have provided access into the north range.

During the groundworks, it was established that cellarage was limited to the north boundary of site along the street front, and to the rear south end of the west range. The bricks used to construct the west range cellar comprised handmade bricks of a probable early 19th-century date bonded with a lime mortar, while later 20th-century glazed bricks had been used to line the cellar room.

It is, finally, interesting to note, as mentioned in previous reports, that in order to compete with the cloth trade of rival town Wakefield, the rapid completion of the construction of the FWCH building was paramount to Leeds at the time. It appears that re-used materials were utilised for the construction of the FWCH building to aid in this process. The incorporation of a wall, belonging to an earlier building in the construction of the cloth hall, would undoubtedly have speeded up its construction, as would the re-use of timbers for the roof structure.

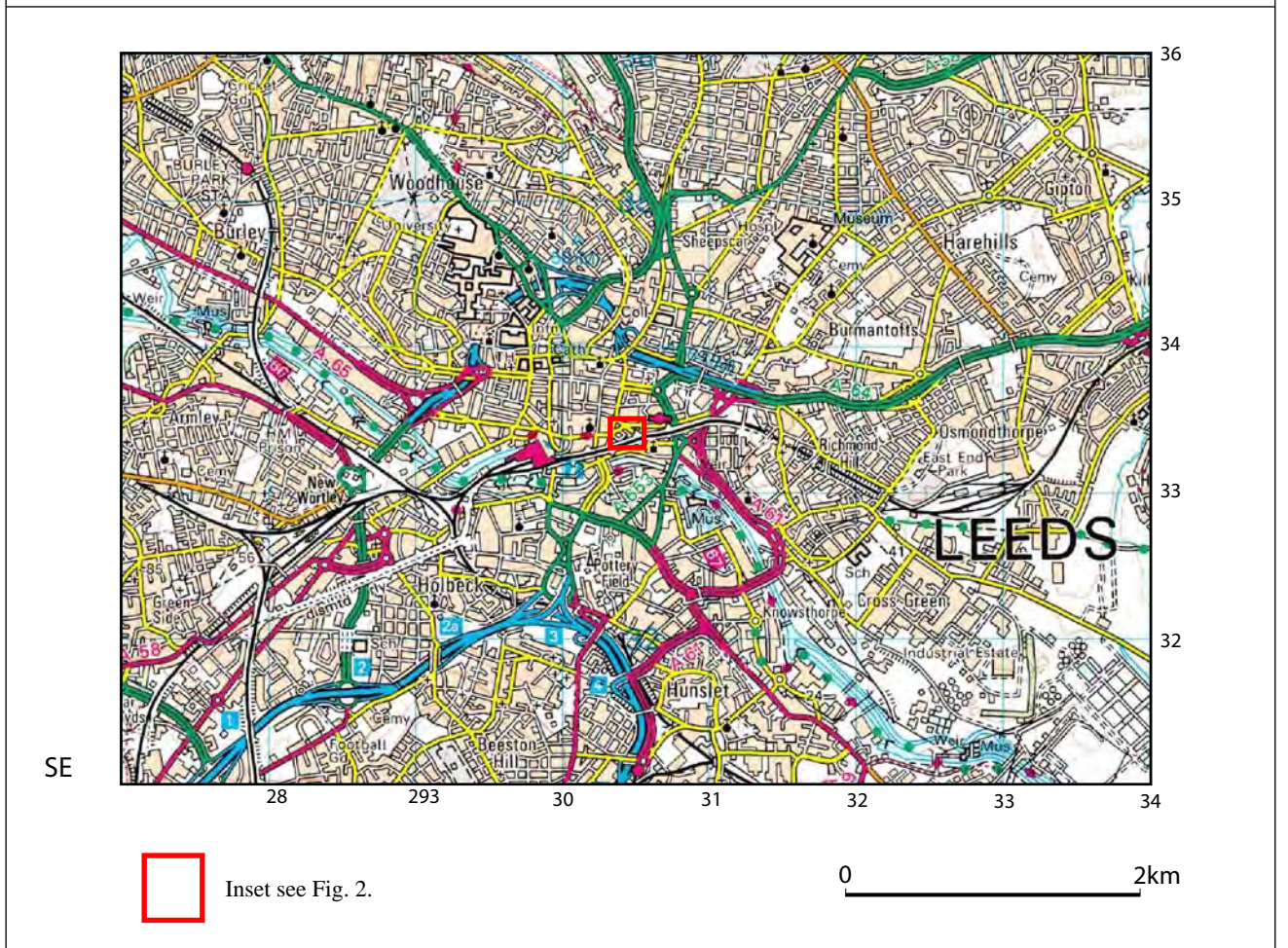
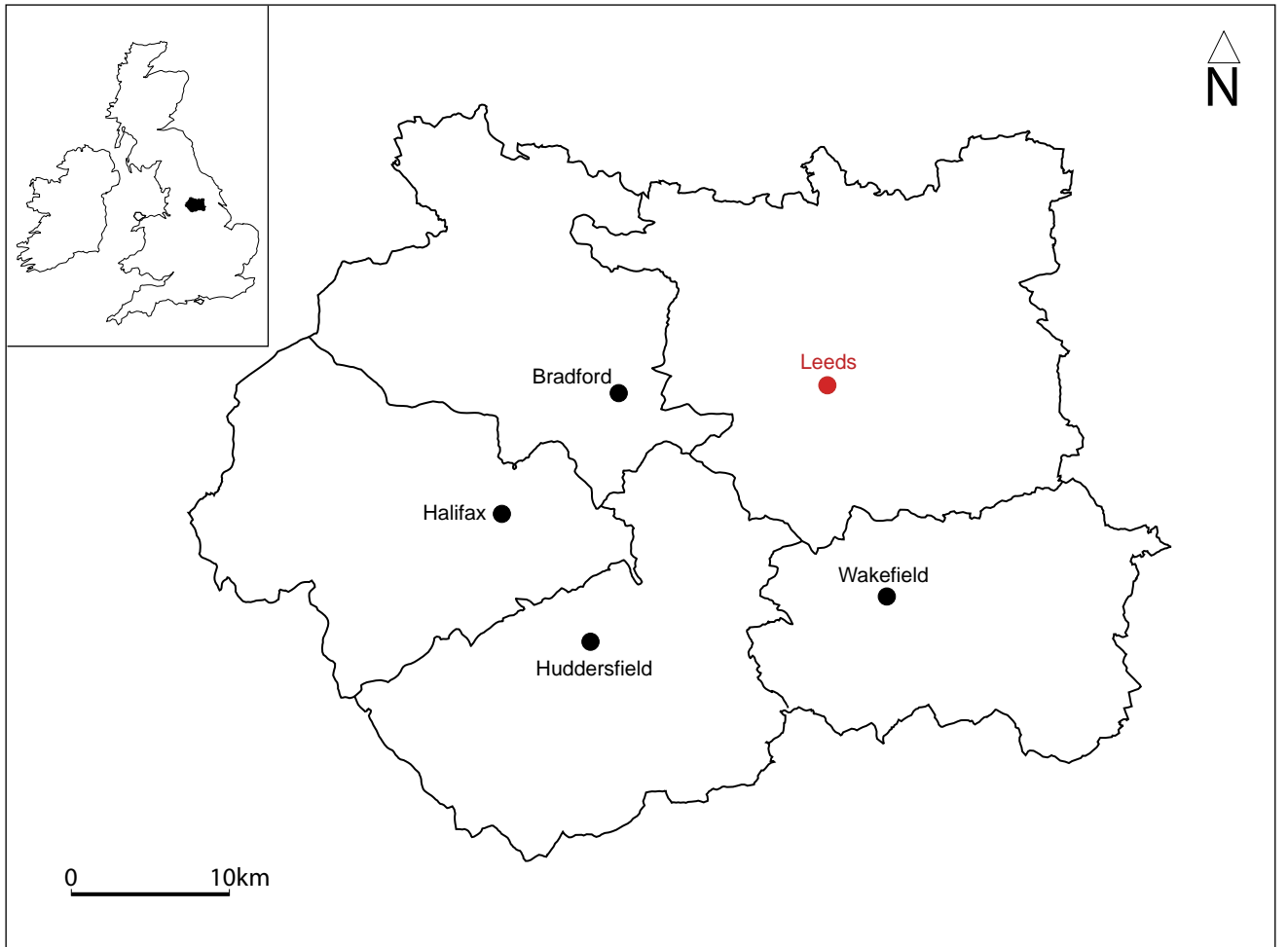


Fig. 1. Site location

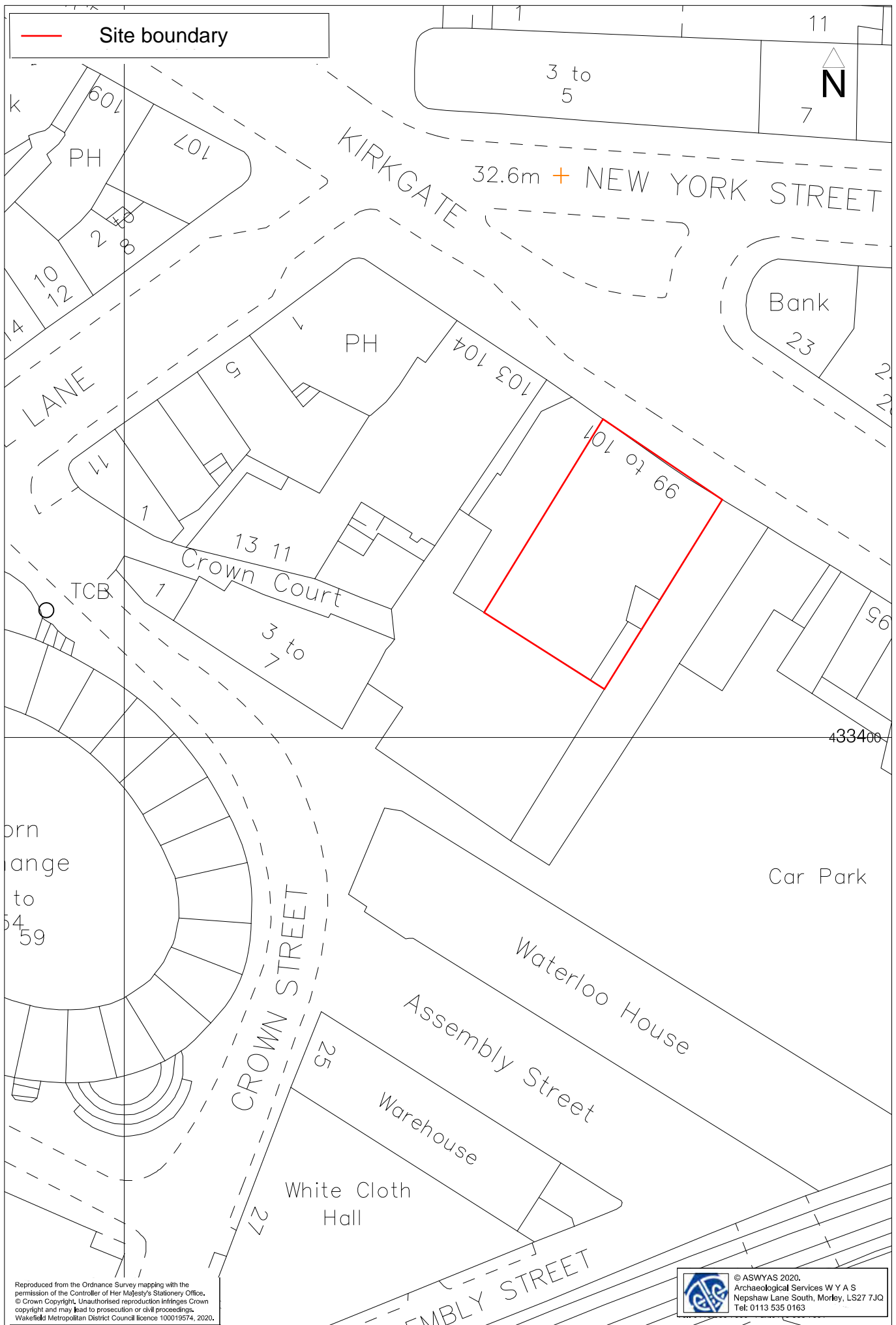


Fig. 2. Site plan 1:500 @ A4

0 25m

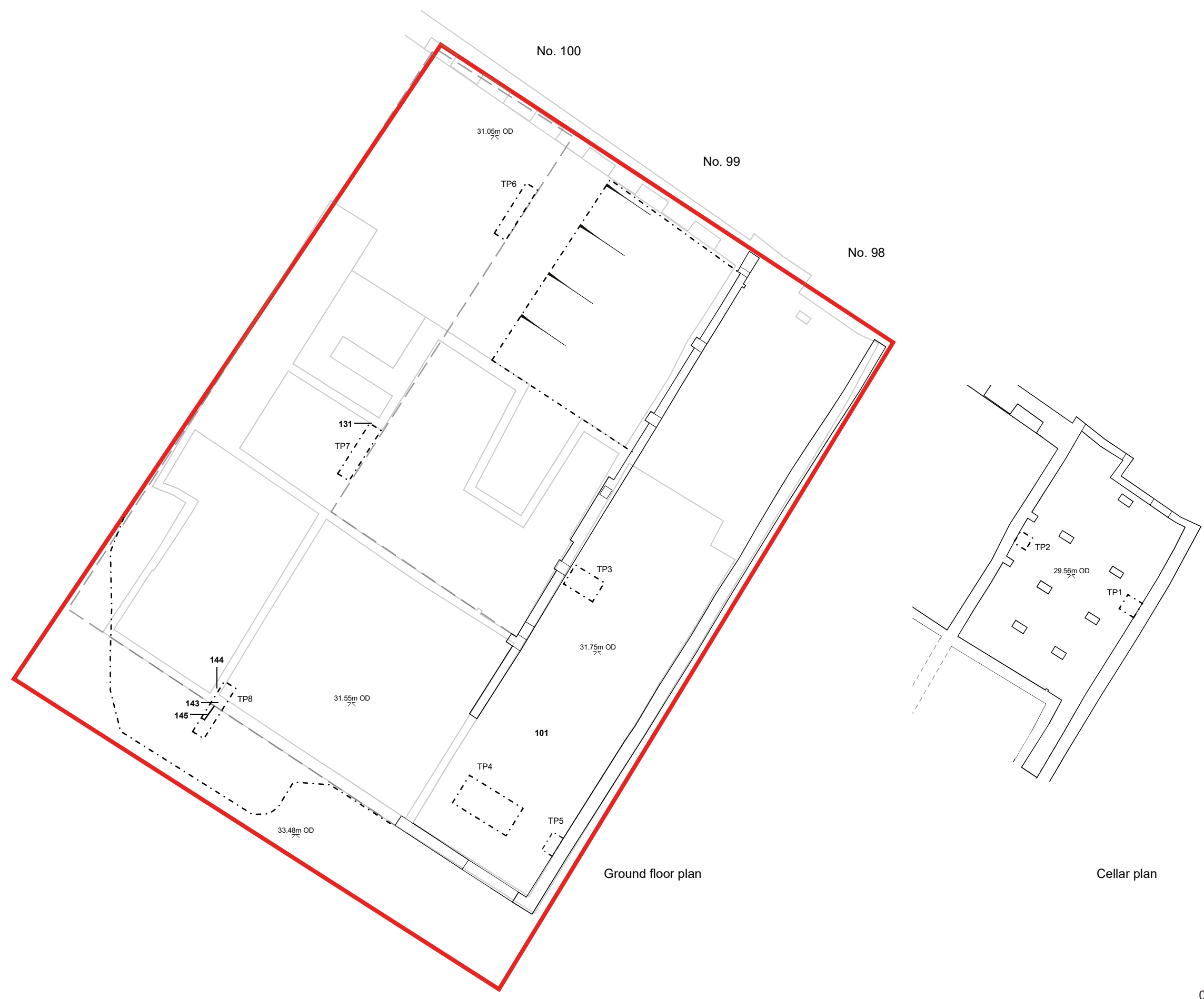


Fig. 3. Plan showing the location of Test Pits 1 to 8, also showing the footprint of the west and south ranges as well as the cellar outlines for Nos 99 and 100 (1:150 @ A3)

0 2m (1:150)

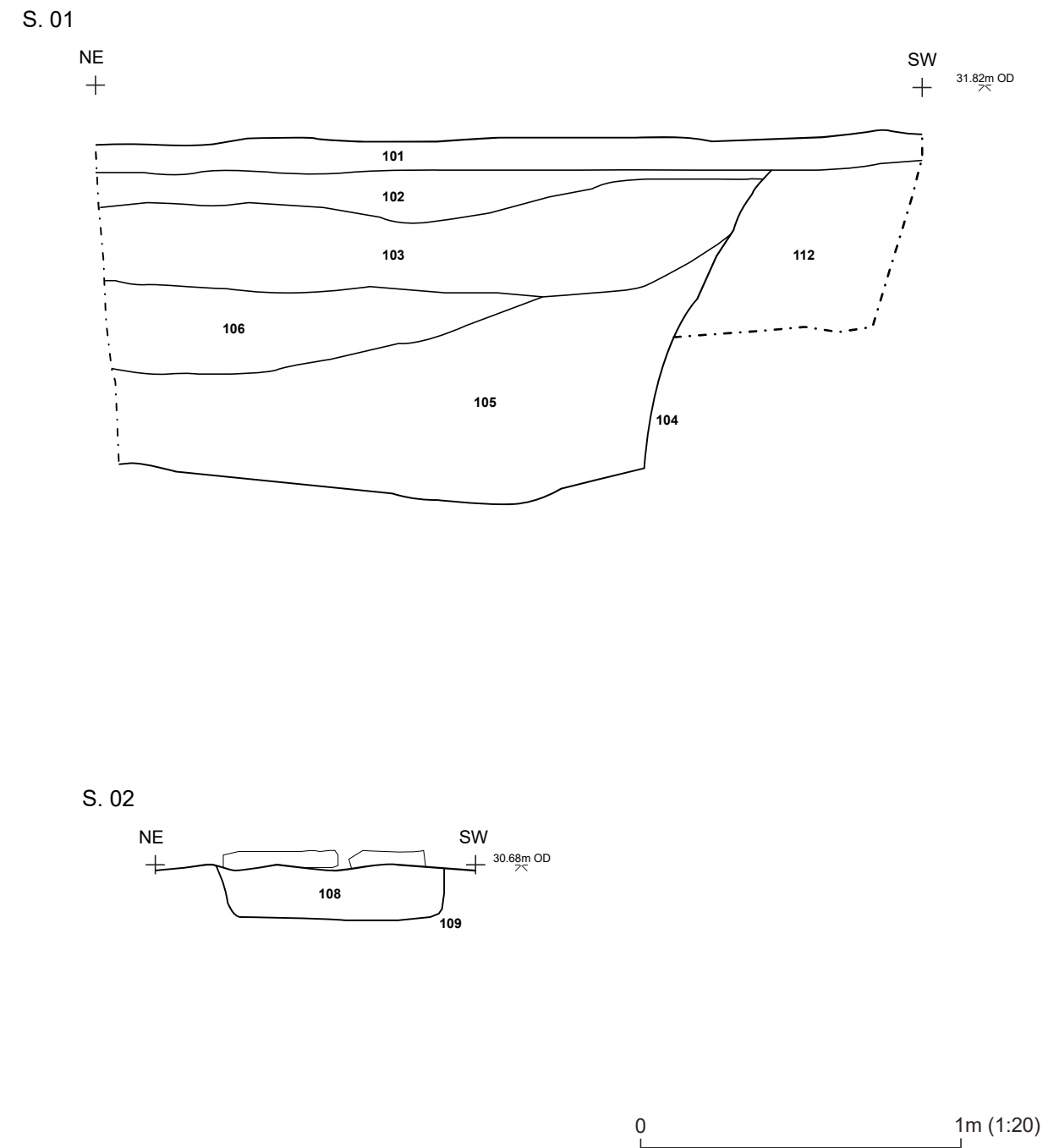
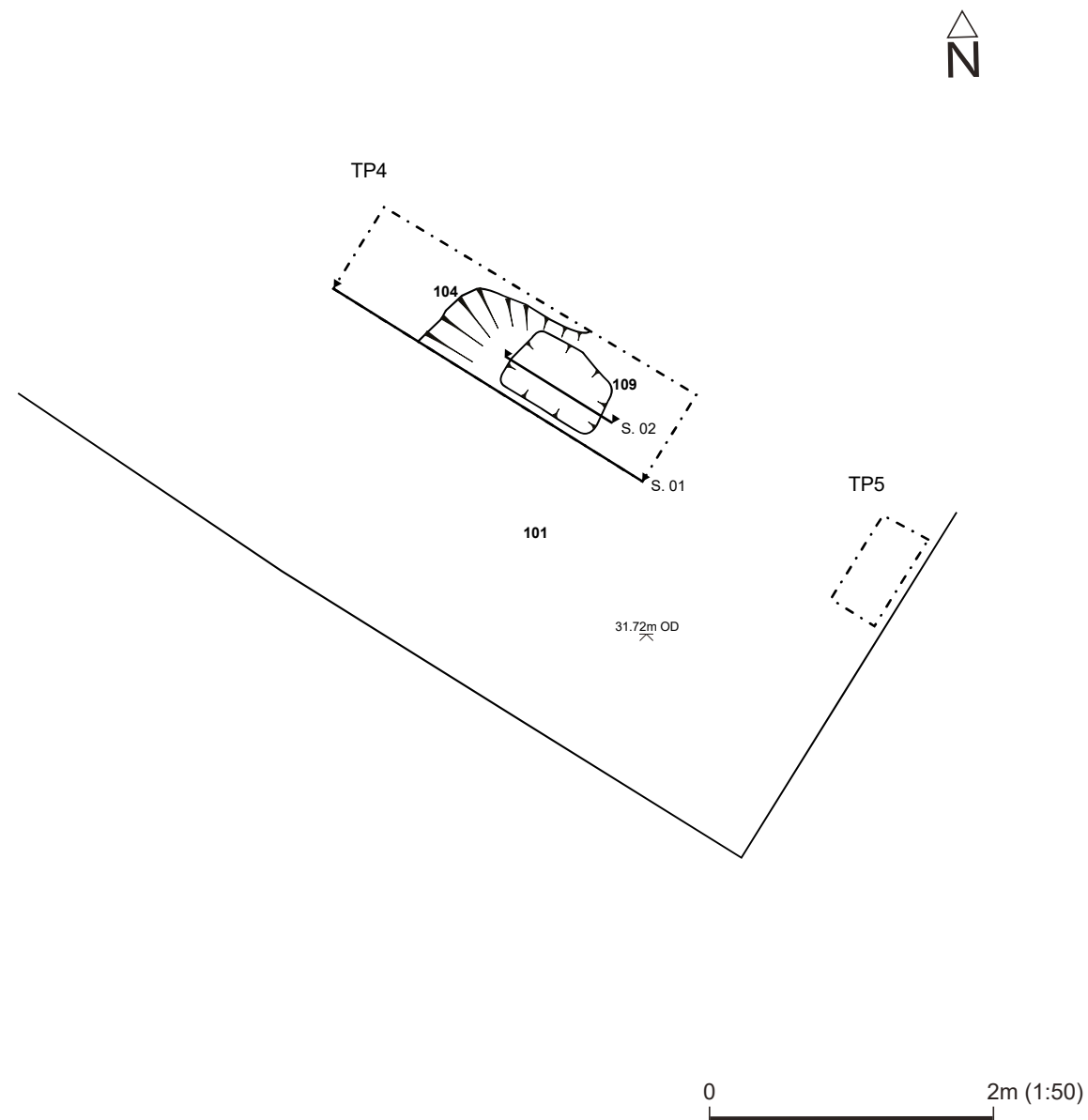


Fig. 4. Test Pit 4, plan and sections



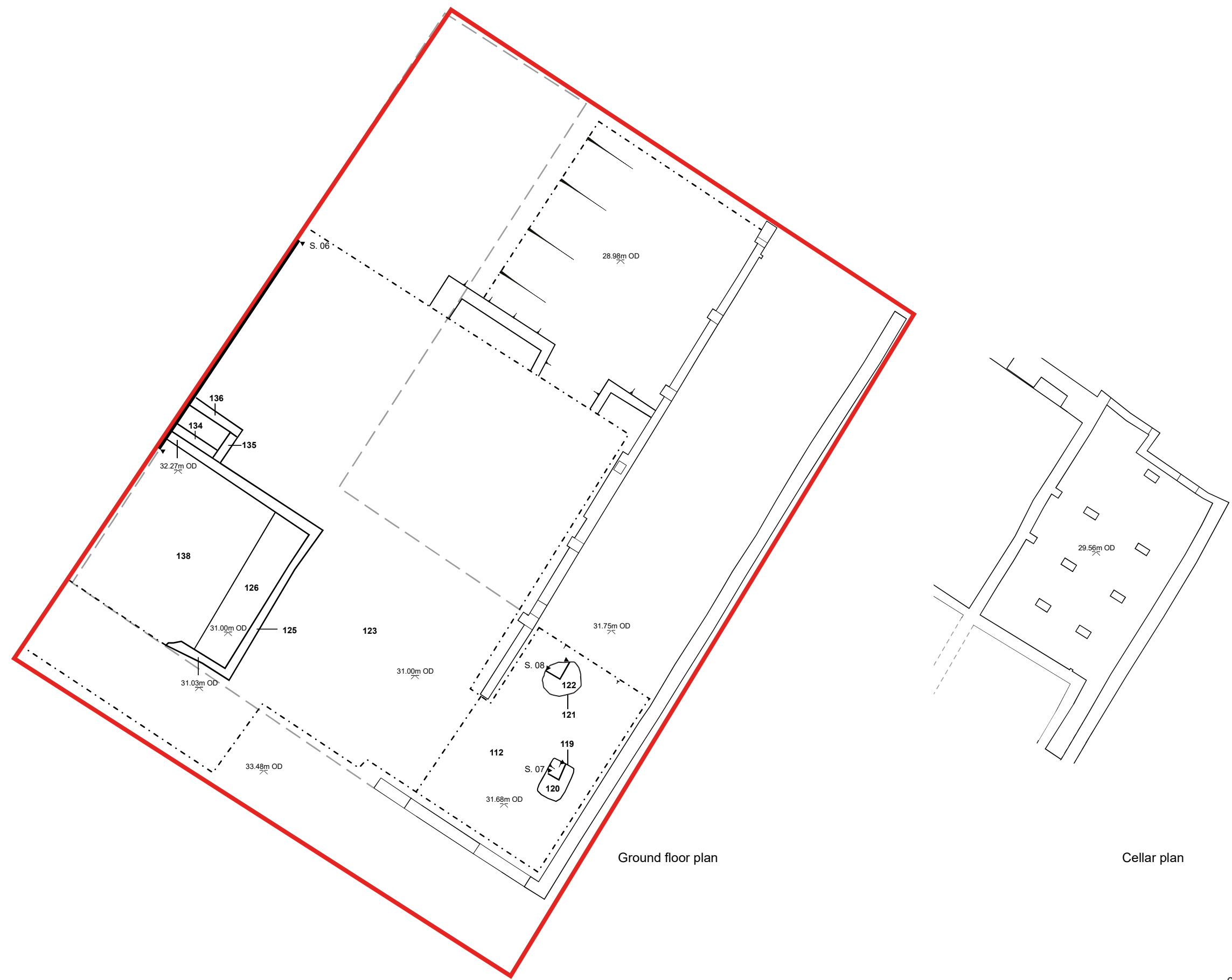


Fig. 5. Plan showing the location of the ground level reduction, and the features encountered (scale 1:150 @ A3)

0 2m (1:150)



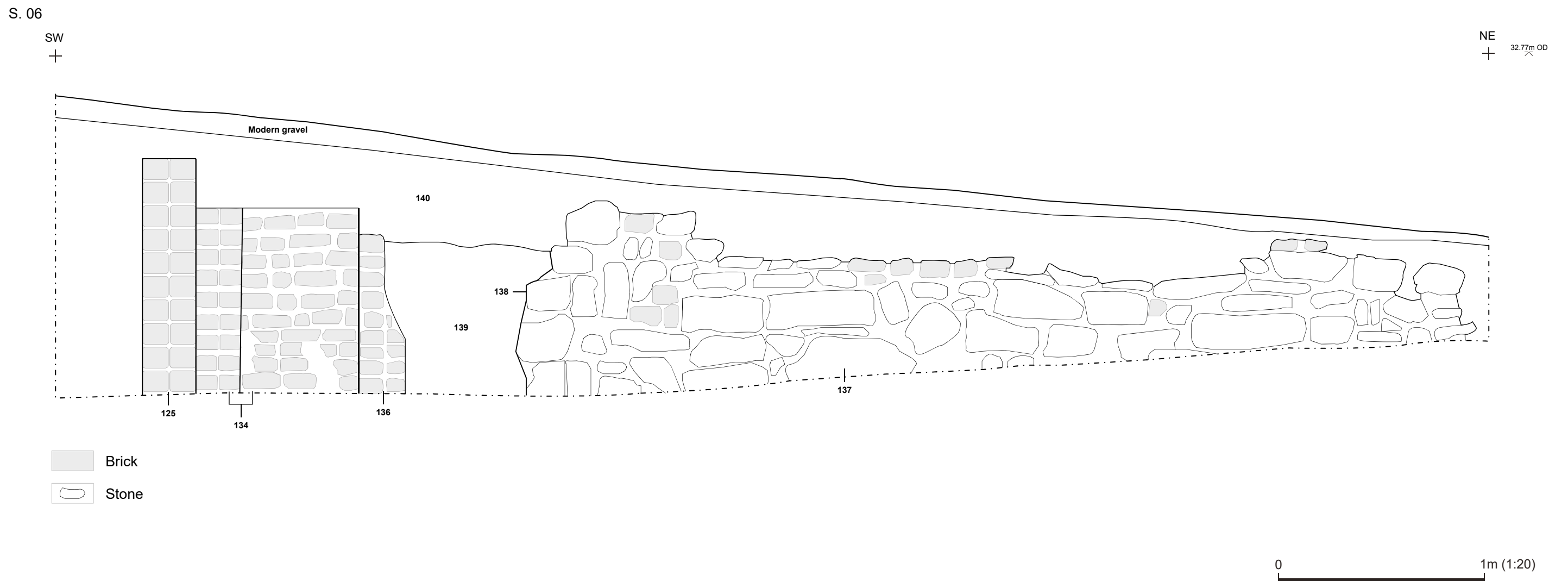


Fig. 6. West elevation of the west range foundations, brick feature and cellar wall (scale 1:20 @ A3)



Fig. 7. Plan showing the location of the Pile Pad pits, Foundation Trench and Pipe Trench (scale 1:150 @ A3)

0 2m (1:150)

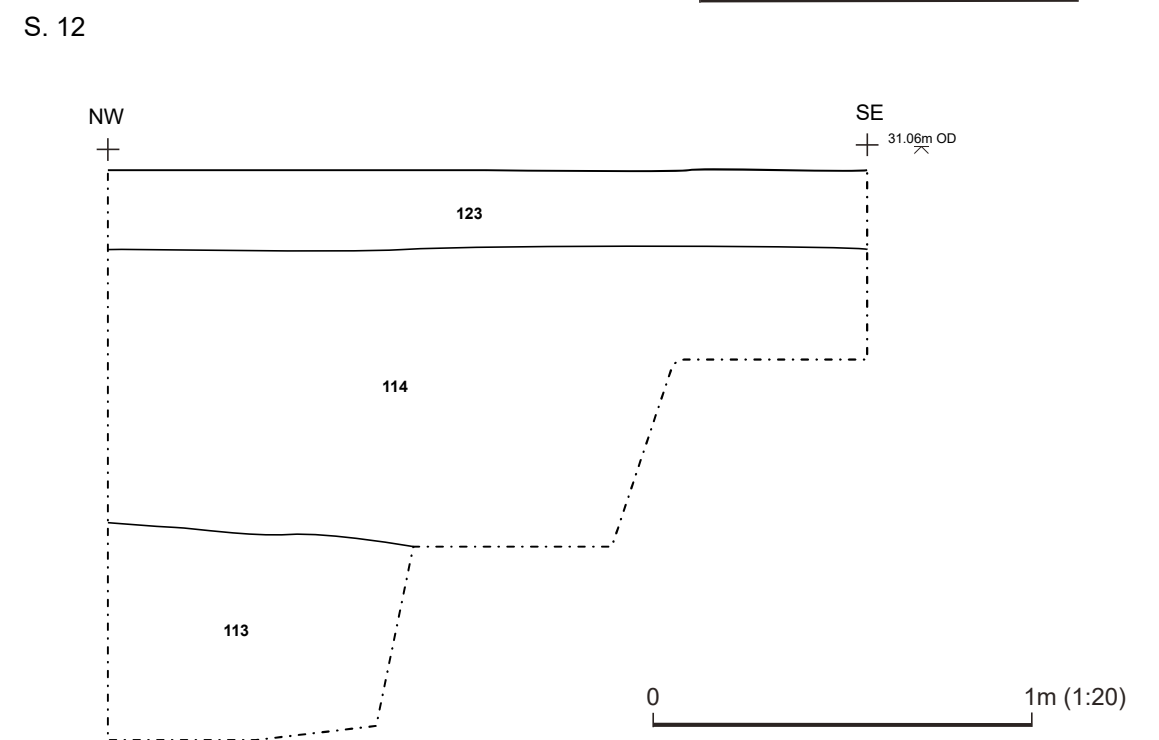
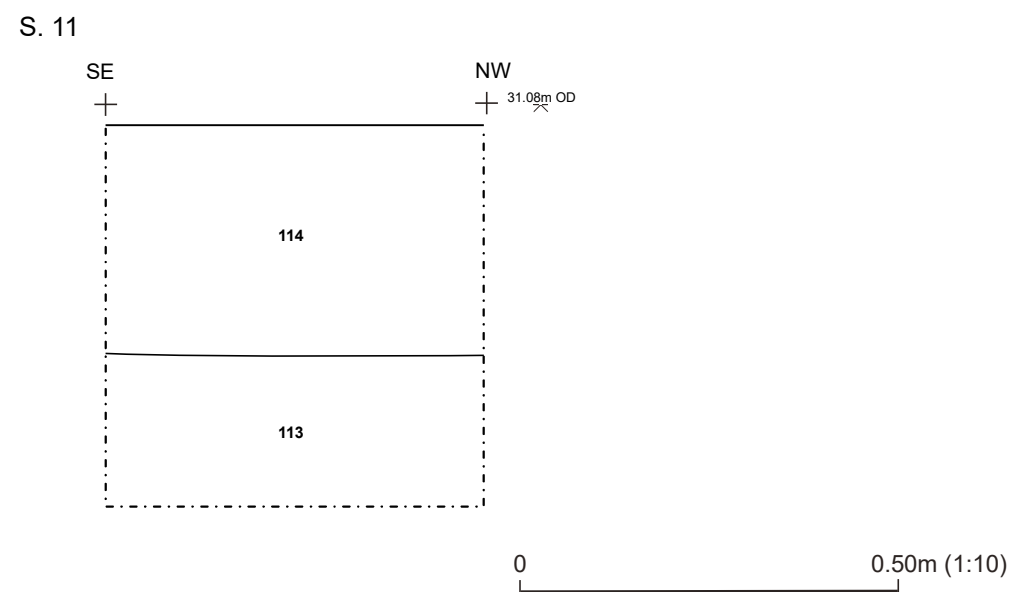
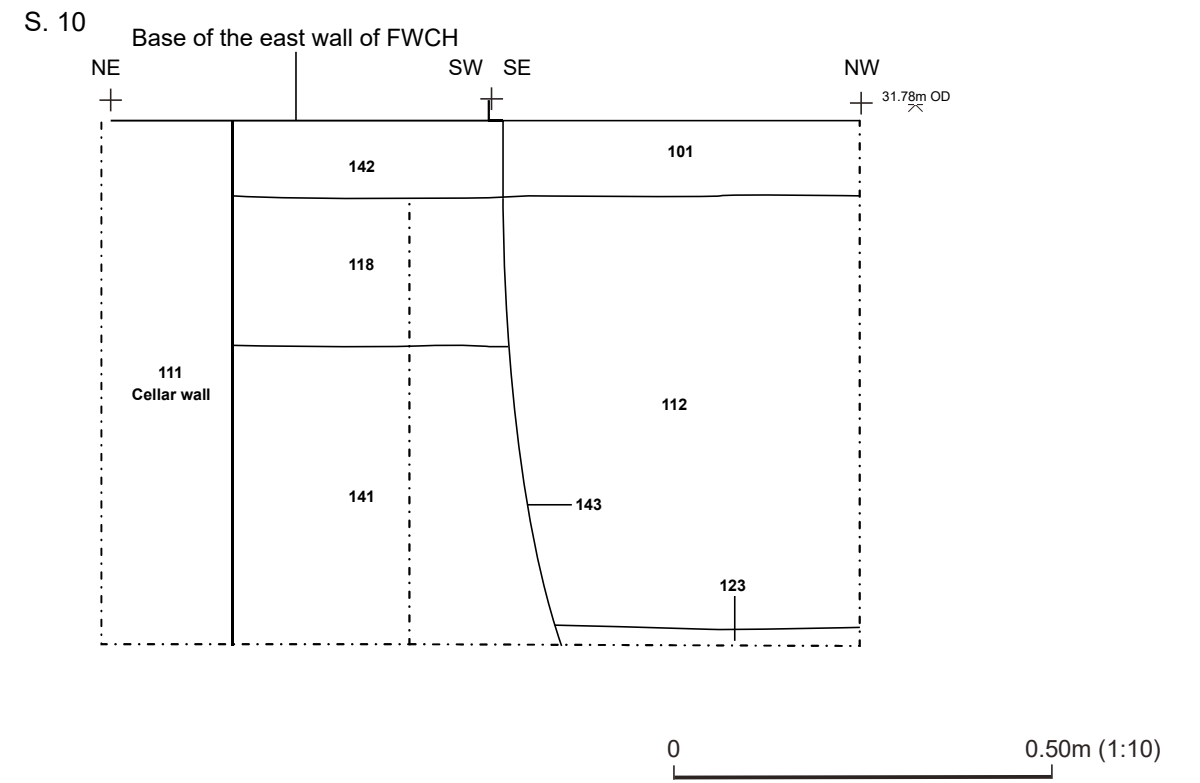
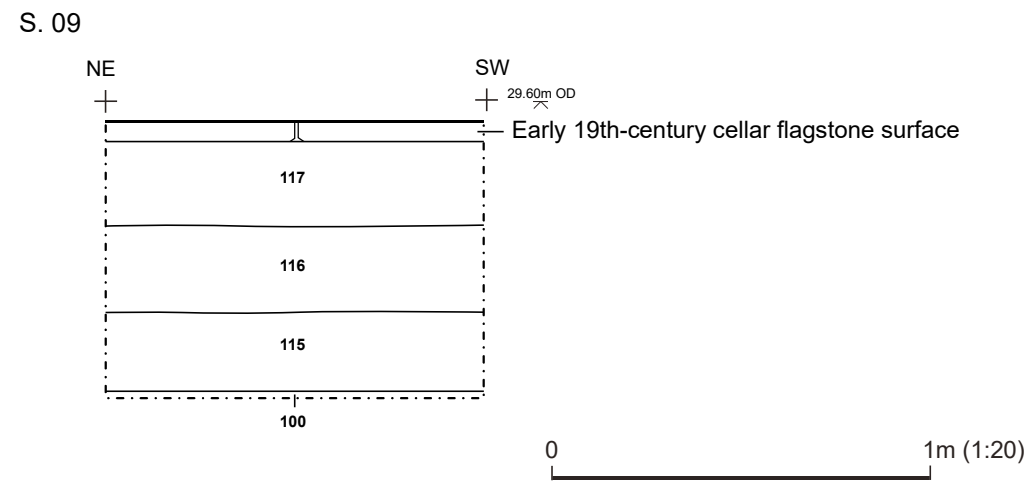
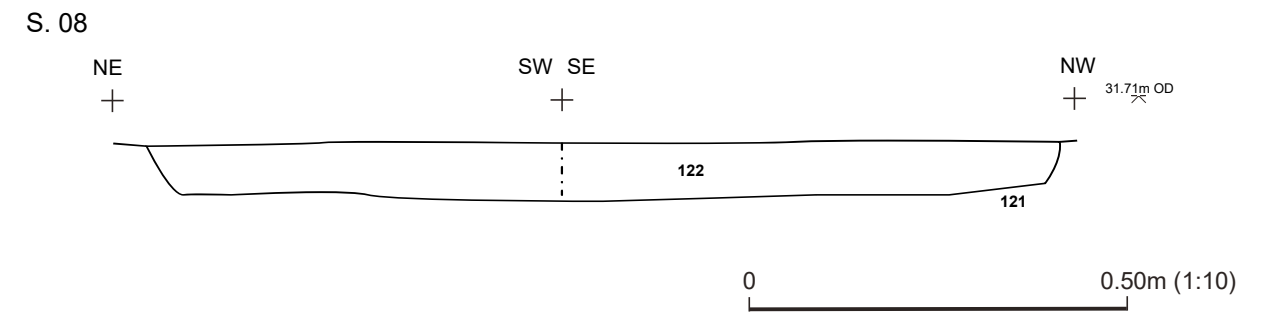
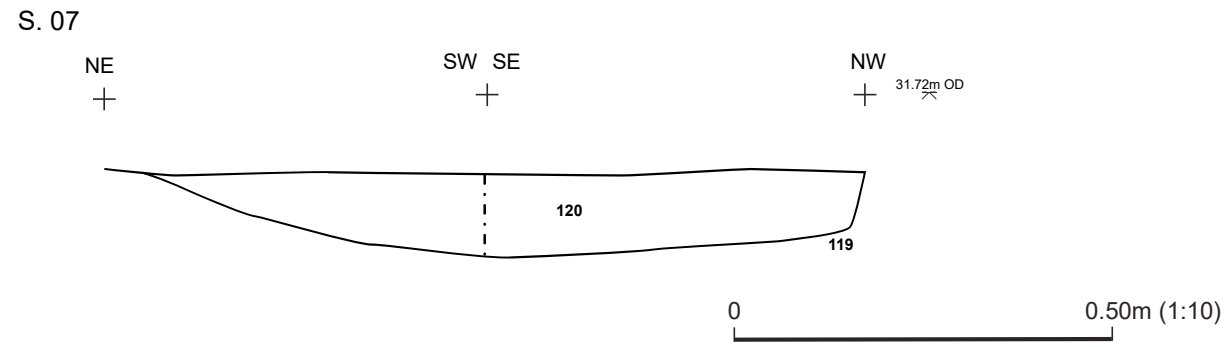


Fig. 8. Pile Pad pits and feature sections

- Pre-dates FWCH
- 1711 (primary phase of construction of FWCH)
- Early 19th century
- Mid to late 20th century
- Plaster
- Modern material
- PP3 Pile Pad

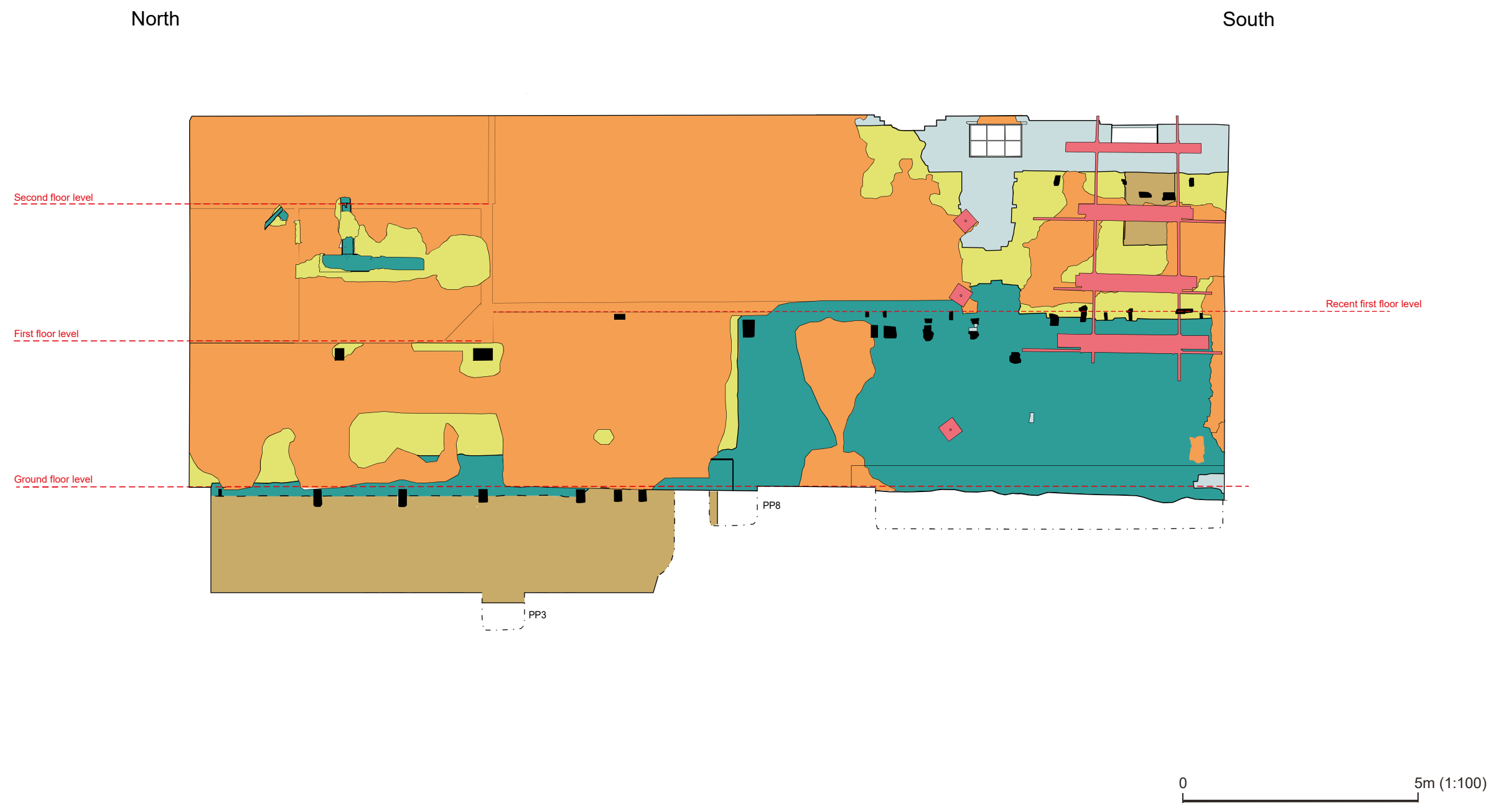
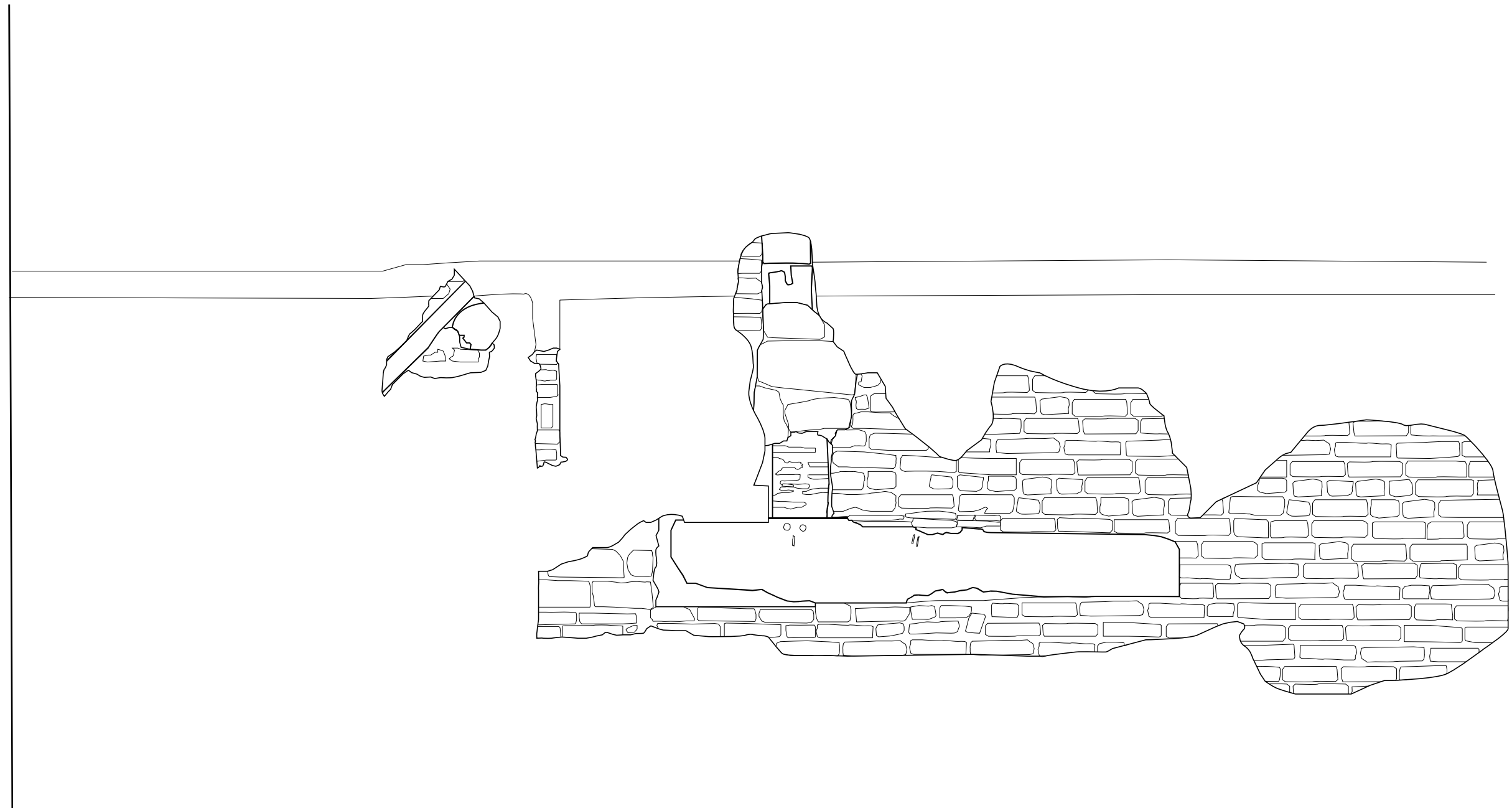


Fig. 9. Internal east elevation of east range, and east elevation of south range (1:100 @ A3)



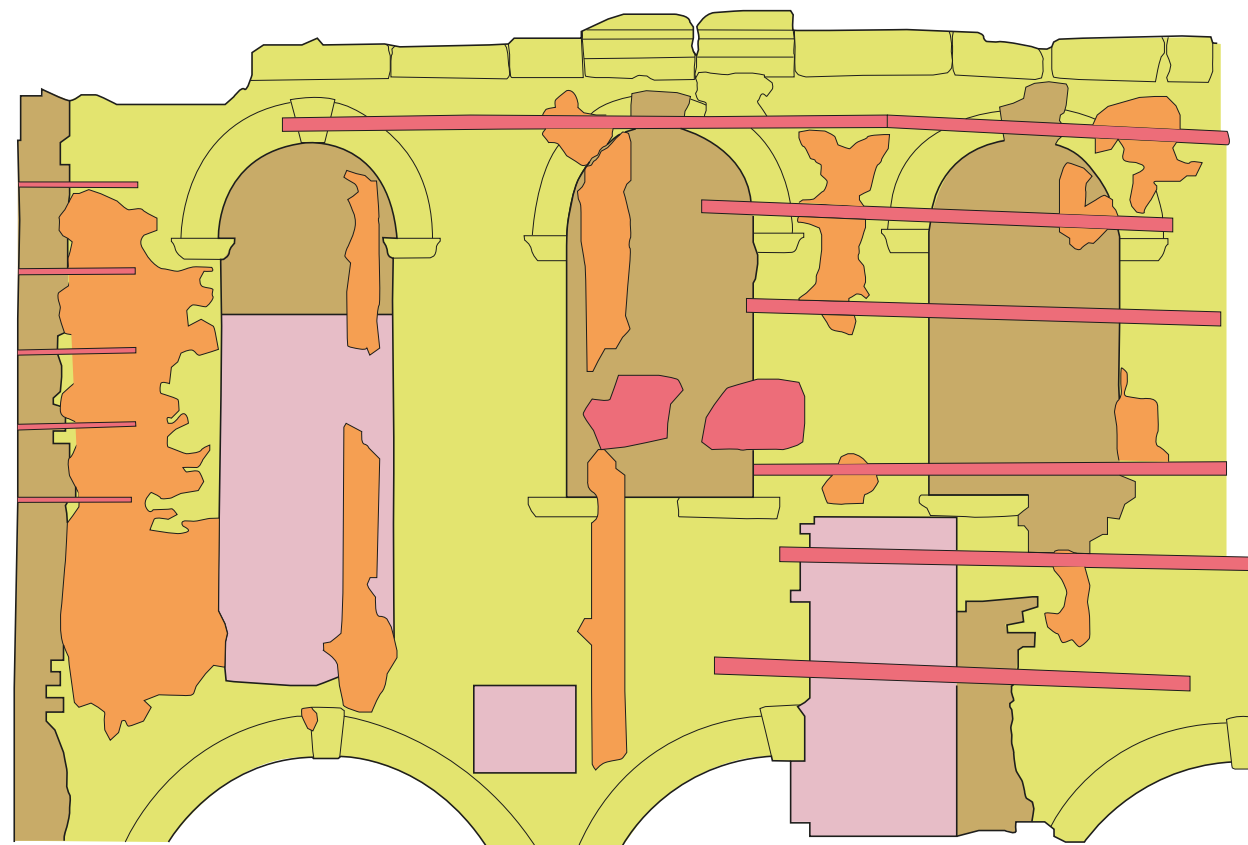
0 1m (1:20)

Fig. 10. Detail of timbers encased in the east wall of the east range (scale 1:20 @ A3)

- 1711 (primary phase of construction of FWCH)
- Early 19th century
- Late 19th to early 20th century
- Plaster
- Modern material

North

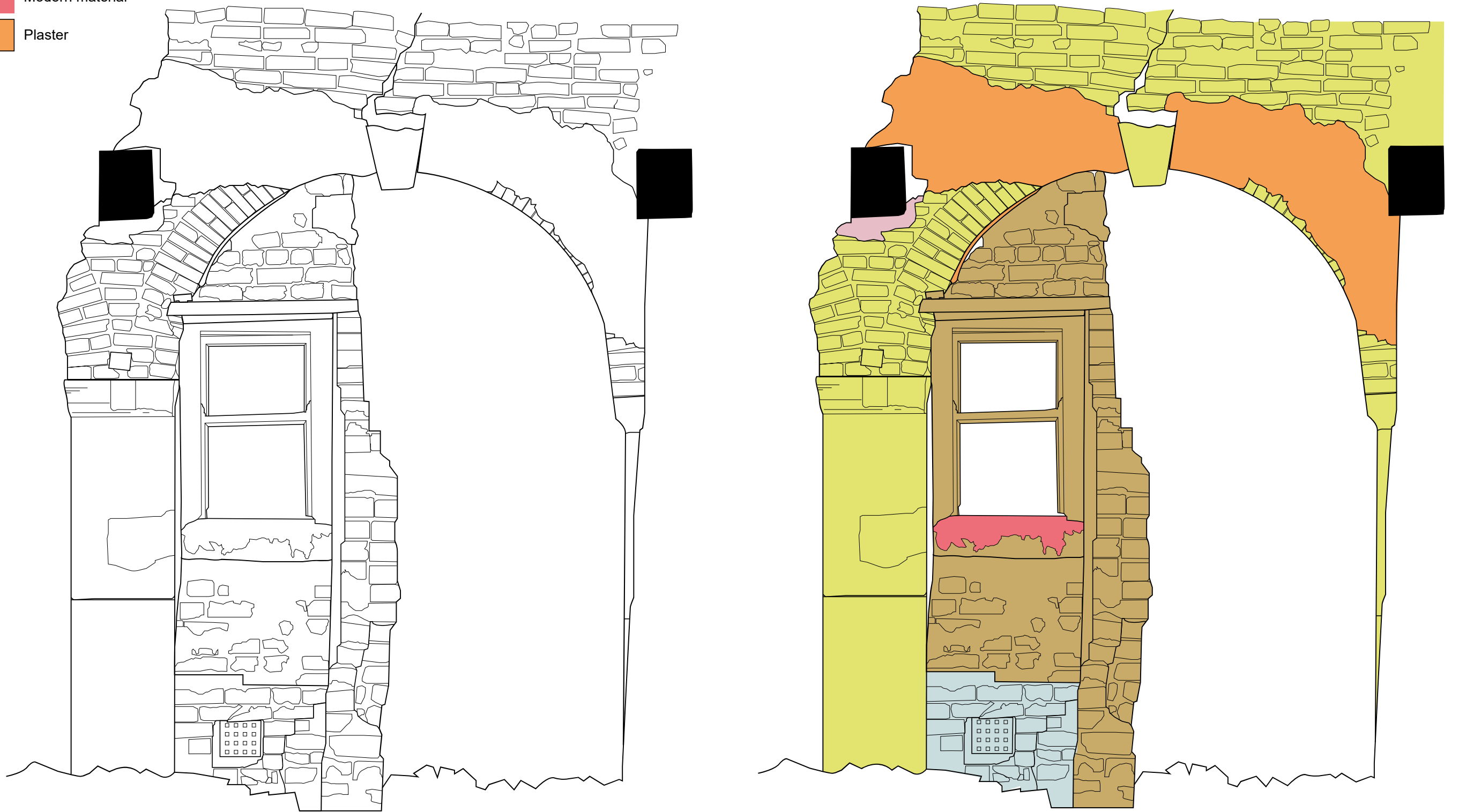
South



0 2m (1:50)

Fig. 11. External west elevation of the east range, showing the detail of the three windows at the north end of the first floor (1:50 @ A3)

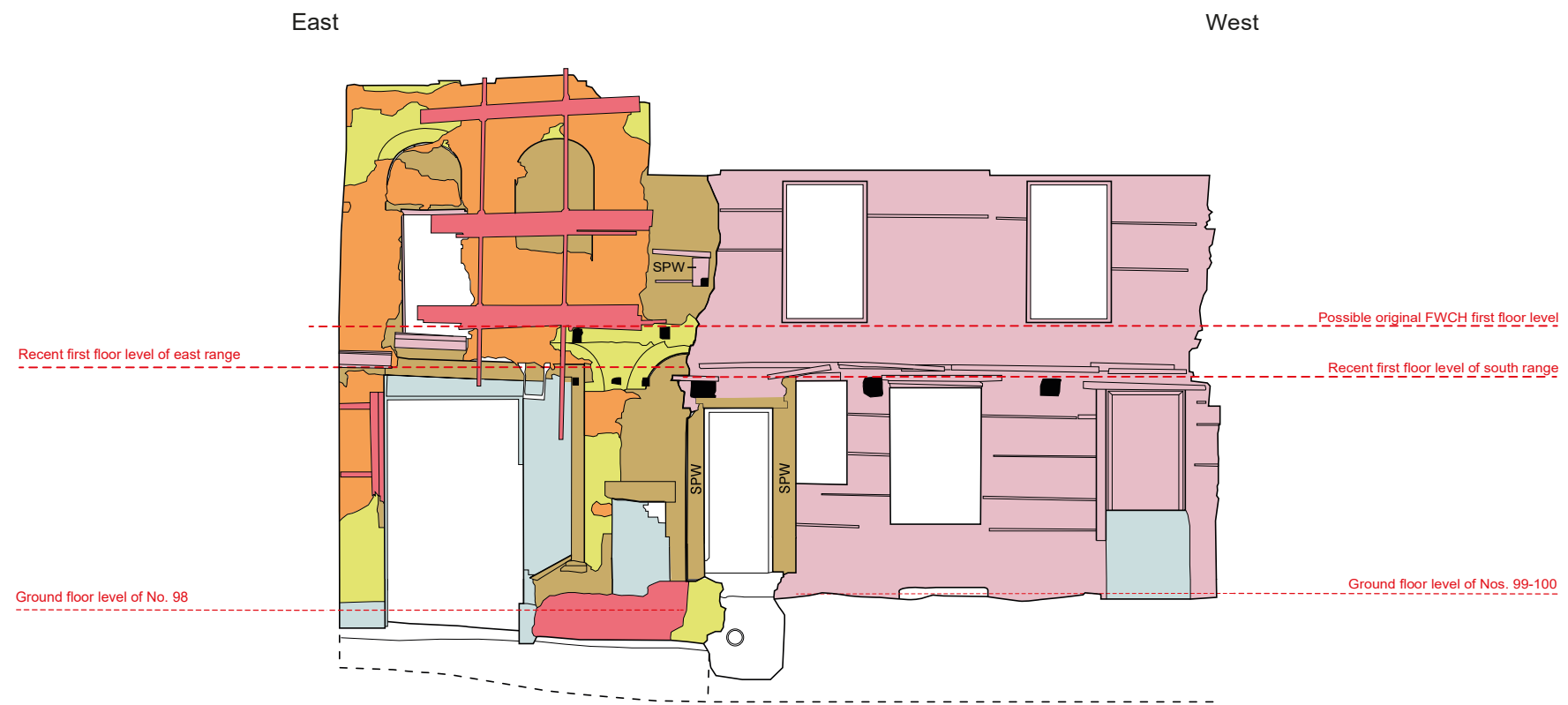
- 1711 (primary phase of construction of FWCH)
- Early 19th century
- Late 19th to early 20th century
- Mid to late 20th century
- Modern material
- Plaster



0 1m (1:20)

Fig. 12. Internal north elevation of the south range, showing the east end arcade arch detail, prior to collapse (1:20 @ A3)

- 1711 (primary phase of construction of FWCH)
- Early 19th century
- Late 19th to early 20th century
- Mid to late 20th century
- Plaster
- Modern material
- SPW Stub partition wall



0 5m (1:100)

Fig. 13. Internal south elevation of the south range (1:100 @ A3)



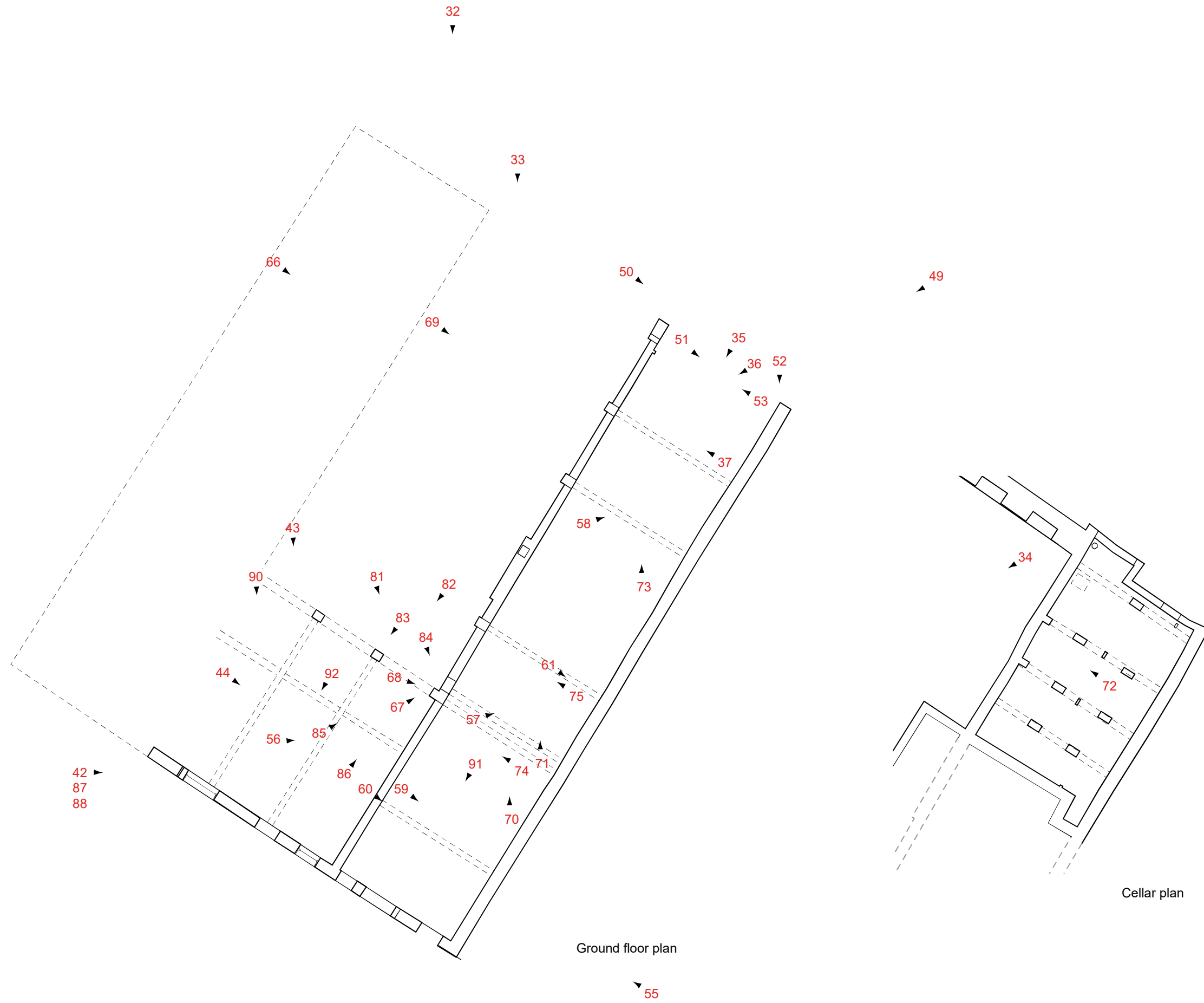


Fig. 14. Cellar and ground floor photograph location plan (not to scale)

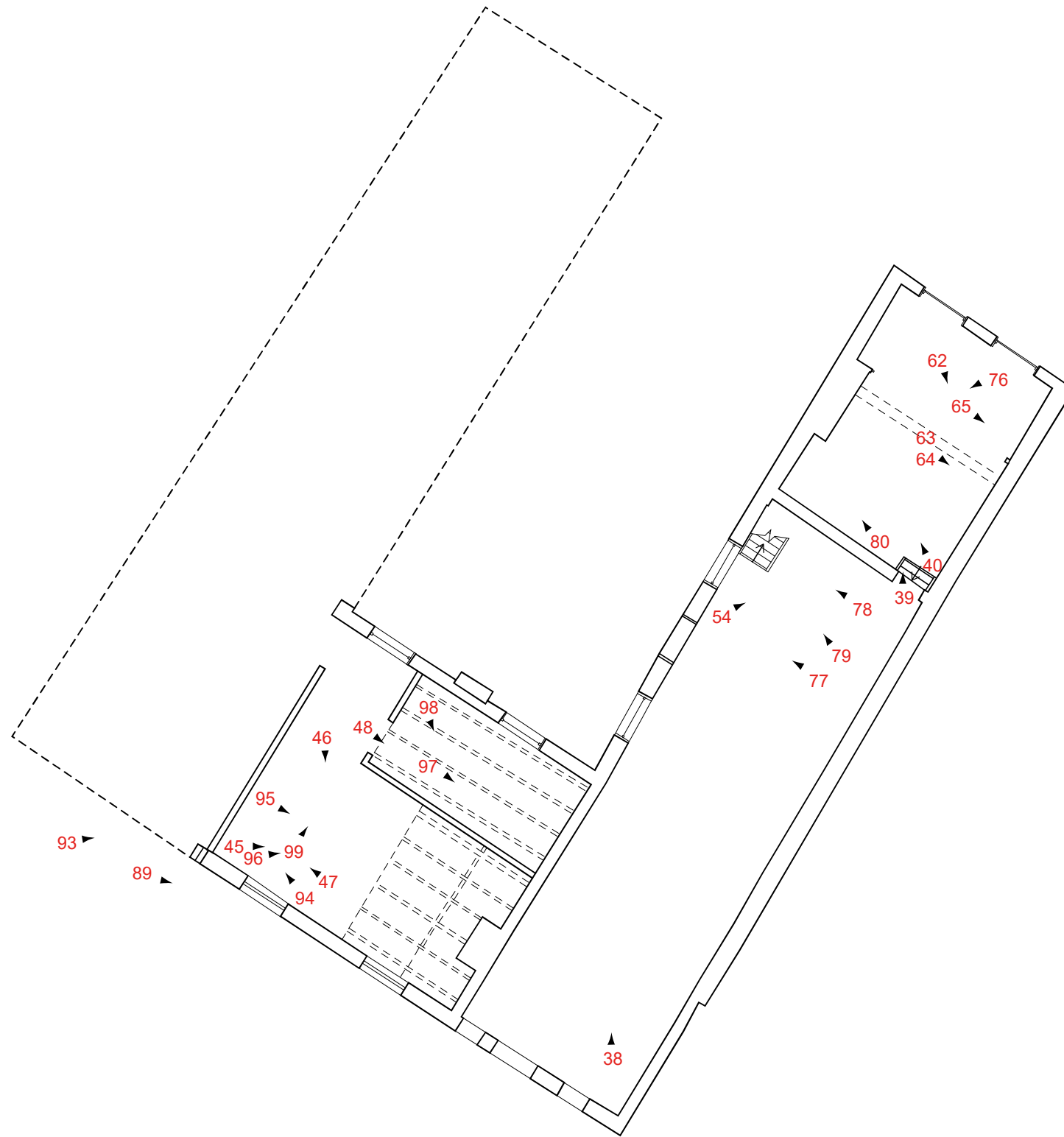


Fig. 15. First floor photograph location plan (not to scale)

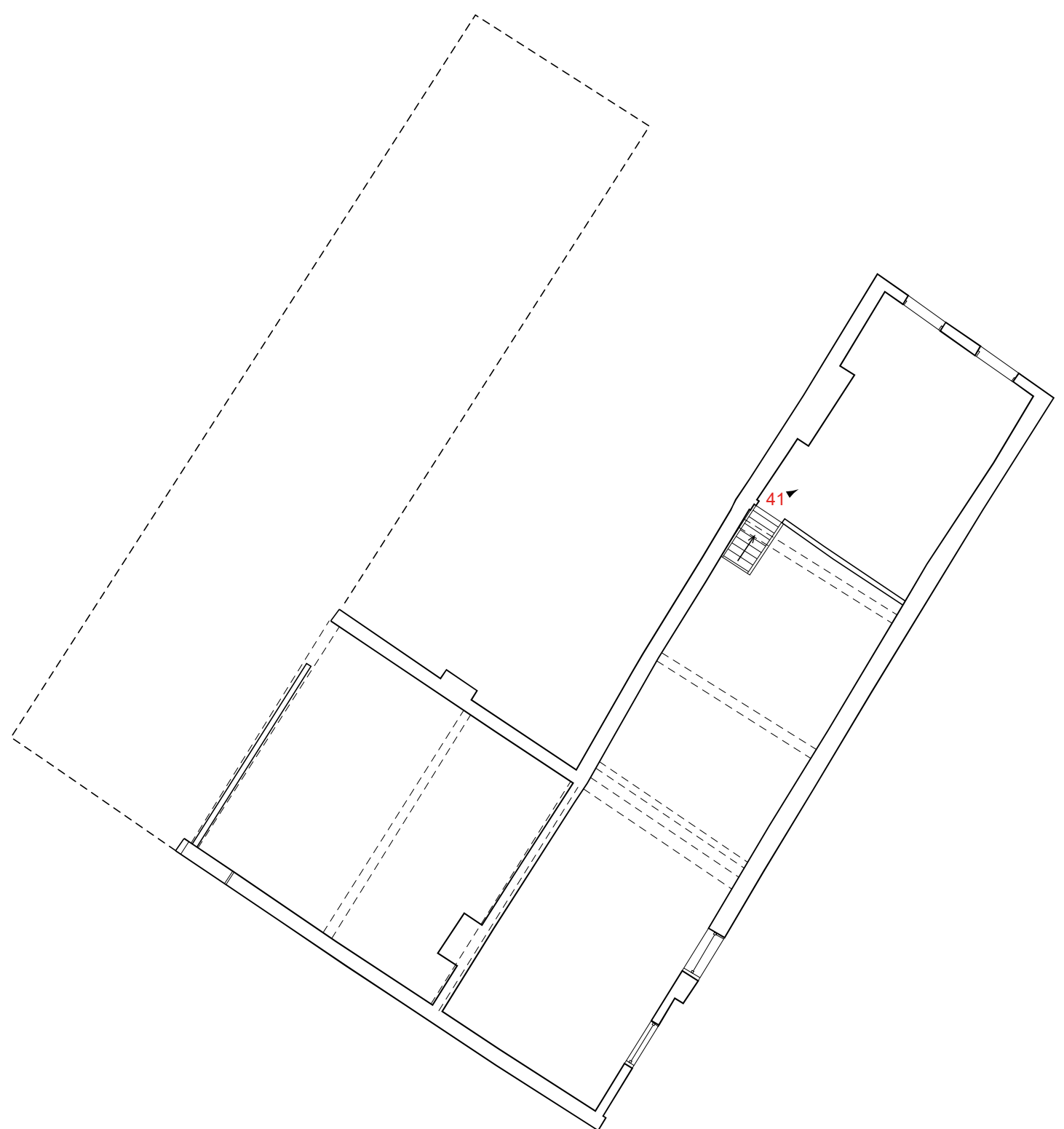


Fig. 16. Second floor photograph location plan (not to scale)



Plate 1  
Test Pit 1

Direction:SE



Plate 2  
Test Pit 4, southwest facing section of feature 109, 110 and 104

Direction:SW





Plate 3  
Test Pit 7

Direction:NE



Plate 4  
Test Pit 8

Direction:NW





Plate 5

Direction:SW

Ground level reduction working shot



Plate 6

Direction:SW

Pit 119





Plate 7

Direction:W

Working shot of ground level reduction in the west corner of site, showing demolition debris 140



Plate 8

Direction:NE

Working shot of ground level reduction in the footprint of the west wing and central area of site





Plate 9

Direction:W

Working shot of the ground level reduction in the footprint of the west wing and central area of site



Plate 10

Direction:NW

East facing elevation of the foundations of the west wall of the west wing of the FWCH





Plate 11

Direction:NE

Cellar at the west end of the south range



Plate 12

Direction:NW

Brick feature abutting the north side of the possible cellar





Plate 13

Direction:NE

View into the cellar showing the pile pad pits



Plate 14

Direction:NW

Southeast facing section of PP5





Plate 15  
View along cellar passage

Direction:SW



Plate 16  
Drain access point in north corner of cellar

Direction:NE





Plate 17

Direction:N

View of central area of east range during the excavation of the pile pad pits



Plate 18

Direction:SE

Northwest facing section of PP8





Plate 19  
Northeast facing section of PP8

Direction:SW



Plate 20  
View of south range area during the excavation of the pile pad pits

Direction:SE





Plate 21

Direction: NW

View of south range area during the excavation of the pile pad pits



Plate 22

Direction: NW

Working shot, during the excavation of PP15





Plate 23  
PP13

Direction:W



Plate 24  
PP13, showing the culvert

Direction:W





Plate 25

Direction:SE

View of area at north end of pipe trench, prior to excavation



Plate 26  
Wall 124

Direction:NE





Plate 27  
Southwest facing section showing wall 124

Direction:E



Plate 28  
Installation of drain at the north end of the Pipe Trench

Direction:NE



Plate 29

Working shot of the excavation of the Foundation Trench

Direction:NE



Plate 30

View along the Foundation Trench

Direction:SW





Plate 31

Direction:SE

Northwest facing section of the Foundation Trench at the north end



Plate 32

Direction:S

General view of site





Plate 33

Direction:S

General view of site



Plate 34

Direction:W

Cellar of No 99





Plate 35  
East range, ground floor

Direction:SW



Plate 36  
East range, west wall of ground floor

Direction:W





Plate 37

East range, west wall of ground floor, showing arch detail

Direction:N



Plate 38

East range, south end room of the first floor

Direction:N



Plate 39

Direction:NE

East range, north wall of the north end room of the first floor



Plate 40

Direction:N

East range, west wall of the north end room of the first floor





Plate 41  
East range. Second floor

Direction:E



Plate 42  
External view of south wall of south range

Direction:E





Plate 43  
External view of south range

Direction:S



Plate 44  
South range, ground floor

Direction:SE





Plate 45  
South range, south side room of the first floor

Direction:E



Plate 46  
South range, south wall of the south side room of the first floor

Direction:S



Plate 47

Direction: NW

South range, detail of the west wall of the south side room of the first floor



Plate 48

Direction: SE

South range, north side room of the first floor





Plate 49  
North exterior elevation of the east range

Direction:W



Plate 50  
Ground floor level of the north elevation of the east range

Direction:SE



Plate 51

Direction:SE

East side, ground floor level of the north elevation of the east range



Plate 52

Direction:S

Detail of east side quoins of the north elevation





Plate 53

Direction: NW

West side, ground floor of the north elevation of the east range



Plate 54

Direction: NE

Interior first and second floor of the north elevation of the east range





Plate 55

Direction: NW

East exterior elevation of south range



Plate 56

Direction: E

East wall of east range and east wall of south range, south end





Plate 57  
East wall of east range, central

Direction:E



Plate 58  
East wall of east range, north end

Direction:E





Plate 59

Direction:SE

Masonry at south end of east wall of east range



Plate 60

Direction:SE

Masonry at south end of east wall of east range





Plate 61

Direction:SE

Possible rear corner of earlier building



Plate 62

Direction:E

Timbers exposed within the east wall of the east range





Plate 63

Direction:SE

Detail of possible tie-beam and King-post



Plate 64

Direction:SE

Detail of upper section of possible King-post





Plate 65

Direction:SE

Detail of possible purlin and rafter



Plate 66

Direction:SE

West exterior elevation of east range





Plate 67

Direction:E

View along west exterior elevation of the east range



Plate 68

Direction:E

Detail of arch at south end of the west exterior elevation of the east range





Plate 69

Direction:SE

The second and third window from the north end of the west exterior elevation of the east range



Plate 70

Direction:SE

Close-up detail of the south side sill fragment of the first floor second window from the north end





Plate 71

Direction:E

The north end windows of the first floor of the west exterior elevation of the east range



Plate 72

Direction:N

View along west interior elevation of the east range





Plate 73

Direction:NE

View along west interior elevation of the east range



Plate 74

Direction:NW

View of west interior elevation of the east range from the cellar



Plate 75

Direction:N

View of north end of the west interior elevation of the east range



Plate 76

Direction:NW

Detail of the south end colonnade arch of the west interior elevation of the east range





Plate 77

Direction: NW

Detail of the south end colonnade arch of the west interior elevation of the east range



Plate 78

Direction: W

View of west interior elevation of the east range at first floor level





Plate 79

Direction: NW

Detail of south end first floor windows of the west interior elevation of the east range



Plate 80

Direction: NW

Detail of first floor windows and staircase scaring on the west interior elevation of the east range





Plate 81

Direction:N

Detail of blocked north end windows of second floor, of the west interior elevation of the east range



Plate 82

Direction:N

Detail of fireplace and chimney breast scarring and sooting on the west interior elevation of the east range



Plate 83

North exterior elevation, showing east end arcade arch

Direction:S



Plate 84

North exterior elevation, showing east end arcade arch

Direction:SW





Plate 85

Direction:SW

Detail of margin dressed surface detail of stone column of east end arcade arch



Plate 86

Direction:S

Detail of east side column of east end arcade arch



Plate 87  
North interior elevation, showing east end arcade arch

Direction:E



Plate 88  
North interior elevation, showing east end arcade arch

Direction:NE





Plate 89

Direction:E

View along the south exterior elevation of the south range



Plate 90

Direction:E

View along the ground floor level of the south exterior elevation of the south range





Plate 91

Direction:E

View along the first floor level of the south exterior elevation of the south range



Plate 92

Direction:S

South interior elevation of the south range





Plate 93

Direction:SW

The east end of the south interior elevation of the south range



Plate 94

Direction:SW

The central area of the south interior elevation of the south range





Plate 95

Direction:E

View of central truss of south range



Plate 96

Direction:N

View of central truss of south range





Plate 97

Direction:SE

View of truss to the east side of the central truss of the south range



Plate 98

Direction:E

View of truss to the east side of the central truss of the south range





Plate 99

Direction:SE

View of truss to the east side of the central truss of the south range



Plate 100

Direction:S

View of truss to the east side of the central truss of the south range



Plate 101

Direction:NE

Rafters between the central and east side truss of the south range



**Appendix 1: Specification**

## **SPECIFICATION FOR ARCHAEOLOGICAL WATCHING BRIEF & STRUCTURAL WATCHING BRIEF AT THE FIRST WHITE CLOTH HALL, KIRKGATE, LEEDS**

This specification is prepared on behalf of Leeds City Council. It details the requirements for an archaeological (below ground) watching brief & a structural watching brief (archaeological and architectural photographic and drawn recording) during works at the First White Cloth Hall, Kirkgate, Leeds (planning application 17/07710/10 & 17/07711/LI refers).

Specification prepared for Buttress on behalf of Leeds City Council.

### **1. Summary**

1.1 This specification covers the requirements for a below-ground & structural watching brief (drawn and photographic record) at the First White Cloth Hall, Leeds to supplement previous archaeological building recording work.

1.2 This specification has been prepared by the West Yorkshire Archaeology Advisory Service, the holders of the WY Historic Environment Record

NOTE: The requirements detailed in paragraphs 10.1, 10.2, 10.3, and 15 are to be met by the archaeological contractor **prior** to the commencement of fieldwork by supplying confirmation details in writing to the WY Archaeology Advisory Service.

### **2. Site Location & Description**

#### **Grid Reference: centred on SE 3044 3341**

2.1 The proposed development site lies at 98-100 Kirkgate, Leeds. It is bounded to the north by Kirkgate; to the west by open ground previously occupied by 102 Kirkgate & 103 Kirkgate; to the south by a car park and Crown Street and to the east by 97 Kirkgate. The site is currently occupied by the surviving East wing and central Southern range of the First White Cloth Hall. Within the courtyard of the building, and in the footprint of the demolished West wing, open cellars are present which have been emptied of backfill material. Access is gained from the car-park to the south and, to the courtyard area, via a grassed rubble ramp that was land previously occupied by structures adjacent to the FWCH, and by 102 Kirkgate.

### **3. Background**

3.1 Planning permission is in the process of being sought for external alterations including the repair & refurbishment of the existing FWCH structure, reinstatement of the demolished west wing, the provision of a new covered courtyard with atrium & a new circulation wing to the rear with shopfronts to the Kirkgate elevation.

3.2 Permission for the demolition 101 Kirkgate and an in-fill building within the courtyard of the FWCH was allowed in 2010 under health and safety requirements. The West wing of the First White Cloth Hall was demolished at the same time as no. 101 Kirkgate as it was also unsafe. At the same time that the West wing was demolished, the buildings in the original courtyard were demolished and the cellars were emptied.



3.4 This specification has been prepared by the WYAAS at the request of Mr Grant Prescott of Buttress (41, Bengal St., Manchester M4 6AF) who are acting as agents of Rushbond Plc (5 Hawthorn Park, Coal Road, Leeds LS14 1PQ), to detail what is required for and to allow an archaeological contractor to provide a quotation.

#### 4. Archaeological / Architectural Interest

4.1 The First White Cloth Hall is a rare example of an early 18<sup>th</sup> century arcaded cloth hall and is a grade II\* listed building. Leeds' First White Cloth Hall was constructed in 1711 as a response to the construction of Wakefield's Cloth Hall (which was constructed in 1710). The construction of the building symbolically represents the replacement of Wakefield by Leeds as the preeminent commercial centre in West Yorkshire.

4.2 The site lies within the historic urban core of Leeds facing onto what was probably Leeds' oldest street. Leeds is known to have been a significant centre by the 10<sup>th</sup> century and developed into a significant market town by the 13<sup>th</sup> century. Between the 13<sup>th</sup> and 18<sup>th</sup> centuries it became an important centre for woollen cloth manufacture and trade, with a corresponding growth in population and an expansion of its boundaries.

4.3 19<sup>th</sup> century documentary sources suggest that the site was occupied by the house of a chantry priest in c.1430, with a hospital and almshouse behind (*'Ducatus Leodiensis'*, 1816). According to Thoresby, these buildings were still standing in the early 1700s, but in a ruinous state. It is possible that structural remains from the medieval buildings are still present within the cellars of the White Cloth Hall, and it is possible to see some stone work within the exposed cellars on site which may pre-date the building of the First White Cloth Hall. Previous work on the site has suggested that the cellars are likely to be of early 19<sup>th</sup> century construction, but have been equivocal about the date of the stonework present at the base of parts of the cellar walls.

4.4 The traveller Daniel Defoe (in his publication 'A Tour through the Whole Island of Great Britain' published between 1724 and 1725) wrote a first-hand description of the business of the Cloth Market prior to the construction of the Cloth Hall (his tour was pre-1711). Trestles were placed in two rows in the street and boards laid across the trestles and the cloth laid upon the boards. Once the Market Bell had finished ringing, the merchants and buyers began to inspect the cloth and start purchasing.

4.5 The construction of the First White Cloth Hall in 1711 allowed this trade in undyed 'white' cloth to continue undercover. The arrangement of windows to the first floor, six over five arches to each wing, rather than centrally placed above the arches suggests that this was to allow for more light to show off the cloth being displayed on the benches therein. Ralph Thoresby (the early 18<sup>th</sup> century antiquarian) describes the (First) White Cloth Hall as 'a stately hall...built upon pillars and arches in the form of an exchange, with quadrangular court within; both the higher and lower stories are replenished with that sort of goods that till this juncture the clothiers had to carry samples of to each of the merchants' houses they dealt with' (this account is quoted in Heaton's article 'The Leeds White Cloth Hall' in Thoresby Society Vol XXII 1915).

The market is recorded as being held on a Tuesday afternoon 'of which notice is given by a bell in a beautiful cupola painted with gilt' (ibid.).

4.6 In 1755, a second White Cloth Hall was constructed (on a strip of land between Hunslet Lane and Meadow Lane) to replace the first and in 1774 a third White Cloth Hall was built (on a site to the south of the First White Cloth Hall). By the 1770s the central South range of the First White Cloth Hall is recorded as 'Assembly Rooms' on Thomas Jefferys' map.

4.7 Until October of 2010 all three wings of the First White Cloth Hall survived (albeit in a decayed state). However the West wing was lost following the collapse and demolition of 101 Kirkgate. The demolition of the building attached to the rear of 98 Kirkgate (also in October 2010) exposed further original brickwork of the 1711 building in the south elevation of the South, central range. The demolition of the West wing and the single storey infill structures to the courtyard have also exposed the full extent of the two remaining arcaded facades facing the courtyard.

4.8 Aspects of the FWCH has been investigated & recorded over a number of episodes during the last twenty years, to varying degrees of completeness and adequacy (given the previous existence of structures that obscured significant elements and the lack of safe access to parts of the structure). In 2015 AS-WYAS brought together current understanding of the building based on earlier recording exercises allied to recording what was then safely accessible, to interpret the development of the building. This report (ASWYAS Report 2748, dated May 2015) included a number of recommendations to advance improved knowledge of the FWCH & these recommendations have been included in this specification (section 9 below) to help focus the work, if and when these areas of the building are safe to access.

## **5. Aims of the Project**

5.1 The aim of the proposed work is to identify and objectively record by means of photographs and selected drawings any significant archaeological and architectural features and evidence for the original and subsequent historical form and functions of the First White Cloth Hall, and to place this record in the public domain by depositing it with the West Yorkshire Historic Environment Record (West Yorkshire Archaeology Advisory Service, West Yorkshire Joint Service, Nephshaw Lane South, Morley, Leeds LS27 7JQ; email wyher@wyjs.org.uk).

## **6. Archaeological Below-Ground Watching Brief**

6.1 The East and West wings and parts of the Southern block, as well as the central courtyard area, were extensively cellared. Investigation of what survives, if anything below the cellar floor, is the subject of a separate specification. However, there are relatively small areas in the central part of the Southern range and towards the western end of the Southern range that do not appear to have been cellared completely, although there is apparently evidence for a partial void beneath the ground floor. Investigation of these areas is not possible pre-development given the stability of the structure and the current filling of the internal space with supporting scaffolding, and a watching brief should be maintained during the excavation of these



areas beneath the ground floor of the Southern range during development to record both the possibility that archaeological features that pre-date the construction of the FWCH survive, and to recover finds that may lie below the floor. The aim of this element of the fieldwork is to identify and record the presence/absence, extent, condition, character and date (as far as circumstances permit) of any archaeological features and deposits which are disturbed or exposed as a result of groundworks in these areas of the site.

## 7. Fieldwork Methodology of Below-Ground Floor Watching Brief

7.1 An archaeologist should be present on site **during any excavation in the central and western area of the Southern range and for the excavation of any new service trenches into the site**. The archaeologist should view the area as it is being dug and any trench sections after excavation has been completed. Where archaeology is judged to be present, the excavated area should be rapidly cleaned and the need for further work assessed. Where appropriate, any features and finds should then be quickly hand excavated, sampled if appropriate, and recorded.

7.1.2 Any features/deposits of archaeological interest should be accurately located on a site plan and recorded by photographs, scale drawings and written descriptions sufficient to permit the preparation of a report. Section drawings (at a minimum scale of 1:20) **must** include heights O.D. Plans (at a minimum scale of 1:50) **must** include O.D. spot heights for all principal strata and any features.

7.1.3 If no archaeological remains are present the actual areas of ground disturbance should be recorded on a suitable development plan and the stratigraphic sequence and the depth of the excavations briefly recorded.

7.1.4 Excavated soil should be searched as practicable for finds. All finds, except unstratified 20<sup>th</sup> century material, should be collected and retained for processing. See section 7.2 below for the use of a metal detector on site.

7.1.5 All securely stratified contexts should be sampled for environmental analysis and scientific dating. Additional 'spot' samples should be taken if suitable material is encountered during the watching brief.

7.1.6 The intention of the archaeological watching brief is not to unduly delay the work of other contractors on site, however, a degree of flexibility is also expected of the developer in order that the archaeologist can fulfil the terms of this specification. The archaeologist shall not excavate any area beyond those scheduled for destruction by the development.

7.1.7 If, in the professional judgement of the archaeologist on site, the watching brief reveals below-ground conditions which indicate that potentially archaeological levels are absent, the archaeologist should contact WYAAS to discuss reducing or curtailing the requirements. The work may only be curtailed with the prior agreement of WYAAS and written confirmation will be provided by WYAAS.

## 7.2 Use of Metal Detectors on Site

7.2.1 Spoil is to be scanned for both ferrous and non-ferrous metal artefacts using a metal detector capable of making this discrimination, operated by an experienced metal detector user (if necessary, operating under the supervision of the contracting archaeologist). Modern artefacts are to be noted but not retained (19<sup>th</sup>-century material and earlier should be retained.)

7.2.2 If a non-professional archaeologist is to be used to carry out the metal-detecting, a formal agreement of their position as a sub-contractor working under direction must be agreed in advance of their use on site. This formal agreement will apply whether they are paid or not. To avoid financial claims under the Treasure Act a suggested wording for this formal agreement with the metal detectorist is: "In the process of working on the archaeological investigation at [*location of site*] between the dates of [*insert dates*], [*name of person contributing to project*] is working under direction or permission of [*name of archaeological organisation*] and hereby waives all rights to rewards for objects discovered that could otherwise be payable under the Treasure Act 1996 as amended."

## 8. Unexpectedly Significant or Complex Discoveries

8.1 Should there be, in the professional judgement of the archaeologist on site, unexpectedly significant or complex discoveries made that warrant more detailed recording than possible within the terms of this specification, then the archaeological contractor is to urgently contact WYAAS with the relevant information to enable the matter to be resolved with the developer.

8.2 The terms of the Treasure Act, 1996, as amended, must be followed with regard to any finds, which might fall within its purview. Any such finds must be removed to a safe place and reported to the local coroner as required by the procedures laid down in the 'Code of Practice'. Where removal cannot be effected on the same working day as the discovery, suitable security measures must be taken to protect the finds from theft.

## 9. The Structural Watching Brief

As safe opportunity and access allows, the following elements of the FWCH should be examined and recorded:

9.1. **The roof:** The trusses in the roof of the east range should be examined to identify (and record if present) any carpenters' marks. The numbering should potentially allow conclusions to be drawn with regard to whether they are in their original position. These should be compared to any surviving trusses of the west range (none were identified during the salvage recording carried out in 2010).

9.2 Dendrochronological dating samples should be taken from any suitable structural roof timbers in the East and South range.

9.3 Evidence for the presence of a bell in a cupola on the roof, as mentioned by Thoresby and Defoe. It is suggested based on Cossin's map of Leeds of 1726, that it is most likely to have been positioned in a central position on the South range. Structural evidence should be sought for its existence and position.



9.4. **The first floor:** the three northern windows of the FWCH east range should be recorded once they are fully exposed.

9.5 The internal faces of the north and east walls of the east range should be exposed and any architectural features recorded, including the extent of surviving original walling and any evidence for the original level of the first floor and structural character.

9.6 The remains of the windows on the first floor at the east end of the South range's south wall should be recorded in detail both internally and externally.

9.7 The internal walls of the south range should be exposed and examined for any further evidence relating to the FWCH or to the Assembly Room created at first-floor level in the mid-18<sup>th</sup> century.

9.8 **The ground floor:** the remains of the windows at the east end of the South range's south wall should be recorded in detail, both internally and externally.

9.9 The internal face of the East range east wall should be recorded to determine the extent of original brickwork and the possibility of the existence of a stone plinth.

9.10 Any elements of the original archways in the west wall of the East range should be recorded where they are currently obscured.

9.11 The original floor level of the east range should be established from the surviving flagstones.

## 10. General Instructions

### 10.1 Health and Safety

10.1.1 The building recorder on site will naturally operate with due regard for Health and Safety regulations. Prior to the commencement of any work on site the building recorder will need to carry out a Risk Assessment on the building / structure in accordance with the Health and Safety at Work Regulations. The building recorder should identify any hazards and contaminants which constitute potential Health and Safety risks and make arrangements with the owner / developer for decontamination/making safe as necessary and appropriate. The WY Archaeology Advisory Service and its officers cannot be held responsible for any accidents or injuries which may occur to outside contractors engaged to undertake this survey while attempting to conform to this specification.

### 10.2 Confirmation of Adherence to Specification

10.2.1. The contractor should confirm in writing to WYAAS in advance of commencement of work, their adherence to the issued specification. Unauthorised variations are made at the sole risk of the building recorder. Proposed modifications presented in the form of a re-written specification/project design **will not** be considered. For technical queries see para. 16.1.

### 10.3 Confirmation of Timetable and Contractors' Qualifications

10.3.1 Prior to the commencement of *any work*, the building recorder **must** provide the local planning authority and WYAAS **in writing** with:

- a projected timetable for the site work
- details of the staff structure and numbers
- names and CVs of key project members (the project manager, site supervisor, any proposed specialists, sub-contractors *etc.*)

10.3.2 All project staff provided by the building recorder must be suitably qualified and experienced for their roles. In particular, staff involved in building recording should have proven expertise in the recording and analysis of post medieval vernacular buildings. The timetable should be adequate to allow the work to be undertaken to the appropriate professional standard.

### 10.4 Notification and Monitoring

WYAAS should receive at least one week's notice in writing of the intention to start fieldwork.

## 11 Recording Methodology

### 11.1 Site preparation

Prior to the commencement of work on site the building recorder should identify all removable modern material which may significantly obscure areas requiring a photographic record, and should contact the developer in order to make arrangements for its removal. It is not the intention of this specification that large-scale removal of material of this type should take place with the building recorder's manpower or at that contractor's expense.

### 11.2 Documentary research

Existing documents cover the history and development of the FWCH in detail and should be used to inform the interpretation of any evidence revealed. Prior to the commencement of *fieldwork*, the HER should be visited by either the project manager or the site supervisor, in order to gain an overview of the archaeological/historical background of the site and environs. Please note that the HER makes a charge for consultations of a commercial nature.

### 11.3 Site/building plans

Previous plans & elevations have been produced and should be used for any annotation relative to the photographic record (permission of the copyright holder must be sought).

## 12. Photographic Record

12.1 Detailed record shots should be made of all features of archaeological and architectural interest identified during the process of structural watching brief. Typically, items of interest would include:

- All original structural elements, roof structures / trusses
- Original doors and associated fittings
- Masons' marks and graffiti or inscriptions on lead work, carpenters' marks on wooden members

But this list should not be treated as exhaustive. The building recorder on site should also identify and note:

- any significant changes in construction material – this is intended to include significant changes in stone/brick type and size
- any blocked, altered or introduced openings
- evidence for phasing, and for historical additions or alterations to the building.

Elements for which multiple examples exist (e.g. each type of roof truss, column or window frame) may be recorded by means of a single representative illustration. **N.B.** Detail photographs must be taken at medium-to-close range and be framed in such a way as to ensure that the element being photographed clearly constitutes the principal feature of the photograph.

#### 12.1.2 Equipment

General photographs should be taken with a Large Format monorail camera (5" x 4" or 10" x 8"), or with a Medium Format camera that has perspective control, using a tripod. The contractor must have proven expertise in this type of work. Any detail photographs of structural elements should if possible be taken with a camera with perspective control. Other detail photographs may be taken with either a Medium Format or a 35mm camera. All detail photographs must contain a graduated photographic scale of appropriate dimensions (measuring tapes and surveying staffs are not considered to be acceptable scales in this context). A 2-metre ranging-rod, discretely positioned, should be included in a selection of general shots, sufficient to independently establish the scale of all elements of the structure.

#### 12.1.3 Digital photography

Digital photography: as an alternative for colour slide photography, good quality digital photography may be supplied, using cameras with a minimum resolution of 10 megapixels. Digital photography should follow the guidance given by Historic England in Digital Image Capture and File Storage: Guidelines for Best Practice, July 2015. Note that conventional black and white print photography is still required and constitutes the permanent record. Digital images will only be acceptable as an alternative to colour slide photography if each image is supplied as both a JPEG and a TIFF versions. The latter as an uncompressed 8-bits per channel TIFF version 6 file of not less than 25Mbs (See section 2.3 of the Historic England guidance). The contractor must include metadata embedded in the TIFF file. The metadata must include the following: the commonly used name for the site being photographed, the relevant centred OS grid coordinates for the site to at least six figures, the relevant township name, the date of photograph, the subject of the photograph, the direction of shot and the name of the organisation taking the photograph. Any digital images are to be supplied to WYAAS on gold "archive quality" CDs by the archaeological contractor accompanying the hard copy of the report.

#### 12.1.4 Film stock

All record photographs to be black and white, using conventional (not chromogenic) silver-based film only, such as Ilford FP4 or HP5, or Delta 400 Pro that is replacing HP5 in certain film sizes (such as 220). Dye-based films such as Ilford XP2 and Kodak T40CN are unacceptable due to poor archiving qualities.



### 12.1.5 Printing

Record photographs should be printed at a minimum of 5" x 7". In addition a small selection of photographs (the best of the exterior setting shots and interior shots with important detail) should be printed at 10" x 8". Bracketed shots of identical viewpoints need not be reproduced, but all viewpoints must be represented within the report.

12.1.6 Prints may be executed digitally from scanned versions of the film negatives, and may be manipulated to improve print quality (but **not** in a manner which alters detail or perspective). All digital prints must be made on paper and with inks which are certified against fading or other deterioration for a period of 75 years or more when used in combination. If digital printing is employed, the contractor must supply details of the paper/inks used in writing to the local authority with supporting documentation indicating their archival stability/durability.

### 12.1.7 Documentation

A photographic register and photo location plan are required. The photographic register should (as a minimum) include location, direction and subject of shot must accompany the photographic record; a separate photographic register should be supplied for any colour slides and digital photographs. Position and direction of each photograph and slide should be noted on a scaled copy of the building plan (minimum acceptable scale 1:100), which should also be marked with a north pointer. Separate plans should be annotated for each floor of the building/ structure. (See also para. 5.3 above.).

## 12.2 Drawn Record

Drawings should be made at an appropriate scale (not smaller than 1:50 for plans; not smaller than 1:20 for sections).

### 12.2.1 Dimensional accuracy

Dimensional accuracy should accord with the normal requirements of the English Heritage Architecture and Survey Branch (at 1:20, measurements should be accurate to at least 10mm; at 1:50, to at least 20mm; at 1:100, to at least 50mm).

### 12.2.2 Drawing method

The survey may be executed either by hand or by means of reflectorless EDM as appropriate. In accordance with national guidelines<sup>1</sup>, drawings executed on site should be made either on polyester-based film (minimum thickness 150 microns) with polymer-bonded leads of an appropriate thickness and density, or on acid-free or rag paper. If finished drawings are generated by means of CAD or a similar proven graphics package, recorders should ensure that the software employed is sufficiently advanced to provide different line-weight (point-size); this feature should then be used to articulate the depth of the drawings. CAD repeats or cloning of features should **not** be used. What is required as an end product of the survey is a well-modelled and clear drawing; ambiguous flat-line drawings should be avoided. Drawing conventions should conform to English Heritage guidelines as laid out in English Heritage 2006, *Understanding Historic Buildings – a guide to good recording*

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<sup>1</sup> English Heritage 2006, *Understanding Historic Buildings – a guide to good recording practice*, 7.1.1ff

*practice*, and the WYAAS would recommend that the CAD layering protocol detailed in the same volume (8.3, Table 2) should be adhered to.

### 13. Post-Recording Work and Report Preparation

#### 13.1 Report Preparation

##### 13.1.1 Report format and content

A written report should be produced. This should include:

- an executive summary including dates of fieldwork, name of commissioning body, planning application reference and condition number and a brief summary of the results including details of any significant findings
- an introduction outlining the reasons for the structural watching brief
- a brief architectural description of the building presented in a logical manner, starting with setting, then progressing to the affected areas of the structure in sequence
- a discussion placing the building and evidence recorded in its local and historical contexts.

Both architectural description and historical/analytical discussion should be fully cross-referenced to the photographic record, sufficient to illustrate the major features of the site and the major points raised.

##### 13.1.2 Report Illustrations

Illustrations should include:

- a location map at a scale sufficient to allow clear identification of the building(s)/structure in relation to other buildings in the immediate area
- a complete set of site drawings at a legible scale, on which position and direction of each photograph has been noted
- a complete set of good-quality laser copies of selected photographs. All photographs should be accompanied by detailed captions clearly locating and identifying any pertinent features.

The latter should be bound into the report, appropriately labelled (numbered, and captioned in full) and fully referenced within the report. When captioning, contractors should identify the individual photographs by means of a running sequence of numbers (e.g. Plate no. 1; Plate no. 2), and it is this numbering system which should be used in cross-referencing throughout the report and on the photographic plans. However, the relevant original film and frame number should be included in brackets at the end of each caption.

#### 13.2 Report deposition

**A hard copy of the full report (plus a digital copy on on “archive” quality gold disk in ISO 10005-1 compliant (PDF/A) format) will be submitted directly to the WY Archaeology Advisory Service within twelve weeks of completion of the fieldwork.** The report will then assessed by WYAAS to establish whether or not it is suitable for accession into the WY Historic Environment Record. A copy of the final report (in .pdf format) shall also be supplied to Historic England’s Science Advisor (Sue Stallibrass (sue.stallibrass@HistoricEngland.org.uk). Any comments made by

WYAAS in response to the submission of an unsatisfactory report will be taken into account and will result in the reissue of a suitably edited report to all parties, within a timescale which has been agreed with WYAAS. Completion of this project and a recommendation from WYAAS for the full discharge of the archaeological condition is dependent upon receipt by WYAAS of a satisfactory full report. The report will become publicly accessible once deposited with the West Yorkshire Historic Environment Record, unless confidentiality is explicitly requested, in which case it will become publicly accessible six months after deposit.

13.2.2 The West Yorkshire HER supports the Online Access to Index of Archaeological Investigations (OASIS) project. The overall aim of the OASIS project is to provide an online index to the mass of archaeological grey literature that has been produced as a result of the advent of large-scale developer funded fieldwork. The building recorder must therefore complete the online OASIS form at <http://ads.ahds.ac.uk/project/oasis/>. Contractors are advised to contact the West Yorkshire HER officer prior to completing the form. Once a report has become a public document by submission to or incorporation into the HER, the West Yorkshire HER may place the information on a web-site. Please ensure that you and your client agree to this procedure in writing as part of the process of submitting the report to the case officer at the West Yorkshire HER.

13.2.3 A note on the fieldwork should be prepared for inclusion in Post Medieval fieldwork in Britain, Ireland and the Channel Islands which is published annually in Post-Medieval Archaeology by the Society for Post-Medieval Archaeology. A similar note or longer article should also be supplied to the Council for British Archaeology's Yorkshire Forum publication (please contact the editor or CBA's website for more information [forum-editor@cba-yorkshire.org.uk](mailto:forum-editor@cba-yorkshire.org.uk)).

### 13.3. Deposition with WYAAS (as holders of the West Yorkshire Historic Environment Record)

The report copy supplied to the WY Archaeology Advisory Service (see address at the base of this document) should also be accompanied by both the photographic negatives and a complete set of labelled photographic prints (mounted in KENRO display pockets or similar, and arranged in such a way that labelling is readily visible) bound in a form which will fit readily into a standard filing cabinet suspension file (not using hard-backed ring-binders). Labelling should be on the *back* of the print in pencil giving film and frame number only (taking care not to damage the print) and on applied printed labels stuck on the front of the relevant photographic sleeve and which should include:

- film and frame number
- date recorded and photographer's name
- name and address of building
- national grid reference
- specific subject of photograph.

Negatives should be supplied in archivally stable mounts (KENRO display pockets or similar), and each page of negatives should be clearly labelled with the following:

- national grid reference
- Site name and address



- Date of photographs (month/year)
- Name of archaeological contractor
- Film number

Colour slides should be mounted, and the mounts suitably marked with the 'site name' at the top of the slide; grid reference at the bottom; date of photograph at the right hand side of the mount; subject of photograph at the left hand side of the mount. Subject labelling may take the form of a numbered reference to the relevant photographic register. The slides should be supplied to the WY Archaeology Advisory Service in an appropriate, archivally stable slide hanger (for storage in a filing cabinet). In all other respects, standards for archive compilation and transfer should conform to those outlined in *Archaeological Archives – a guide to best practice in creation, compilation, transfer and curation* (Archaeological Archives Forum, 2007).

**14 Copyright** - Please note that by depositing this report, the contractor gives permission for the material presented within the document to be used by the WYAAS, in perpetuity, although The Contractor retains the right to be identified as the author of all project documentation and reports as specified in the *Copyright, Designs and Patents Act 1988* (chapter IV, section 79). The permission will allow the WYAAS to reproduce material, including for commercial use by third parties, with the copyright owner suitably acknowledged.

## **15. Archive Deposition**

15.1 Before commencing any fieldwork, the archaeological contractor must contact the relevant District museum archaeological curator in writing (copied to WYAAS) to determine the museum's requirements for the deposition of an excavation archive. In this case the contact is Katherine Baxter, Leeds Museum Discovery Centre Carlisle Road, Hunslet, Leeds, LS10 1LB (Tel.: 0113 2305492; email: [katherine.baxter@leeds.gov.uk](mailto:katherine.baxter@leeds.gov.uk)).

15.2 It is the policy of the Leeds Museum Service to accept complete excavation archives, including primary site records and research archives and finds, from all excavations carried out in the District, which it serves.

15.3 It is the responsibility of the archaeological contractor to endeavour to obtain consent of the landowner, in writing, to the deposition of finds with the Bradford Museum.

15.4 It is the responsibility of the archaeological contractor to meet the Leeds Museum Service's requirements with regard to the preparation of fieldwork archives for deposition.

## **16. Technical Queries**

16.1 Any technical queries arising from the specification detailed above, should be addressed to WYAAS without delay.

## **17. Valid Period of Specification**

17.1 This specification is valid for a period of one year.

**West Yorkshire Archaeology Advisory Service  
West Yorkshire Joint Service,  
Nepshaw Lane South,  
Morley,  
Leeds  
LS27 7JQ**

**April 2018**

**Telephone: 0113 535 0171**

**E-mail: [lan.Sanderson@wyjs.org.uk](mailto:lan.Sanderson@wyjs.org.uk)**

**Appendix 2: Inventory of primary archive**

Phase	File/Box No	Description	Quantity
Watching brief	File no. 1	Watching brief daily monitoring form	41
		Context register	2
		Context sheets	25
		Sample register	1
		Drawing register	1
		Digital photograph register	20
		Photographic film record sheet	1
		B & W photograph register	12
		B&W negative strip sheets	9
		Permatrace	3



### Appendix 3: Concordance of contexts

Context	Description	Environmental samples
100	Natural	
101	Modern demolition debris/trample layer	
102	Upper fill of pit 104	
103	Fill in pit 104	Pottery
104	Pit	
105	Fill of pit 104	
106	Fill in pit 104	Animal bone, clay pipe
107	void	
108	Fill of 109	GBA 1
109	Possible construction cut for culvert	
110	Possible stone and brick culvert	Stone tile
111	East side brick wall of east range cellar	
112	Made ground	Pottery
113	Made ground	Animal bone, pottery
114	Made ground	
115	Sterile clay layer, natural geological deposit	
116	Silty clay layer, re-deposited	
117	Made ground	Pottery
118	Re-deposited natural	
119	Shallow square pit	
120	Fill of pit 119	
121	Shallow pit	
122	Fill of 121	
123	Levelling layer	
124	Passage wall, west side	
125	Brick walls of cellar	
126	Concrete surface of cellar	
127	Void	
128	Void	
129	Void	
130	Void	
131	Cellar wall of No. 99	
132	Void	
133	Void	
134	South wall of rectangular brick feature	
135	East wall of rectangular brick feature	
136	North wall of rectangular brick feature	
137	Foundation wall of west range	
138	Construction cut for cellar	
139	Fill between 136 and cut 138	
140	Demolition material 2010 date	
141	Natural superficial geology	
142	Bedding deposit for stone east wall	

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Context	Description	Environmental samples
143	South range wall	
144	South range partition wall	
145	Glazed brick wall	
146	Fill east side of passage wall 124	

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**Appendix 4: Archive listing and concordance of photographs**

Plate No.	Jpeg No.	Direction	Description
1	DSCF3419	SE	Test Pit 1
2	DSCF3445	SW	Test Pit 4, southwest facing section of feature 109, 110 and 104
3	DSCF4460	NE	Test Pit 7
4	DSCF4467	NW	Test Pit 8
5	DSCF3527	SW	Ground level reduction working shot
6	DSCF3528	SW	Pit 119
7	DSCF4619	W	Working shot of ground level reduction in the west corner of site, showing demolition debris 140
8	DSCF4338	NE	Working shot of ground level reduction in the footprint of the west wing and central area of site
9	DSCF4770	W	Working shot of the ground level reduction in the footprint of the west wing and central area of site
10	DSCF4738	NW	East facing elevation of the foundations of the west wall of the west wing of the FWCH
11	DSCF4632	NE	Cellar at the west end of the south range
12	DSCF4729	NW	Brick feature abutting the north side of the possible cellar
13	DSCF4208	NE	View into the cellar showing the pile pad pits
14	DSCF4205	NW	Southeast facing section of PP5
15	DSCF3540	SW	View along cellar passage
16	IMG_6529	NE	Drain access point in north corner of cellar
17	DSCF4213	N	View of central area of east range during the excavation of the pile pad pits
18	DSCF4233	SE	Northwest facing section of PP8
19	DSCF4237	SW	Northeast facing section of PP8
20	DSCF4217	SE	View of south range area during the excavation of the pile pad pits



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Plate No.	Jpeg No.	Direction	Description
21	DSCF4248	NW	View of south range area during the excavation of the pile pad pits
22	DSCF4194	NW	Working shot, during the excavation of PP15
23	DSCF3546	W	PP13
24	DSCF3550	W	PP13, showing the culvert
25	DSCF4383	SE	View of area at north end of pipe trench, prior to excavation
26	DSCF4355	NE	Wall 124
27	DSCF3543	E	Southwest facing section showing wall 124
28	DSCF4431	NE	Installation of drain at the north end of the Pipe Trench
29	DSCF4684	NE	Working shot of the excavation of the Foundation Trench
30	DSCF4691	SW	View along the Foundation Trench
31	DSCF4682	SE	Northwest facing section of the Foundation Trench at the north end
32	visit 1-(70)	S	General view of site
33	visit 1-(1)	S	General view of site
34	visit 1-(12)	W	Cellar of No 99
35	visit 1-(65)	SW	East range, ground floor
36	visit 1-(67)	W	East range, west wall of ground floor
37	visit 1-(66)	N	East range, west wall of ground floor, showing arch detail
38	visit 1-(55)	N	East range, south end room of the first floor
39	visit 1-(63)	NE	East range, north wall of the north end room of the first floor
40	visit 1-(62)	N	East range, west wall of the north end room of the first floor
41	visit 1-(61)	E	East range, second floor
42	visit 1-(26)	E	External view of south wall of south range

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Plate No.	Jpeg No.	Direction	Description
43	visit 1-(13)	S	External view of south range
44	visit 1-(18)	SE	South range, ground floor
45	visit 1-(33)	E	South range, south side room of the first floor
46	visit 1-(36)	S	South range, south wall of the south side room of the first floor
47	visit 1-(30)	NW	South range, detail of the west wall of the south side room of the first floor
48	visit 1-(45)	SE	South range, north side room of the first floor
49	visit 1-(68)	W	North exterior elevation of the east range
50	DSCF4440	SE	Ground floor level of the north elevation of the east range
51	DSCF4435	SE	East side, ground floor level of the north elevation of the east range
52	DSCF4436	S	Detail of east side quoins of the north elevation
53	DSCF4438	NW	West side, ground floor of the north elevation of the east range
54	DSC_9321	NE	Interior first and second floor of the north elevation of the east range
55	15D060_4352_035	NW	East exterior elevation of south range
56	IMG_6965	E	East wall of east range and east wall of south range, south end
57	IMG_6963	E	East wall of east range, central
58	IMG_6962	E	East wall of east range, north end
59	DSCF4219	SE	Masonry at south end of east wall of east range
60	IMG_6952	SE	Masonry at south end of east wall of east range
61	DSCF4234	SE	Possible rear corner of earlier building
62	DSC_9322	E	Timbers exposed within the east wall of the east range
63	DSC_9330	SE	Detail of possible tie-beam and King-post
64	DSC_9328	SE	Detail of upper section of possible King-post

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Plate No.	Jpeg No.	Direction	Description
65	DSC_9326	SE	Detail of possible purlin and rafter
66	DSCF4330	SE	West exterior elevation of east range
67	DSCF3505	E	View along west exterior elevation of the east range
68	DSCF3501	E	Detail of arch at south end of the west exterior elevation of the east range
69	IMG_9219	SE	The second and third first floor window from the north end of the west exterior elevation of the east range
70	IMG_9217	SE	Close-up detail of the south side sill fragment of the first floor second window from the north end
71	IMG_9277	E	The north end windows of the west exterior elevation of the east range
72	DSCF3506	N	View along west interior elevation of the east range
73	DSCF4212	NE	View along west interior elevation of the east range
74	DSCF3426	NW	View of west interior elevation of the east range from the cellar
75	IMG_6958	N	View of north end of the west interior elevation of the east range
76	IMG_6954	NW	Detail of the south end colonnade arch of the west interior elevation of the east range
77	IMG_6951	NW	Detail of the south end colonnade arch of the west interior elevation of the east range
78	IMG_9277	W	View of west interior elevation of the east range at first floor level
79	DSCF4227	NW	Detail of south end first floor windows of the west interior elevation of the east range
80	DSCF4221	NW	Detail of first floor windows and staircase scaring on the west interior elevation of the east range
81	DSCF4222	N	Detail of blocked north end windows of second floor, of the west interior elevation of the east range
82	IMG_6959	N	Detail of fireplace and chimney breast scaring and sooting on the west interior elevation of the east range
83	IMG_6526	S	North exterior elevation, showing east end arcade arch
84	IMG_6522	SW	North exterior elevation, showing east end arcade arch
85	IMG_6523	SW	Detail of margin dressed surface detail of stone column of east end arcade arch



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Plate No.	Jpeg No.	Direction	Description
86	IMG_6525	S	Detail of east side column of east end arcade arch
87	IMG_6520	E	North interior elevation, showing east end arcade arch
88	IMG_6518	NE	North interior elevation, showing east end arcade arch
89	visit 1 - (27)	E	View along the south exterior elevation of the south range
90	visit 1 - (26)	E	View along the ground floor level of the south exterior elevation of the south range
91	visit 1 - (28)	E	View along the first floor level of the south exterior elevation of the south range
92	DSCF3430	S	South interior elevation of the south range
93	IMG_6946	SW	The east end of the south interior elevation of the south range
94	IMG_6948	SW	The central area of the south interior elevation of the south range
95	visit 1 - (53)	E	View of central truss of south range
96	visit 1 - (32)	N	View of central truss of south range
97	visit 1 - (37)	SE	View of truss to the east side of the central truss of the south range
98	visit 1 - (41)	E	View of truss to the east side of the central truss of the south range
99	visit 1 - (46)	SE	View of truss to the east side of the central truss of the south range
100	visit 1 - (48)	S	View of truss to the east side of the central truss of the south range
101	visit 1 - (40)	NE	Rafters between the central and east side truss of the south range

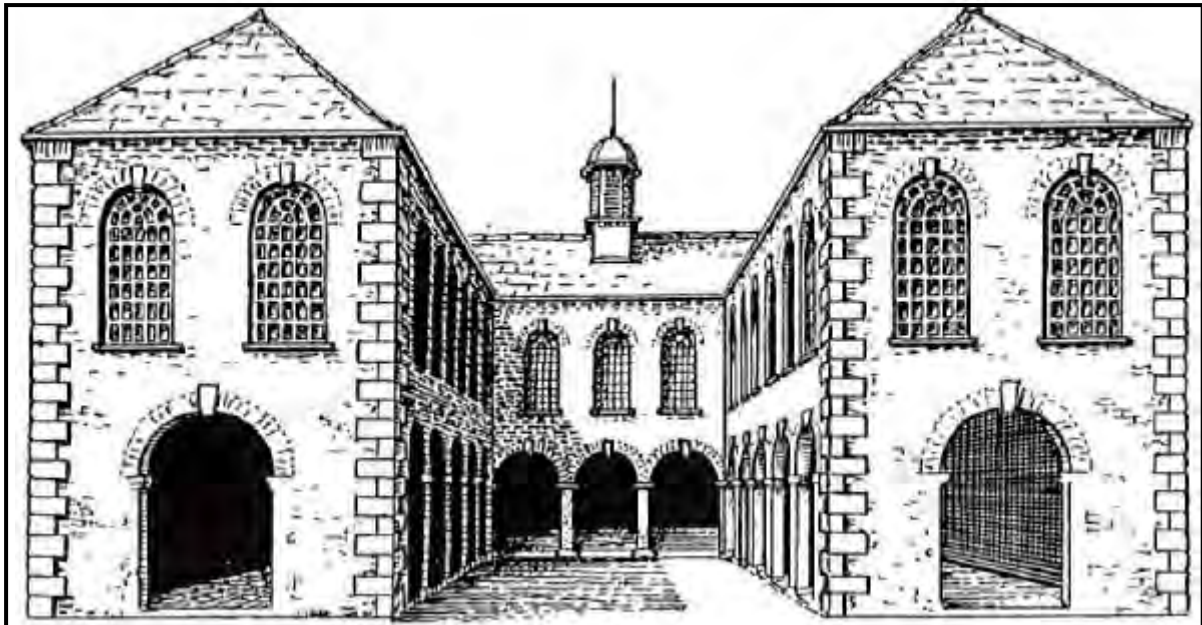
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## **Appendix 5: Tree-ring analysis of additional timbers**



**FIRST WHITE CLOTH HALL  
100 KIRKGATE  
LEEDS  
WEST YORKSHIRE**

**TREE-RING ANALYSIS OF ADDITIONAL TIMBERS**



**Alison Arnold and Robert Howard**

**July 2020**

*NTRDL, 20 Hillcrest Grove, Sherwood, Nottinghamshire NG5 1FT  
Telephone 0115 960 3833 (office); 07913 427987 (mobile)*



**FIRST WHITE CLOTH HALL, 100 KIRKGATE, LEEDS, WEST YORKSHIRE; TREE-RING ANALYSIS OF ADDITIONAL TIMBERS**

**ALISON ARNOLD  
ROBERT HOWARD**

**SUMMARY**

Cores samples were obtained from six different timbers forming parts of three ex-situ trusses now at the First White Cloth Hall construction site in central Leeds, as well as two in-situ roof trusses there. These six newly acquired samples were analysed in conjunction with samples obtained previously from 19 other First White Cloth Hall timbers, these other timbers having been salvaged when the building was demolished, and held in storage pending re-use. The analysis of these 25 samples together produced two dated site chronologies.

The first site chronology comprises a total of 15 samples, 12 samples obtained previously plus three newly acquired samples (these three newly acquired samples being from the ex-situ trusses). This site chronology is 111 rings long overall, these 111 rings dated as spanning the years 1366 to 1476. It is estimated that all these dated timbers, both those represented by the earlier programme of dating, and those newly sampled in this programme of analysis, and all of them from the still ex-situ timbers, were felled at, or about, the same time in the mid 1470s.

The second site chronology comprises two newly acquired samples, both of them from the tiebeams of in-situ roof trusses at the construction site. This second site chronology is 70 rings long overall, these 70 rings dated as spanning the years 1640–1709. Interpretation of the sapwood on these samples suggests that the two timbers represented were felled together in 1710, and presumably relate to the construction of the First White Cloth Hall in the early eighteenth century.

One of the newly acquired samples, from a principal rafter of a still ex-situ truss, remains ungrouped and undated, along with seven of the samples obtained previously.



## **Introduction**

First White Cloth Hall (also known as First Leeds Cloth Hall) was located on the south-west side of Kirkgate in the heart of Leeds, being centred on NGR SE 3044 3341 (Figs 1a/b). This Grade II\* listed building had become increasingly derelict over the past few decades and was on the Heritage at Risk register. Having been the subject of a number of building and archaeological surveys, the following information is summarised from the listing entry (LEN 1375042), Cressey (2013), and Gwilliam and Richardson (2015).

First White Cloth Hall, which opened in May AD 1711, appears to have been constructed in response to the opening of a dedicated cloth hall in nearby Wakefield in AD 1710, this all relating to the rivalry between Halifax, Huddersfield, Wakefield, and Leeds with respect to the cloth trade in the early eighteenth century. First White Cloth Hall provided both secure storage and a building for the trade in undyed cloth, which had previously been carried out in the general open-air cloth market in nearby Briggate.

The original building comprised a south range running parallel with, but set well back from, Kirkgate, with a range on either side (the east and west ranges), projecting forward to the street frontage on Kirkgate, thus forming a U-plan building with a rectangular courtyard opening onto Kirkgate (Fig 2). However, it is suggested that the principal facade of First White Cloth Hall faced south-west facing (site south) based on Cossins map, which is thought to have been produced in the late 1720s. The three ranges of First White Cloth Hall were constructed of brick with stone dressings, two-storeys in height, although an attic floor was certainly present in the east range, and both the east and west ranges had basement areas.

The south range of First White Cloth Hall was turned into an Assembly Room when the building became redundant following the construction and opening of a larger hall in the late 1750s. However, both these buildings were superseded by the Third White Cloth Hall in the latter part of the 1770s, a building which included the provision of assembly rooms. First White Cloth Hall is believed to have been subsequently converted to an alehouse and shops and housing, with the front of the courtyard being in-filled in the early nineteenth century (Fig 3).

The late-twentieth century saw First White Cloth Hall in a state of steady decline resulting in the emergency demolition of the west range in 2010. A significant amount of timber was salvaged from this range during demolition and placed in storage and is described in detail in Cressey (2013). Demolition and storage allowed dendrochronological analysis to be undertaken on 19 samples from these stored ex-situ oak timbers in 2016, this analysis producing a single site chronology. Interpretation of the sapwood on these earlier dated samples indicated that the majority of timbers were cut in the mid-1470s as part of a single programme of felling and construction (Arnold et al 2019). As such, this date is somewhat earlier than had been expected based on the documented opening of First White Cloth Hall in the early eighteenth century.

## **Sampling**

Sampling and analysis by dendrochronology of further timbers at the First White Cloth Hall construction site was commissioned in response to a specification originally prepared on behalf of Leeds City Council by the West Yorkshire Archaeology Advisory Service, the holders of the West Yorkshire Historic Environment Record. The specifications detailed the requirements for an archaeological (below ground) watching brief and a structural watching brief (archaeological and architectural photographic and drawn recording) during works at the First White Cloth Hall, Kirkgate, Leeds as part of planning applications 17/07710/10 & 17/07711/LI.

This planning permission was sought for external alterations, including the repair and refurbishment of the existing First White Cloth Hall structure, the reinstatement of the demolished west wing, the provision of a new covered courtyard with atrium, and a new circulation wing to the rear with shopfronts to the Kirkgate elevation. One of the conditions specified in the brief was a requirement to undertake dendrochronological dating of samples taken from any suitable structural roof timbers in the East and South range.

It was hoped that dendrochronology would provide dating evidence for the remaining timbers of this still ex-situ roof trusses (these now removed from storage to the construction site itself), and any timbers from the presently in-situ roof timbers. An initial examination of the timbers showed that there were still a few timbers to the still ex-situ trusses worth sampling, plus two timbers (both tiebeam) to the two now in-situ roof trusses.

Thus, having assessed both the in-situ roof trusses and still accessible ex-situ timbers, a further six samples was obtained by coring. As in the earlier programme of tree-ring dating, each sample was given the tree-ring code LWC-H (for Leeds, White Cloth Hall), and numbered 20–25 following on from the 19 samples obtained in the earlier programme of analysis. Details of the newly acquired samples are given in Table 1, including the timber sampled, the total number of rings each sample has, and how many of these, if any, are sapwood rings. The individual date span of each dated sample is also given. The locations of the two in-situ roof trusses are shown in the plan, Figure 4, with the sampled timber being identified on annotated photographs shown here as Figure 5a/b.

The Nottingham Tree-ring Dating Laboratory would like to take this opportunity to thank the staff and workforce of H.H. Smith & Sons Co Ltd, particularly Warwick Stewart and Daniel McConville for their help and assistance with sampling, especially with the care and attention given to Health and Safety at a particularly difficult time.

## **Tree-ring dating**

Tree-ring dating relies on a few simple, but quite fundamental, principles. Firstly, as is commonly known, trees (particularly oak trees, the timber most commonly used in building



construction until the introduction of pine from the late eighteenth century onwards) grow by adding one, and only one, growth-ring to their circumference each, and every, year. Each new annual growth-ring is added to the outside of the previous year's growth just below the bark. The width of this annual growth-ring is largely, though not exclusively, determined by the weather conditions during the growth period (roughly March–September). In general, good conditions produce wider rings and poor conditions produce narrower rings. Thus, over the lifetime of a tree, the annual growth-rings display a climatically influenced pattern. Furthermore, and importantly, all trees growing in the same area at the same time will be influenced by the same growing conditions and the annual growth-rings of all of them will respond in a similar, though not identical, way.

Secondly, because the weather over a certain number of consecutive years (the statistically reliable minimum calculated as being 54 years) is unique, so too is the growth-ring pattern of the tree. The pattern of a shorter period of growth, 20, 30, or even 40 consecutive years, might conceivably be repeated two or even three times in the last one thousand years, and is considered less reliable. A short pattern might also be repeated at different time periods in different parts of the country because of differences in regional micro-climates. It is less likely, however, that such problems would occur with the pattern of a longer period of growth, that is, anything in excess of 45 years or so. In essence, a short period of growth, anything less than 45 rings, is not reliable, and the longer the period of time under comparison the better.

Tree-ring dating relies on obtaining the growth pattern of trees from sample timbers of unknown date by measuring the width of the annual growth-rings. This is done to a tolerance of 1/100 of a millimetre. The growth patterns of these samples of unknown date are then compared with a series of reference patterns or chronologies, the date of each ring of which is known. When the growth-ring sequence of a sample 'cross-matches' repeatedly at the same date span against a series of different reference chronologies the sample can be said to be dated. The degree of cross-matching, that is the measure of similarity between sample and reference, is denoted by a 't-value'; the higher the value the greater the similarity. The greater the similarity the greater is the probability that the patterns of samples and references have been produced by growing under the same conditions *at the same time*. The statistically accepted fully reliable minimum t-value is 3.5.

However, rather than attempt to date each sample individually it is usual to first compare all the samples from a single building, or phase of a building, with one another, and attempt to cross-match each one with all the others from the same phase or building. When samples from the same phase do cross-match with each other they are combined at their matching positions to form what is known as a 'site chronology'. As with any set of data, this has the effect of reducing the anomalies of any one individual (brought about in the case of tree-rings by some non-climatic influence) and enhances the overall climatic signal. As stated above, it is the climate that gives the growth pattern its distinctive pattern. The greater the number of samples in a site chronology the greater is the climatic signal of the group and the weaker is the non-climatic input of any one individual.

Furthermore, combining samples in this way to make a site chronology usually has the effect of increasing the time-span that is under comparison. As also mentioned above, the longer the period of growth under consideration, the greater the certainty of the cross-match. Any site chronology with less than about 55 rings is generally too short for reliable dating.

Having obtained a date for the site chronology as a whole, the date spans of the constituent individual samples can then be found, and from this the felling date of the trees represented may be calculated. Where a sample retains complete sapwood, that is, it has the last or outermost ring produced by the tree before it was cut, the last measured ring date is the felling date of the tree.

Where the sapwood is not complete it is necessary to estimate the likely felling date of the tree. Such an estimate can be made with a high degree of reliability because oak trees generally have between 15 to 40 sapwood rings. For example, if a sample with, say, 12 sapwood rings has a last sapwood ring date of 1400 (and therefore a heartwood/sapwood boundary ring date of 1388), it is 95% certain that the tree represented was felled sometime between 1403 (1400+3 sapwood rings (12+3=15)) and 1428 (1400+28 sapwood rings (12+28=40)).

## **Analysis**

Each of the six samples obtained in this additional programme of sampling was prepared by sanding and polishing, and the widths of its annual growth rings were measured. The measured data of these six samples, plus the data of the samples obtained from other timbers in the earlier work at the First White Cloth Hall, were then compared with each other as described in the notes above. This comparative process indicated that two groups of cross-matching samples could be formed.

The first group comprises a total of 15 samples and includes not only 12 of the samples obtained in the earlier programme of work on the timbers in storage, but also three of the six samples newly acquired from the First White Cloth Hall construction site, samples LWC-H21 (a principal rafter), and samples LWC-H22, and H23 (both tiebeams). These three samples are from the ex-situ roof trusses. These 15 samples were combined at their cross-matching positions to form LWCHSQ01, a site chronology 111 rings long overall (Fig 6). These 111 rings were then dated by comparison with a large number of reference chronologies for oak as spanning the years 1366–1476 (see Table 2).

The second group comprises two samples, LWC-H25 and H26, both samples newly acquired from the tiebeams of the two in-situ roof trusses. These two samples were also combined at their cross-matching positions to form LWCHSQ02, a site chronology 70 rings long overall (Fig 7). These 70 rings were also dated by comparison with a large number of reference chronologies for oak as spanning the years 1640–1709 (see Table 3).

## **Interpretation**

### *Ex-situ trusses*

Interpretation of the sapwood on the newly acquired and dated samples indicates that the timbers of the still ex-situ trusses (represented by samples LWC-H21, H22, and H23), were almost certainly cut as part of the overall programme of felling for these timbers which is estimated to have taken place in the mid 1470s (at least three of the timbers sampled previously have been dated as being felled in 1476). Such a similar date for these three newly acquired samples is in keeping with the fact that the timbers (a principal rafter and two tiebeams) are integral to the truss structures, and show no evidence for the re-use of old timber or the insertion of newer replacement pieces.

Sample LWC-H22 has a last ring date of 1460, this last ring being at the heartwood/sapwood boundary. This means that although all the sapwood rings have been lost from the sample, it is *only* the sapwood that is missing. Given that most oak trees have between a minimum of 15 sapwood rings and a maximum of 40, this would suggest that the source tree was felled at some point between 1475 at the earliest and 1500 at the latest. Given that all the other timbers used for these trusses have already been dated in the first programme of tree-ring dating as having been felled in the mid-1470s, it is more likely than not that this timber, and those represented by samples LWC-H21 and H23, were also felled at about this time.

### *In-situ roof trusses*

The timbers of the now in-situ roof trusses (represented by newly acquired samples LWC-H25 and H26) are, however, much later. Both these samples retain near-complete sapwood, perhaps only a fraction of the final growth ring having been lost in coring. Given that the latest extant sapwood rings on either sample is 1709, the loss of a ring would indicate that the timber was felled in 1710. As such, this dating is in-keeping with the documented history of the building which is known to have been opened in May 1711.

### *Undated timber*

One of the newly acquired samples, LWC-H20 from a principal rafter of a still ex-situ truss, has not been dated, despite it having quite sufficient number of rings (75) for reliable dating. It is possible that its growth has been influenced by some non-climate event such as coppicing or pollarding, this causing a disturbance to the climate signature on the rings, and making cross-matching difficult. It is also possible that that individual timber has come from a woodland source for which, as yet, there is no reference data against which it can be cross-matched. It is however, a common feature of most programmes of tree-ring analysis to have some samples remaining undated, often for no apparent reason.



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**Table 1:** Details of additional tree-ring samples from the First White Cloth Hall complex, Kirkgate, Leeds, West Yorkshire

Sample number	Sample location	Total rings	Sapwood rings*	First measured ring date (AD)	Heart/sap boundary (AD)	Last measured ring date (AD)
LWC-H20	Principal rafter 1	75	19	-----	-----	-----
LWC-H21	Principal rafter, truss 2	50	no h/s	1380	-----	1429
LWC-H22	Tiebeam, truss 1	51	h/s	1410	1460	1460
LWC-H23	Tiebeam, truss 2	40	no h/s	1381	-----	1420
LWC-H24	Tiebeam, in situ truss 1	68	18c	1640	1689	1707
LWC-H25	Tiebeam, in situ truss 2	70	22c	1640	1687	1709
*h/s = heartwood/sapwood boundary, i.e., only the sapwood rings are missing						
c = the timber has the last growth ring produced by the tree represented, but a very small amount of sapwood has been lost from the sample in coring						

**Table 2:** Results of the cross-matching of site chronology LWCHSQ01 and the reference chronologies when the first ring date is 1366 and the last ring date is 1476

Reference chronology	<i>t</i> -value
Calverley Old Hall, Calverley, West Yorkshire	9.8
Horbury Hall, Wakefield, West Yorkshire	9.8
All Hallow's Church, Kirkburton, West Yorkshire	9.2
White Hart Yard, Newcastle upon Tyne	8.0
Seaton Holme, Easington, County Durham	7.9
Nether Hall Barn, Huddersfield, West Yorkshire	7.8
Tythe Barn, Bolton Abbey, North Yorkshire	7.4
Offerton Hall, Offerton, Derbyshire	7.0

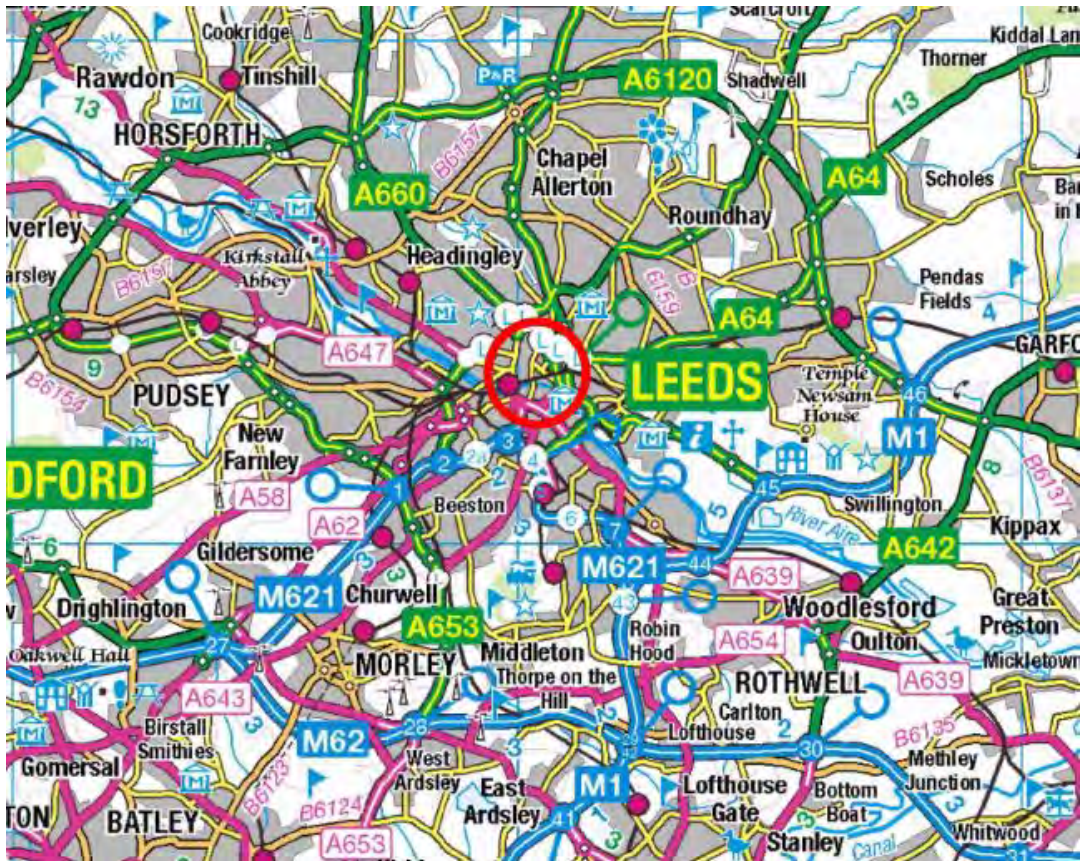
**Table 3:** Results of the cross-matching of site chronology LWCHSQ02 and the reference chronologies when the first ring date is 1640 and the last ring date is 1709

Reference chronology	<i>t</i> -value
Apethorpe Hall, Northamptonshire	9.5
Kirby Hall, Northamptonshire	8.5
Bingham, Nottinghamshire	8.0
Sneath's Mill, Luton Gowts, Lincolnshire	7.8
Old Barn, Shotton, Warwickshire	7.7
Post Mill, Kibworth Harcourt, Leicestershire	6.8
Quenby Hall, Quenby, Leicestershire	6.5
Ribbesford House, Bewdley, Worcestershire	6.5

Site chronologies LWCHSQ01 and SQ02 are composites of the data of the relevant cross-matching samples. These composite data sets produce 'average' tree-ring patterns where the possible erratic variations of any one individual sample are reduced and the overall climatic signal of the group is enhanced. These 'average' site chronologies are then compared with several hundred reference patterns covering every part of Britain for all time periods, cross-matching with a number of these only at the date span indicated.

The Table gives only a small selection of the very best matches as represented by '*t*-values' (ie, degrees of similarity). It may be noticed from this that the resultant *t*-values are well in excess of the  $t=3.5$  value usually taken as the minimum acceptable level for satisfactory dating.



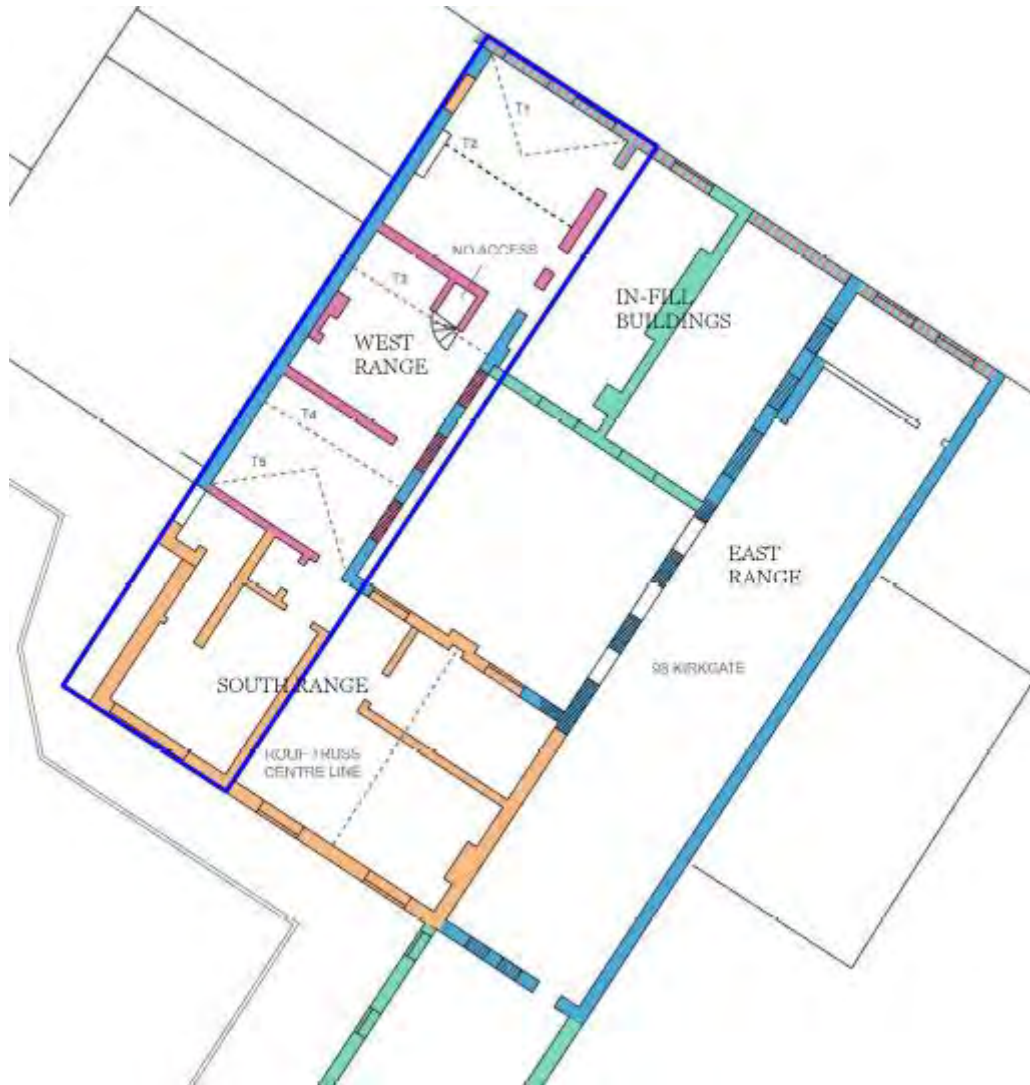


**Figure 1a/b:** Maps to show the general location of the First White Cloth Hall construction site in central Leeds



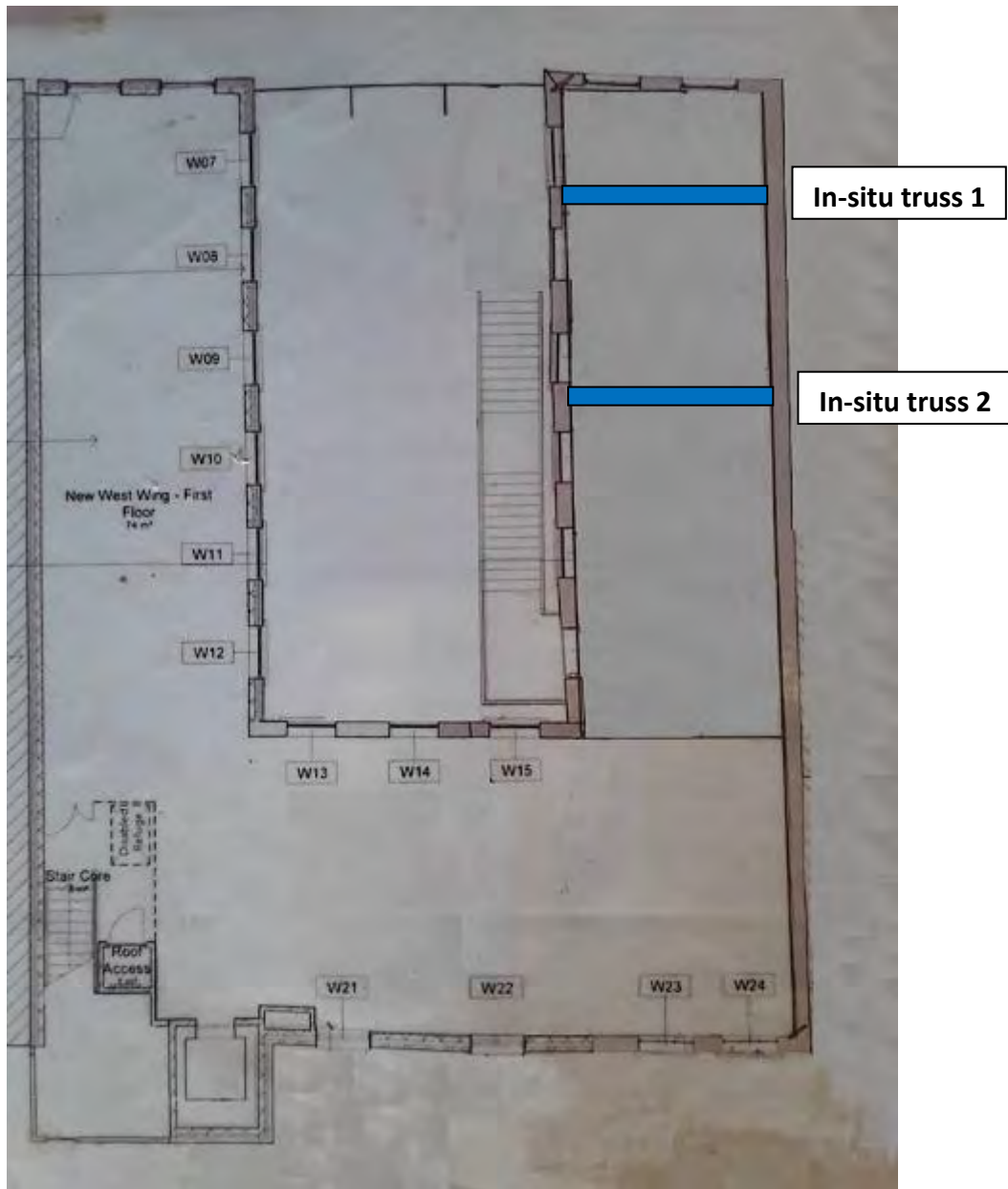
**Figure 2** Plan to show the location and general footprint of the First White Cloth Hall on Kirkgate, Leeds





**Figure 3:** Plan to show the arrangements of the wings of the First White Cloth Hall and the infilling of the site by the early nineteenth century (after Cressey 2013, Fig 2b)





**Figure 4:** Plan to show the location of the in-situ roof trusses (taken from H.H. Smith and Sons Co Ltd site work plan)

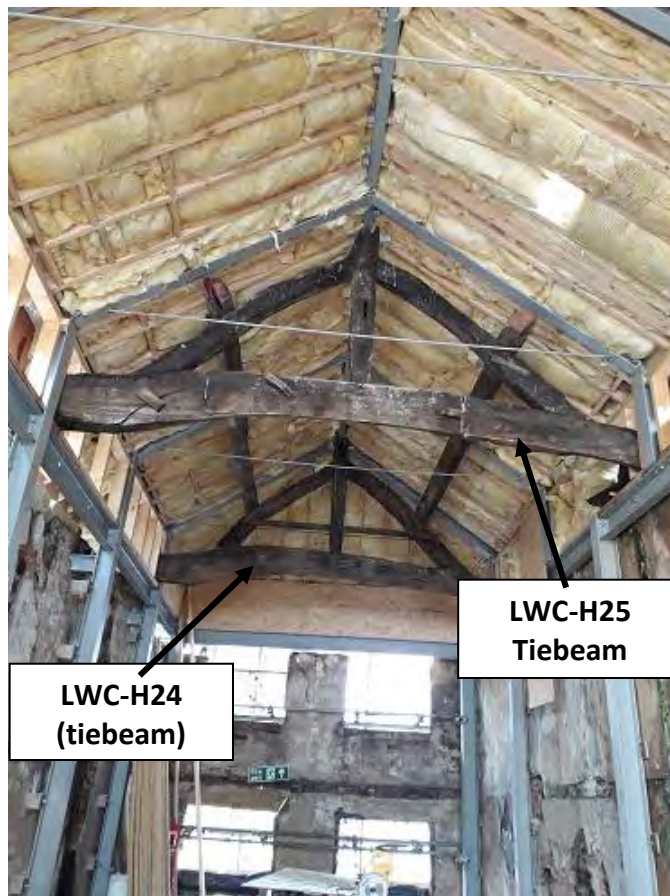
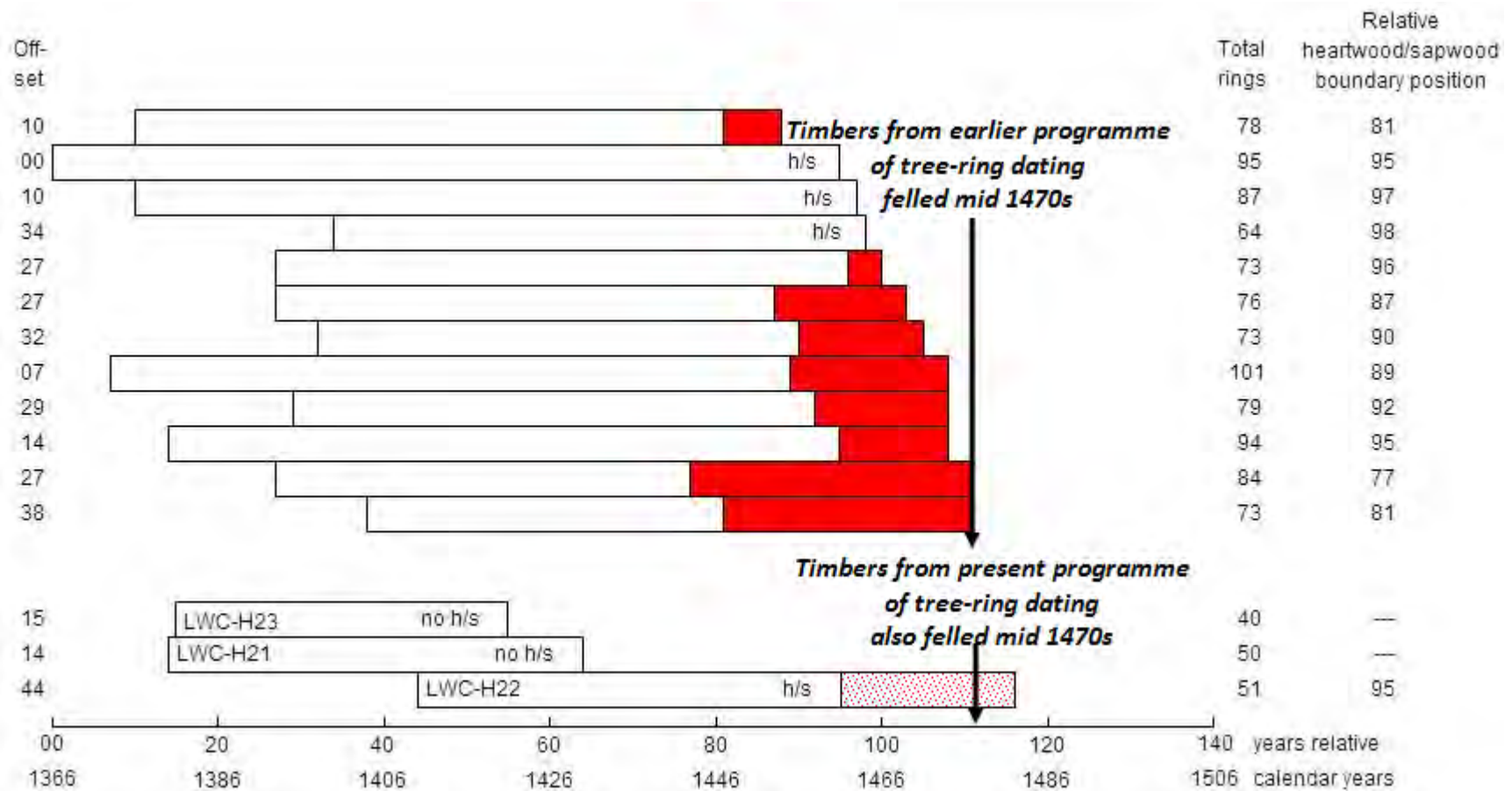
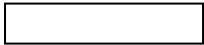




Figure 5a/b: Annotated photograph to help locate sampled timbers (see Table 1)



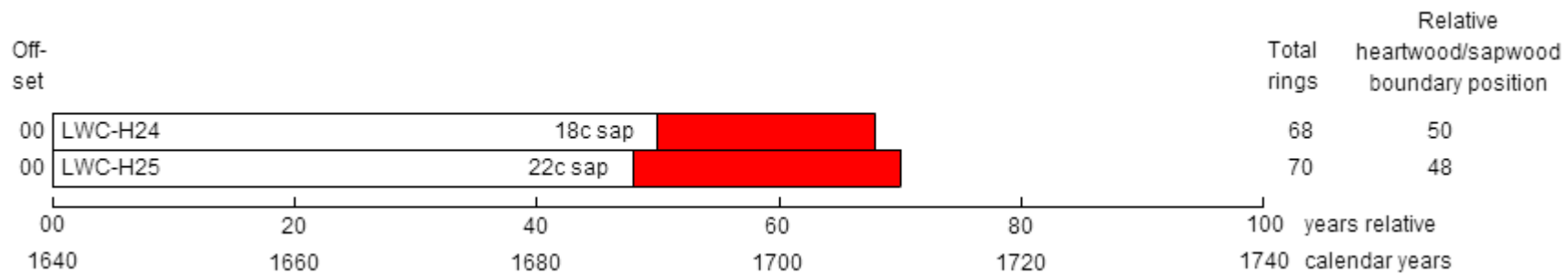
White bars  = heartwood rings. Filled bars  = sapwood rings. Hatched bars  = missing sapwood rings  
 h/s = heartwood/sapwood boundary

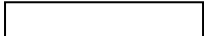

**Figure 6:** Bar diagram of samples in site chronology LWCHSQ01



The samples of site chronology LWCHSQ01 are shown here in the form of 'bars' at relative off-set positions where the growth ring patterns of the constituent cores cross-match with each other, the similarity being caused by the trees used for the beams having grown at the same time and place as each other. The data of the measured ring widths of the constituent samples have been combined to form a 'site chronology', LWCHSQ01. This has then been dated by comparison with the 'reference chronologies' (see Table 2).

Sample LWC-H22 has a last ring date of 1460, this last ring being at the heartwood/sapwood boundary. This means that although all the sapwood rings have been lost from the sample, it is *only* the sapwood that is missing. Given that most oak trees have between a minimum of 15 sapwood rings and a maximum of 40, this would suggest that the source tree was felled at some point between 1475 at the earliest and 1500 at the latest. Given that all the other timbers used for these trusses have already been dated in the first programme of tree-ring dating as having been felled in the mid-1470s, it is more likely than not that this timber, and those represented by samples LWC-H21 and H23, were also felled at about this time.



White bars  = heartwood rings. Filled bars  = sapwood rings.

c = The sampled timber has the last growth ring produced by the tree represented, but a very small amount of sapwood has been lost from the sample in coring

**Figure 7:** Bar diagram of samples in site chronology LWCHSQ02

The samples of site chronology LWCHSQ02 are also shown in the form of 'bars' at relative off-set positions where the growth ring patterns of the constituent cores cross-match with each other, the similarity again being caused by the trees used for the beams having grown at the same time and place as each other. The data of the measured ring widths of the constituent samples have been combined to form a 'site chronology', LWCHSQ02. This has also been dated by comparison with the 'reference chronologies' (see Table 3).

Both samples are from timbers, the tiebeams of the in-situ roof trusses, which have complete sapwood on them. However, due to its soft and fragile nature, a small amount of this sapwood has been lost from the samples in coring (this denoted by lower case 'c' in Table 1 and the bar diagram). Given that sample LWC-H25 has a last ring date of 1709, and has probably only lost its outer ring, it is very likely that the source tree was felled in 1710. The date of the last ring on sample LWC-H24, and the amount of sapwood lost from this core, would suggest that it too was felled in 1710.

## **Appendix 6: Catalogue of salvaged sandstones**





**WYAS**  
**Archaeological  
Services**

**First White Cloth Hall**

**Leeds**

**West Yorkshire**

**Archaeological Catalogue**

Report no. 3303

July 2019, updated September 2019

**Client:** H. H. Smith & Sons Co Ltd



# First White Cloth Hall, Leeds West Yorkshire

## Archaeological Catalogue

### *Summary*

*Archaeological Services WYAS (ASWYAS) were commissioned by H. H. Smith & Sons Co. Ltd, to carry out archaeological cataloguing of 88 salvaged sandstone pieces. Fifty-three of the sandstone pieces/blocks had been recently uncovered, both on site and stored in a nearby railway arch. The remaining thirty-five sandstone blocks were observed within the southwest facing elevation of a retaining wall located adjacent to Kirkgate street, below roadside level. The stones are believed to have come from the original First White Cloth Hall, Leeds.*



## Report Information

Client: H. H. Smith & Sons Co. Ltd.  
Address: Smith's Yard, Rear of 95 Bury Old Road, Whitefield,  
Manchester, M45 7AY  
Report Type: Archaeological Catalogue  
Location: First White Cloth Hall, Kirkgate, Leeds  
County: West Yorkshire  
Grid Reference: SE 30445 33424  
Period(s) of activity represented: Post-medieval  
Report Number: 3303  
Project Number: 6734  
Site Code: WCH19  
Planning Application No.: 17/07710/10 & 17/07711/LI  
Date of fieldwork: 04/07/19 and 09/09/19  
Date of report: July 2019, updated September 2019  
Project Management: Jane Richardson  
Report: Liz Govier  
Photography: Liz Govier and Steffan Golby

© Archaeological Services WYAS 2019  
Nepshaw Lane South, Morley, Leeds LS27 7JQ  
Telephone: 0113 535 0163.  
Email: [admin@aswyas.com](mailto:admin@aswyas.com)





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- 2 Site plan showing the location of the retaining wall (Fig. 3)
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## **1 Introduction**

Archaeological Services WYAS (ASWYAS) were commissioned by H. H. Smith & Sons Co. Ltd, to carry out archaeological cataloguing of 88 salvaged sandstone pieces. Fifty-three of sandstone pieces/blocks had been recently uncovered, both on site and stored in a nearby railway arch. The remaining 35 sandstone blocks were observed within the southwest facing elevation of a retaining wall located adjacent to Kirkgate street, below roadside level. The stones are believed to have come from the original First White Cloth Hall (FWCH), Leeds. The Conservation Officer and Historic England wish to understand the materials further and explore whether these can be re-used within the project.

Additional stones were identified within the southwest facing elevation of the roadside retaining wall, but these could not be recorded as they were obscured by modern midden deposits, and inaccessible due to scaffolding.

The scheme of archaeological works was undertaken during the renovation of the existing structure, to fulfil approved planning applications 17/07710/10 and 17/07711/LI.

The current works were carried out in accordance with the Specification, prepared by West Yorkshire Archaeology Advisory Service (WYAAS; Appendix 1). Guidance was taken from Historic England revised 2016 document 'Understanding Historic Buildings: A Guide to Good Recording Practice'. Reference has also been made to the Chartered Institute for Archaeologists' Standard and Guidance for the Archaeological Investigation and Recording of Standing Buildings or Structures (CIfA 2014).

### **Site location and topography and land-use**

The First White Cloth Hall is situated on the southwest side of Kirkgate within central Leeds, West Yorkshire (Fig. 1). To the northwest lies derelict land after the demolition of structures which stood at 102-104 Kirkgate, to the west and southeast lie retail properties and to the south-west and south lies a car park. The site itself is occupied by the partial remains of the FWCH (Fig. 2). The south and east ranges are still standing, though in poor condition, whilst the west range and buildings which were later constructed within the courtyard were demolished in 2010 on health and safety grounds. The cellars which underlay the west wing and courtyard structures have been fully excavated of backfilled material and are now accessed by a grassy ramp of rubble from the northwest (where 102 Kirkgate stood).

## **2 Aims and Objectives**

The aims of the archaeological cataloguing were to gather sufficient information to establish the location of the sandstone pieces within the FWCH, establish the condition of the salvaged sandstone pieces, and to produce a photographic record of the stones.



### 3 Methodology



A detailed methodology for the building recording and structural watching brief is discussed within the Specification (Appendix 1).

Guidance for the production of this historic building recording, was taken from Historic England revised 2016 document *Understanding Historic Buildings: A Guide to Good Recording Practice*. Reference has also been made to the Chartered Institute for Archaeologists' *Standard and Guidance for the Archaeological Investigation and Recording of Standing Buildings or Structures* (CIfA 2014).

Site inspection for the first fifty-three stones was carried out on 4th July 2019. Further recording of the remaining thirty-five stones, observed within the retaining wall, was undertaken on the 9th September 2019 (Fig. 3). The recording included;

- numbering of the salvaged sandstone pieces;
- a brief description of each stone, measurements were taken in mm;
- a basic photograph record of the salvaged stones;
- and an assessment of the condition of the stones. This was undertaken to determine the potential re-use of the stones within the renovation of the structure. Condition was rated good, moderate or poor. This was determined by the surface condition of each piece taking into consideration damage and erosion.

## 4 Catalogue

STONE 1	
	
<b>Condition</b>	GOOD
<b>Measurement</b>	L:600mm W:400mm D:300mm
<b>Description</b>	Base stone - possible pillar plinth
STONE 2	
	
<b>Condition</b>	MODERATE
<b>Measurement</b>	L:400mm W:340mm D:280mm
<b>Description</b>	Keystone piece

**STONE 3**

<b>Condition</b>	<b>POOR</b>
<b>Measurement</b>	L:600mm
<b>Description</b>	Cornice piece

**STONE 4**

<b>Condition</b>	<b>GOOD</b>
<b>Measurement</b>	L:800mm W:450mm D:260mm
<b>Description</b>	Probable corner cornice piece



**STONE 5**

<b>Condition</b>	GOOD
<b>Measurement</b>	L:200mm W:300mm D:300mm
<b>Description</b>	Unidentifiable

**STONE 6**

<b>Condition</b>	GOOD
<b>Measurement</b>	L:800mm W:500mm D:250mm
<b>Description</b>	Unidentifiable - possible upright stone, with perforated circular hole, and ledge to one corner (perhaps for joist)

**STONE 7**

<b>Condition</b>	MODERATE
<b>Measurement</b>	L:370mm W:300 D:150mm
<b>Description</b>	Unidentifiable - shaped to a rough point to one end

**STONE 8**

<b>Condition</b>	POOR
<b>Measurement</b>	L:450mm W:400mm D:260mm
<b>Description</b>	Unidentifiable - possible base piece



**STONE 9**

<b>Condition</b>	MODERATE
<b>Measurement</b>	L:300mm W:260mm D:130mm
<b>Description</b>	Possible door/window surround (sawn face)

**STONE 10**

<b>Condition</b>	MODERATE
<b>Measurement</b>	L:440mm W:350mm D:180mm
<b>Description</b>	Possible base piece (stepped)



**STONE 11**

<b>Condition</b>	GOOD
<b>Measurement</b>	L:250mm W:190mm D:230mm
<b>Description</b>	Keystone piece - stepped, possibly for timber frame

**STONE 12**

<b>Condition</b>	GOOD
<b>Measurement</b>	L:250mm W:190mm D:230mm
<b>Description</b>	Keystone piece - stepped, possibly for timber frame

**STONE 13**

<b>Condition</b>	GOOD
<b>Measurement</b>	L:500mm W:350mm D:260mm
<b>Description</b>	Uncertain - possible plinth or cornice

**STONE 14**

<b>Condition</b>	GOOD
<b>Measurement</b>	L:900mm W:600mm D:260mm
<b>Description</b>	Corner cornice, same as Stone 4



**STONE 15**

<b>Condition</b>	GOOD
<b>Measurement</b>	L:1000mm W:500mm D:260mm
<b>Description</b>	Column/pillar section for archway

**STONE 16**

<b>Condition</b>	POOR
<b>Measurement</b>	L:400mm W:400mm D:230mm
<b>Description</b>	Probable cornice fragment



**STONE 17**

<b>Condition</b>	<b>POOR</b>
<b>Measurement</b>	L:400mm W:300mm D:280mm
<b>Description</b>	Unidentifiable

**STONE 18**

<b>Condition</b>	<b>POOR</b>
<b>Measurement</b>	L:400mm W:280mm D:180mm
<b>Description</b>	Unidentifiable - possible base piece

**STONE 19**



<b>Condition</b>	POOR
<b>Measurement</b>	L:330mm W:260mm D:380mm
<b>Description</b>	Probable keystone

**STONE 20**



<b>Condition</b>	GOOD
<b>Measurement</b>	L:420mm W:280mm D:100mm
<b>Description</b>	Possible window sill piece



**STONE 21**

<b>Condition</b>	POOR
<b>Measurement</b>	L:300mm W:150mm D:200mm
<b>Description</b>	Unidentifiable - has a bevelled edge

**STONE 22**

<b>Condition</b>	POOR
<b>Measurement</b>	L:600mm W:500mm D:240mm
<b>Description</b>	Probable cornice piece



**STONE 23**

<b>Condition</b>	MODERATE
<b>Measurement</b>	L:500mm W:600mm D:250mm
<b>Description</b>	Probable cornice piece

**STONE 24**

<b>Condition</b>	GOOD
<b>Measurement</b>	L:340mm W:200mm D:140mm
<b>Description</b>	Unidentifiable - rectangular block piece

**STONE 25**



<b>Condition</b>	POOR
<b>Measurement</b>	L:600mm W:500mm D:250mm
<b>Description</b>	Probable cornice piece

**STONE 26**



<b>Condition</b>	GOOD
<b>Measurement</b>	L:850mm W:500mm D:60mm
<b>Description</b>	Possible threshold flagstone or sill



**STONE 27**

<b>Condition</b>	MODERATE
<b>Measurement</b>	L:600mm W:600mm D:250mm
<b>Description</b>	Possible base/corner piece

**STONE 28**

<b>Condition</b>	GOOD
<b>Measurement</b>	L:500mm W:550mm D:250mm
<b>Description</b>	Cornice piece



**STONE 29**

<b>Condition</b>	GOOD
<b>Measurement</b>	L:450mm W:260mm D:180mm
<b>Description</b>	Unidentifiable - rough rectangular block

**STONE 30**

<b>Condition</b>	MODERATE
<b>Measurement</b>	L:700mm W:300mm D:150mm
<b>Description</b>	Possible guttering

**STONE 31**



<b>Condition</b>	POOR
<b>Measurement</b>	L:550mm W:350mm D:60mm
<b>Description</b>	Irregular slab with shaped pointed end

**STONE 32**



<b>Condition</b>	MODERATE
<b>Measurement</b>	L:380mm W:300mm D:100mm
<b>Description</b>	Unidentifiable - slab piece



**STONE 33**

<b>Condition</b>	<b>POOR</b>
<b>Measurement</b>	L:450mm W:300mm D:150mm
<b>Description</b>	Unidentifiable - irregular block piece

**STONE 34**

<b>Condition</b>	<b>POOR</b>
<b>Measurement</b>	L:380mm W:300mm D:100mm
<b>Description</b>	Unidentifiable - slab piece



**STONE 35**

<b>Condition</b>	MODERATE
<b>Measurement</b>	L:380mm W:360mm D:100mm
<b>Description</b>	Unidentifiable - slab piece

**STONE 36**

<b>Condition</b>	GOOD
<b>Measurement</b>	L:700mm W:390mm D:120mm
<b>Description</b>	Probable threshold or sill

**STONE 37**

<b>Condition</b>	GOOD
<b>Measurement</b>	L:350mm W:250mm D:380mm
<b>Description</b>	Keystone piece

**STONE 38**

<b>Condition</b>	MODERATE
<b>Measurement</b>	L:500mm W:600mm D:300mm
<b>Description</b>	Cornice piece



**STONE 39**



<b>Condition</b>	MODERATE
<b>Measurement</b>	L:750mm W:280mm D:200mm
<b>Description</b>	Possible column/pillar piece

**STONE 40**



<b>Condition</b>	GOOD
<b>Measurement</b>	L:400mm W:350mm D:100mm
<b>Description</b>	Unidentifiable - slab piece



**STONE 41**



<b>Condition</b>	MODERATE
<b>Measurement</b>	L:500mm W:300mm D:150mm
<b>Description</b>	Possible column/pillar piece

**STONE 42**



<b>Condition</b>	GOOD
<b>Measurement</b>	L:650mm W:300mm D:250mm
<b>Description</b>	Possible corbel

**STONE 43**

<b>Condition</b>	GOOD
<b>Measurement</b>	L:1200mm W:300m D:150mm
<b>Description</b>	Unidentifiable

**STONE 44**

<b>Condition</b>	MODERATE
<b>Measurement</b>	L:340mm W:460mm D:250mm
<b>Description</b>	Possible capital



**STONE 45**

<b>Condition</b>	POOR
<b>Measurement</b>	L:600mm W:500mm D:250mm
<b>Description</b>	Cornice piece

**STONE 46**

<b>Condition</b>	POOR
<b>Measurement</b>	L:900mm W:600mm D:250mm
<b>Description</b>	Cornice piece



**STONE 47**

<b>Condition</b>	MODERATE
<b>Measurement</b>	L:900mm W:600mm D:250mm
<b>Description</b>	Cornice piece

**STONE 48**

<b>Condition</b>	MODERATE
<b>Measurement</b>	L:900mm W:600mm D:250mm
<b>Description</b>	Cornice piece

**STONE 49**

<b>Condition</b>	GOOD
<b>Measurement</b>	L:7320mm W:470mm D:250mm
<b>Description</b>	Cornice piece

**STONE 50**

<b>Condition</b>	POOR
<b>Measurement</b>	L:720mm W:420mm D:250mm
<b>Description</b>	Probable cornice piece



**STONE 51**

<b>Condition</b>	MODERATE
<b>Measurement</b>	L:900mm W:600mm D:280mm
<b>Description</b>	Cornice piece

**STONE 52**

<b>Condition</b>	MODERATE
<b>Measurement</b>	L:750mm W:450mm D:300mm
<b>Description</b>	Probable cornice piece



**STONE 53**

<b>Condition</b>	<b>POOR</b>
<b>Measurement</b>	L:900mm W:500mm D:300mm
<b>Description</b>	Cornice piece
<b>STONE 54</b>	
<b>VOID</b>	

**STONE 55**

<b>Condition</b>	GOOD
<b>Measurement</b>	L:530mm W:300mm
<b>Description</b>	Unidentifiable - block piece

**STONE 56**

<b>Condition</b>	GOOD
<b>Measurement</b>	L:920mm W:130mm
<b>Description</b>	Possible threshold (worn centrally on its underside)



**STONE 57**

<b>Condition</b>	MODERATE
<b>Measurement</b>	L:470mm W:280mm
<b>Description</b>	Unidentifiable - irregular block piece

**STONE 58**

<b>Condition</b>	MODERATE
<b>Measurement</b>	L:440mm W:230mm
<b>Description</b>	Possible cornice fragment - block piece with concave groove



**STONE 59**

<b>Condition</b>	MODERATE
<b>Measurement</b>	L:410mm W:210mm
<b>Description</b>	Possible base stone or pillar plinth fragment

**STONE 60**

<b>Condition</b>	GOOD
<b>Measurement</b>	L:420mm W:200mm D:200mm
<b>Description</b>	Possible base stone or pillar plinth fragment – the notched corner looks to be a later alteration

**STONE 61**

<b>Condition</b>	MODERATE
<b>Measurement</b>	L:200mm W:190mm
<b>Description</b>	Unidentifiable – block piece fragment, possibly formerly joined Stone 62

**STONE 62**

<b>Condition</b>	MODERATE
<b>Measurement</b>	L:190mm W:190mm
<b>Description</b>	Unidentifiable – block piece fragment, possibly formerly joined Stone 61



**STONE 63**

<b>Condition</b>	<b>POOR</b>
<b>Measurement</b>	L:370mm W:210mm
<b>Description</b>	Unidentifiable – fragmented block piece

**STONE 64**

<b>Condition</b>	<b>MODERATE</b>
<b>Measurement</b>	L:410mm W:190mm
<b>Description</b>	Unidentifiable – block piece



**STONE 65**

<b>Condition</b>	MODERATE
<b>Measurement</b>	L:410mm W:190mm D:200mm
<b>Description</b>	Unidentifiable – block piece

**STONE 66**

<b>Condition</b>	POOR
<b>Measurement</b>	L:200mm W:190mm
<b>Description</b>	Unidentifiable – block piece

**STONE 67**

<b>Condition</b>	MODERATE
<b>Measurement</b>	L:560mm W:190mm
<b>Description</b>	Possible base or plinth piece

**STONE 68**

<b>Condition</b>	POOR
<b>Measurement</b>	L:260mm W:200mm
<b>Description</b>	Unidentifiable - irregular block piece



**STONE 69**

<b>Condition</b>	GOOD
<b>Measurement</b>	L:490mm W:220mm D:330mm
<b>Description</b>	Possible corner stone or pillar piece

**STONE 70**

<b>Condition</b>	MODERATE
<b>Measurement</b>	L:390mm W:210mm
<b>Description</b>	Unidentifiable - block piece



**STONE 71**



<b>Condition</b>	GOOD
<b>Measurement</b>	L:550mm W:200mm
<b>Description</b>	Possible base or plinth piece

**STONE 72**



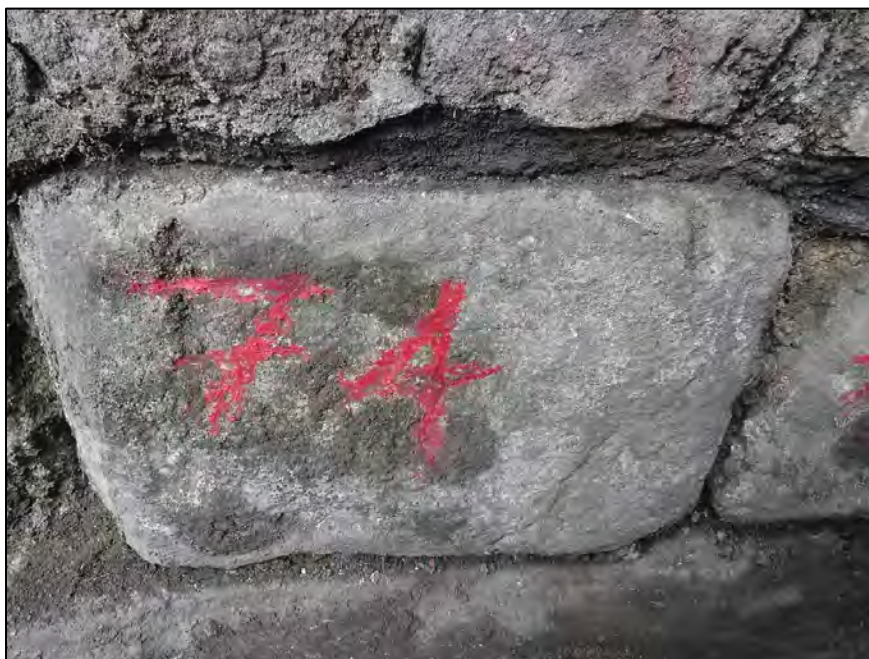
<b>Condition</b>	GOOD
<b>Measurement</b>	L:390mm W:190mm
<b>Description</b>	Unidentifiable - block piece

**STONE 73**



<b>Condition</b>	MODERATE
<b>Measurement</b>	L:400mm W:200mm
<b>Description</b>	Unidentifiable - block piece

**STONE 74**



<b>Condition</b>	GOOD
<b>Measurement</b>	L:280mm W:190mm
<b>Description</b>	Unidentifiable - block piece



**STONE 75**

<b>Condition</b>	<b>POOR</b>
<b>Measurement</b>	L:190mm W:190mm
<b>Description</b>	Unidentifiable - irregular block piece

**STONE 76**

<b>Condition</b>	<b>POOR</b>
<b>Measurement</b>	L:210mm W:180mm
<b>Description</b>	Unidentifiable - irregular block piece



**STONE 77**

<b>Condition</b>	MODERATE
<b>Measurement</b>	L:180mm W:160mm
<b>Description</b>	Unidentifiable - block piece

**STONE 78**

<b>Condition</b>	MODERATE
<b>Measurement</b>	L:200mm W:190mm
<b>Description</b>	Unidentifiable - block piece

**STONE 79**

<b>Condition</b>	GOOD
<b>Measurement</b>	L:310mm W:200mm D:>330mm
<b>Description</b>	Unidentifiable - block piece, possible quoin stone

**STONE 80**

<b>Condition</b>	MODERATE
<b>Measurement</b>	L:190mm W:210mm
<b>Description</b>	Unidentifiable - irregular block piece



**STONE 81**

<b>Condition</b>	MODERATE
<b>Measurement</b>	L:190mm W:210mm
<b>Description</b>	Unidentifiable - irregular block piece

**STONE 82**

<b>Condition</b>	MODERATE
<b>Measurement</b>	L:290mm W:90mm
<b>Description</b>	Unidentifiable - irregular block piece



**STONE 83**

<b>Condition</b>	MODERATE
<b>Measurement</b>	L:380mm W:150mm
<b>Description</b>	Unidentifiable - irregular block piece

**STONE 84**

<b>Condition</b>	MODERATE
<b>Measurement</b>	L:280mm W:120mm
<b>Description</b>	Unidentifiable - irregular block piece

**STONE 85**

<b>Condition</b>	GOOD
<b>Measurement</b>	L:520mm W:170mm
<b>Description</b>	Unidentifiable - block piece

**STONE 86**

<b>Condition</b>	MODERATE
<b>Measurement</b>	L:470mm W:160mm
<b>Description</b>	Unidentifiable - block piece



**STONE 87**

<b>Condition</b>	POOR
<b>Measurement</b>	L:5670mm W:280mm
<b>Description</b>	Unidentifiable - irregular block piece




**STONE 88**

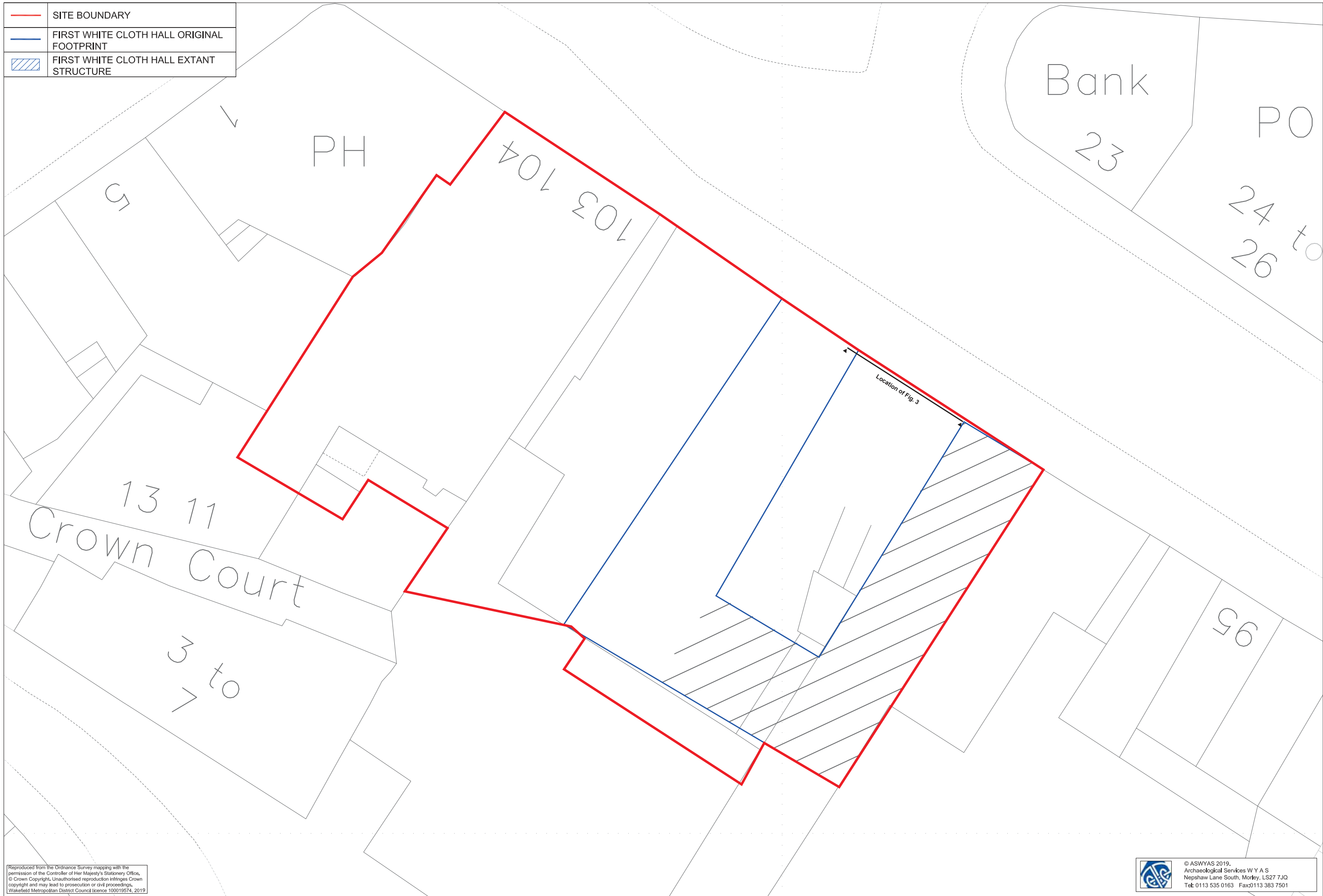
<b>Condition</b>	MODERATE
<b>Measurement</b>	L:200mm W:200mm
<b>Description</b>	Unidentifiable - block piece



**STONE 89**

<b>Condition</b>	MODERATE
<b>Measurement</b>	L:200mm W:190mm
<b>Description</b>	Unidentifiable - block piece

	SITE BOUNDARY
	FIRST WHITE CLOTH HALL ORIGINAL FOOTPRINT
	FIRST WHITE CLOTH HALL EXTANT STRUCTURE



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 Archaeological Services W Y A S  
 Nephaw Lane South, Morley, LS27 7JQ  
 Tel: 0113 535 0163 Fax: 0113 383 7501

Fig. 2. Site plan showing the location of the retaining wall (Fig. 3) (1:200 @ A3)



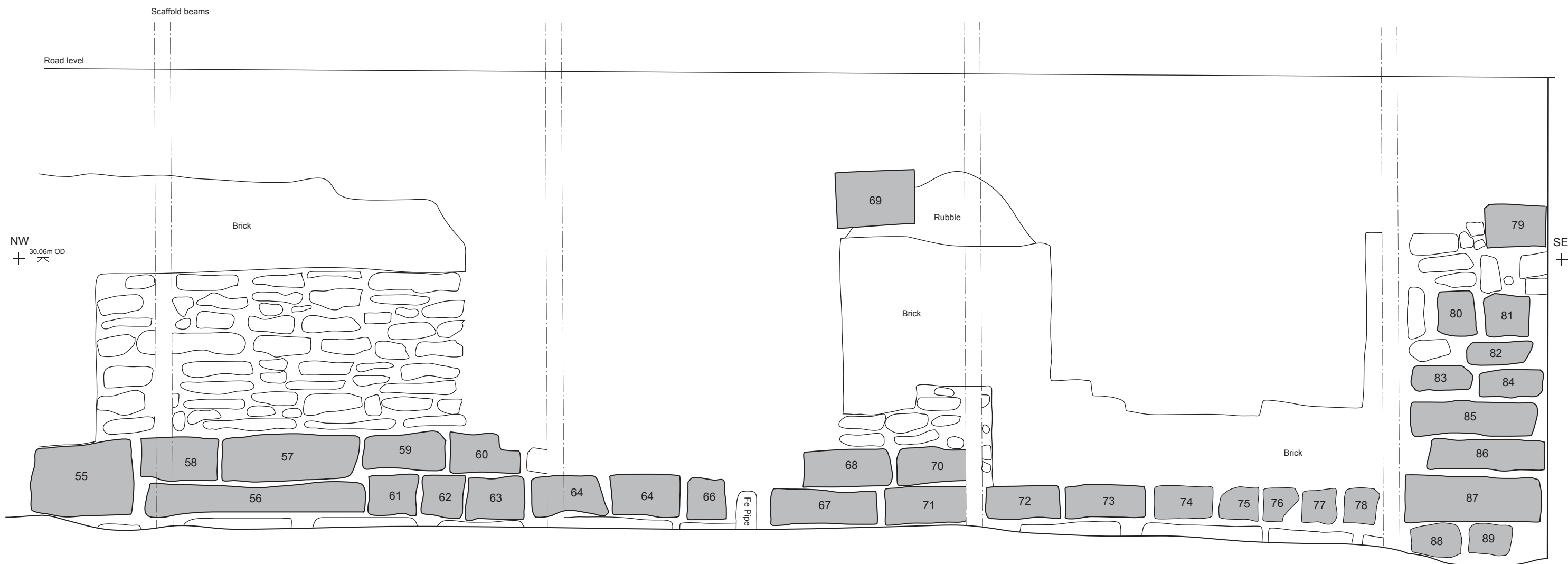
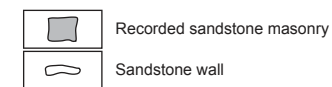


Fig. 3. Southwest facing elevation of the retaining wall





## **Appendix 7: Catalogue of trusses**



WYAS  
**Archaeological  
Services**

**First White Cloth Hall**

**Leeds**

**West Yorkshire**

Archaeological Catalogue

Report no. 3314  
August 2019

**Client:** H. H. Smith & Sons Co Ltd



**First White Cloth Hall, Leeds**  
**West Yorkshire**  
**Archaeological Catalogue**

*Summary*

*Archaeological Services WYAS (ASWYAS) were commissioned by H. H. Smith & Sons Co. Ltd, to carry out archaeological cataloguing of five roof trusses and associated roof timbers during renovation of the First White Cloth Hall (FWCH), Leeds. A number of the roof timbers are thought to date to the original 1710 construction of the building.*





## Report Information

Client: H. H. Smith & Sons Co. Ltd.  
Address: Smith's Yard, Rear of 95 Bury Old Road, Whitefield,  
Manchester, M45 7AY  
Report Type: Archaeological Catalogue  
Location: First White Cloth Hall, Kirkgate, Leeds  
County: West Yorkshire  
Grid Reference: SE 30445 33424  
Period(s) of activity represented: Post-medieval  
Report Number: 3314  
Project Number: 6734  
Site Code: WCH19  
Planning Application No.: 17/07710/10 & 17/07711/LI  
Date of fieldwork: 17/07/19 & 24/07/19  
Date of report: August 2019  
Project Management: Jane Richardson  
Report: Matt Wells  
Photography: Matt Wells



Certificate Number PS 089214  
ISO 9001

© Archaeological Services WYAS 2019  
Nepshaw Lane South, Morley, Leeds LS27 7JQ  
Telephone: 0113 535 0163.  
Email: [admin@aswyas.com](mailto:admin@aswyas.com)



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- 15 Rafters with carpenter's marks, looking east
- 16 Rafters with carpenter's marks, looking east



## 1 Introduction

Archaeological Services WYAS (ASWYAS) were commissioned by H. H. Smith & Sons Co. Ltd, to carry out archaeological recording of roof timbers in the East Wing of the First White Cloth Hall, Leeds. In particular the work related to five trusses which were due to be removed and potentially reused in the new renovated building. The Conservation Officer and Historic England wish to understand the materials further and explore whether these can be re-used within the project.

The scheme of archaeological works was undertaken during the renovation of the existing structure, to fulfil approved planning application 17/07710/10 & 17/07711/LI. The current works were carried out in accordance with the Specification, prepared by West Yorkshire Archaeology Advisory Service (WYAAS; Appendix 1).

### Site location and topography and land-use

The First White Cloth Hall (FWCH) is situated on the southwest side of Kirkgate within central Leeds, West Yorkshire. To the northwest lies derelict land after the demolition of structures which stood at 102-104 Kirkgate, to the west and southeast lie retail properties and to the south-west and south lies a car park. The site itself is occupied by the partial remains of the First White Cloth Hall. The south and east ranges are still standing, though in poor condition, whilst the west range and buildings which were later constructed within the courtyard were demolished in 2010 on health and safety grounds. The cellars which underlay the west wing and courtyard structures have been fully excavated of backfilled material and are now accessed by a grassy ramp of rubble from the northwest (where 102 Kirkgate stood).

## 2 Aims and Objectives

The aims of the archaeological cataloguing were to:

- record the roof trusses *in situ*, prior to removal;
- establish the condition of the timbers, and establish whether they relate to the original 1710 construction;
- and, to produce a photographic record of the timbers.

## 3 Methodology

A detailed methodology for the building recording and structural watching brief is discussed within the Specification (Appendix 1).

Guidance for the production of this historic building recording, was taken from Historic England revised 2016 document *Understanding Historic Buildings: A Guide to Good Recording Practice*. Reference has also been made to the Chartered Institute for

Archaeologists' *Standard and Guidance for the Archaeological Investigation and Recording of Standing Buildings or Structures* (CIfA 2014).

Analysis of the timbers was carried out on two site visits. The first involved the recording of the first two trusses *in situ* and monitoring of the removal of the first. On the second visit, the second truss had been removed and was inspected from the ground and the removal of roof felt allowed a detailed inspection of remaining trusses and timbers from the scaffold.

## 4 Results

The roof trusses of the east and south ranges of the FWCH were recorded as part of the initial building recording in 2015 (Gwilliam and Richardson 2015). However, recording at this time was hindered by safety, access and visibility issues which were not present during site visits in 2019 and a fuller understanding of the roof timbers is now possible.

The specific details of individual trusses are discussed below and their location within the roof space is shown on Fig. 1. Each truss followed of the same king-post form of construction (see Fig. 2) - a jowelled king-post clasping a square-set ridge which is also braced to the king-post. The principal rafters, each curved but with no indication of re-use, were tenoned and pegged to the king-post and tie beam and trenched to house the purlins. The trusses were reinforced by a diagonal brace between the tie beam and principal rafter on each side of the king-post. The principal rafter of Truss 1 housed two purlins on each side, whilst those of the eastern range (2-5) housed just one each side. The trusses in the east range (Truss 2-5) had a span of *c.* 5.50m and height of *c.* 2.40m. Truss 1, from the south range had a longer span of *c.* 7.20m and a similar height. Numbering cut into the timbers by the carpenter prior to construction was visible on many of the trusses and some other timbers, the details of which are described below. They are thought to represent evidence of the original roofing of the 1711 building. Numbers were cut into the west-facing side of Truss 1 and the south-facing side of Trusses 2-5. Numbers were occasionally in areas of decay, partially covered or were otherwise illegible. The majority of the roof timbers appear to be original with at least recent replacements easily identifiable. These were much straighter and regularly sized and shaped, rectangular in section and much better preserved. Carpenter's marks were also completely absent. Unfortunately the original timbers, in particular the smaller pieces, were in an advanced state of decay.

### *Truss 1* (Plate 1)

Carpenter's marks were readily visible on the truss. The southern principal rafter was marked 'XI', the southern diagonal brace was marked 'XII' and the northern brace was marked 'XIII' (Plate 2). The tie beam had the same marks next to the tenons for these pieces. Traces of a mark for the northern principal rafter were apparent on both it and the tie beam but neither was clearly legible. In contrast to the trusses of the east range, Truss 1 was wider and housed two purlins on each side. The purlins on its southern side appeared to be original, the lower of which was also marked 'XI' on its northward, upwards-facing side (Plate 3). On the northern

side, the upper purlin had clearly been replaced and the lower was absent at the time of recording. Trusses 1 and 2 were constructed as a single joined piece. The tie beam of Truss 1 lay above that of Truss 2 and the below the principal rafter of Truss 2. This area of both trusses was heavily decayed (Plate 4).

#### *Truss 2 (Plate 7)*

On Truss 2, only one carpenter's mark was noted – a 'VV' near the top of one of its principal rafters. The principal rafters were much straighter than those of the other trusses, but the carpenter's mark suggests they were original. The truss was not able to be removed from the structure in one piece and was heavily decayed. This may have obscured the identification of other marks.

#### *Truss 3*

Two carpenter's marks were visible – a 'IIII' mark at the base of the king-post and a 'II' near the base of the western principal rafter. The diagonal brace extending southwards from the king-post to the ridge beam was marked 'IIIII' on its west-facing side (Plate 8). The condition of the truss appeared to be relatively good.

#### *Truss 4*

Only one carpenter's mark was noted on Truss 2 – an 'IV' near the base of one of its eastern principal rafter (Plate 9). The condition of the truss appeared to be relatively good.

#### *Truss 5 (Plate 10)*

Four carpenter's marks were visible. These include 'IIIV' marking the base of its western principal rafter, a corresponding 'IIIV' on the tie beam (Plate 11), 'IIV' marked at the base of the king post and 'IIIIV' at the base of the eastern principal rafter. The condition of the truss appeared to be relatively good.

#### *Other timbers*

Wall plates were generally in very poor condition but are thought to be original. Purlins were thought to be original aside from in the case of Truss 1, where they had been replaced or removed. This was observed elsewhere in the south range (Gwilliam and Richardson 2015). Ridge braces were again thought to be original though no carpenter's marks were observed. Between Trusses 3 and 4 a horizontal beam crossed between and was set into the purlins (Plate 12). This probably forms part of the original construction. In large areas, the rafters have been entirely replaced at some point, particularly at the southern end of the remaining structure (Plate 13). In some areas to the north of the east range, small timbers joined broken or decayed rafters to offer some reinforcement without complete replacement. Carpenter's marks were visible on a small number of rafters, suggesting they belong to the 1710 construction. All the marks lay on the western side of the east range and were found near to their base, close to where they joined the wall plate. These marks include 'IIIVX' just south of Truss 3 (Plate 14), 'IIIV' on the northern side of Truss 3, 'IIIXX', 'IIX' and 'IIX' marking



rafters on the northern side of Truss 4 (Plate 15) and 'XXXVIII' found on a rafter to the north of Truss 5 (Plate 16).

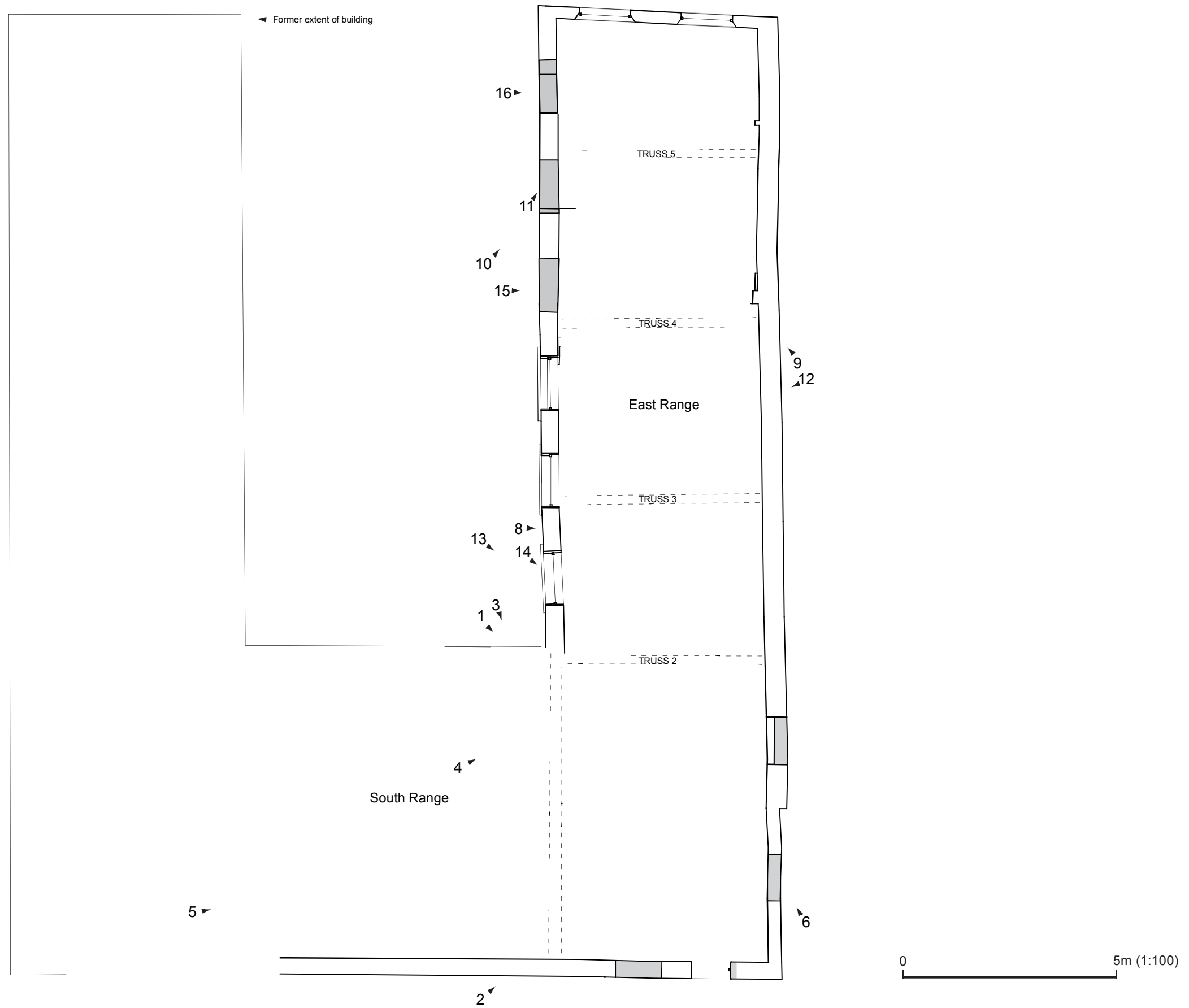
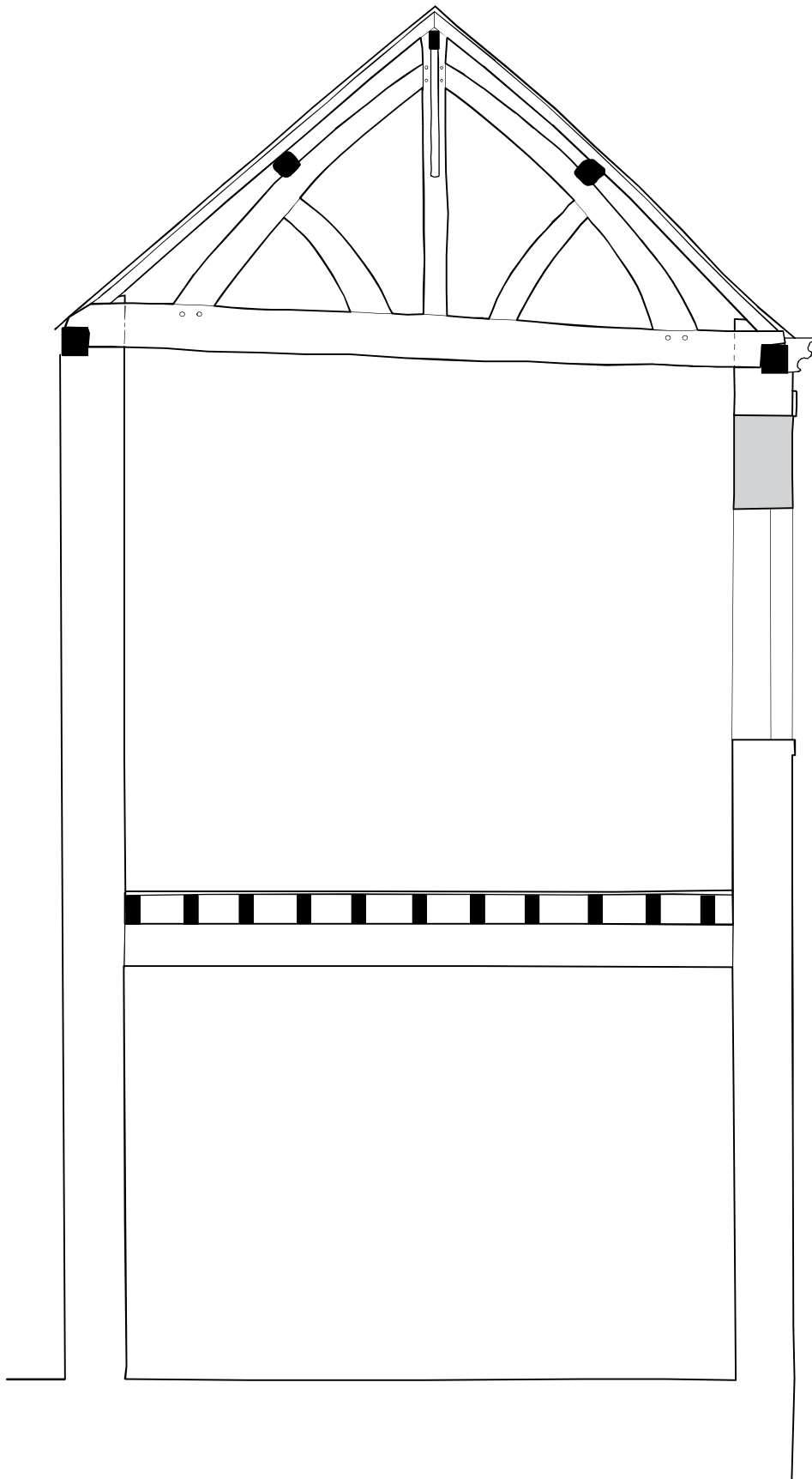


Fig. 1. Plan of the First White Cloth Hall showing the location of roof trusses and photo directions



0 2m (1:50)

*Fig. 2. Section across the east range showing typical roof truss construction*





*Plate 1. Truss 1, general view, looking south-east*



*Plate 2. Truss 1, carpenter's marks, looking north-east*



*Plate 3. Truss 1, purlin with carpenter's mark, looking south*



*Plate 4. Advanced decay in timbers at join of Trusses 1 and 2, looking north-east*





*Plate 5. Removal of Truss 1, looking east*



*Plate 6. Location of Truss 2, following removal, looking north*



*Plate 7. Truss 2 following removal*



*Plate 8. Diagonal brace with carpenter's mark on the southern side of Truss 3, looking east*





*Plate 9. Truss 4 carpenter's mark, looking north-west*



*Plate 10. Truss 5, looking north-east*



*Plate 11. Truss 5 carpenter's marks, looking north-east*



*Plate 12. Horizontal beam, between Trusses 3 and 4, looking west*





*Plate 13. Original and replacement rafters, looking south-east*



*Plate 14. Rafters with carpenter's marks, looking south-east*



*Plate 15. Rafters with carpenter's marks, looking east*



*Plate 16. Rafters with carpenter's marks, looking east*

## **Appendix 8: Catalogue of wall timbers**



**WYAS**  
**Archaeological  
Services**

**First White Cloth Hall**

**Leeds**

**West Yorkshire**

**Archaeological Catalogue**

Report no. 3420

May 2020

**Client:** H. H. Smith & Sons Co Ltd





**First White Cloth Hall, Leeds**  
**West Yorkshire**  
**Archaeological Catalogue**

*Summary*

*Archaeological Services WYAS (ASWYAS) were commissioned by H. H. Smith & Sons Co. Ltd, to carry out archaeological cataloguing of timbers exposed in the walls during renovation of the First White Cloth Hall (FWCH), Leeds.*



## Report Information

Client: H. H. Smith & Sons Co. Ltd.  
Address: Smith's Yard, Rear of 95 Bury Old Road, Whitefield,  
Manchester, M45 7AY  
Report Type: Archaeological Catalogue  
Location: First White Cloth Hall, Kirkgate, Leeds  
County: West Yorkshire  
Grid Reference: SE 30445 33424  
Period(s) of activity represented: Post-medieval  
Report Number: 3420  
Project Number: 6734  
Site Code: WCH20  
Planning Application No.: 17/07710/10 & 17/07711/LI  
Date of fieldwork: 23/04/20  
Date of report: May 2020  
Project Management: Jane Richardson  
Report: Matt Wells  
Photography: Matt Wells



Certificate Number PS 000214  
ISO 9001

© Archaeological Services WYAS 2020  
Nepshaw Lane South, Morley, Leeds LS27 7JQ  
Telephone: 0113 535 0163.  
Email: [admin@aswyas.com](mailto:admin@aswyas.com)



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- 4 Joint of Timber 2 and 3, looking east
- 5 Joint of Timber 2 Plate 3. Timbers 1 and 4, looking east and 3, looking east
- 6 Timber 3, looking south-east
- 7 Timber 3 and 5, looking south-east

## 1 Introduction

Archaeological Services WYAS (ASWYAS) were commissioned by H. H. Smith & Sons Co. Ltd, to carry out archaeological recording of structural timbers in the wall of the East Wing of the First White Cloth Hall, Leeds.

The scheme of archaeological works was undertaken during the renovation of the existing structure, to fulfil approved planning application 17/07710/10 & 17/07711/LI. The current works were carried out in accordance with the Specification, prepared by West Yorkshire Archaeology Advisory Service (WYAAS; Appendix 1).

The FWCH was recorded in an initial building recording in 2015 (Gwilliam and Richardson 2015). Subsequent renovation works have been subject to a structural watching brief where structural elements have been recorded which were not visible or accessible in the original recording. A number of short interim reports have already been produced on timber and masonry as they have been recorded, but a final report that draws together all aspects of the archaeological and structural recording awaits the conclusion of all site works.

### Site location and topography and land-use

The First White Cloth Hall (FWCH) is situated on the southwest side of Kirkgate within central Leeds, West Yorkshire. To the northwest lies derelict land after the demolition of structures which stood at 102-104 Kirkgate, to the west and southeast lie retail properties and to the south-west and south lies a car park. The site itself is occupied by the partial remains of the First White Cloth Hall. The east range and part of the south range are still standing, though in poor condition, whilst the west range and buildings which were later constructed within the courtyard were demolished in 2010 on health and safety grounds. At the time of recording, the steel frame for the renovated structure had been erected along with new roof and concrete floors and the original brick walls stabilised.

## 2 Aims and Objectives

The aims of the archaeological cataloguing were to:

- record the roof timbers *in situ*, prior to removal;
- and to produce a photographic record of the timbers.

Dendrochronological dating of these timbers has been contracted directly by the client but the results can be incorporated into ASWYAS' final report if agreed by all parties.

## 3 Methodology

A detailed methodology for the building recording and structural watching brief is discussed within the Specification (Appendix 1). Analysis of the timbers was carried out on a single site visit.

Guidance for the production of this historic building recording, was taken from Historic England revised 2016 document *Understanding Historic Buildings: A Guide to Good Recording Practice*. Reference has also been made to the Chartered Institute for Archaeologists' *Standard and Guidance for the Archaeological Investigation and Recording of Standing Buildings or Structures* (CIfA 2014).

## 4 Results

A total of five structural timbers were exposed, located in the eastern wall of the eastern range close to its northern end, between the original first and second floors (Fig. 1). They were exposed in a small area where plaster was removed from the surface of the wall and were found in two separate groups. Its removal was halted as it was decided the plaster was integral to the stability of the wall. No further timbers are likely to be exposed, therefore, and those recorded here will be left *in-situ*. Unfortunately none of the timbers were fully exposed which complicates their interpretation. The level of the timbers was around that of the first floor windows with two (1 and 2) extending upwards into the original second floor. The timbers were accessed from the new first floor which is at a higher level than the original.

### *Timbers 1 and 4*

Timber 1 measured 490mm long, 80mm wide 60mm was set at *c.* 45°. Its lower extent was exposed but it extends upwards into the second floor behind plasterwork. Timber 4 was a square timber measuring 170mm long and wide and was found underneath and appeared to support Timber 1. It was found at the level of the 2nd floor and presumably protruded outwards from the wall under the original second floor, later having been sawn off and covered in plaster.

### *Timbers 2, 3 and 5*

Timbers 2, 3 and 5 form a timber frame consisting of a large horizontal beam (Timber 3, over 2600mm long and up to 370mm high) and two upright beams (Timber 2 and 5). Each was tenoned and pegged into the horizontal beam. Timber 2 was at least 1160mm tall and 220mm wide and was visible at its base, close to the level for the second floor. At this upper level it appears to have a chiselled socket which may have supported a floor joist. The timber continues upwards beneath plaster. The dimensions of Timber 5 are unclear as it was largely hidden by *in-situ* plaster though it comprises a second upright timber, again tenoned and pegged into Timber 3.

The group of timbers appear to have been inserted into the wall and were not part of the original structure. Earlier brickwork was found beneath the horizontal beam with later brickwork build above the horizontal beam and between the two uprights. The timbers were later covered by bricks, stone and plaster. Interpretation of the timbers is difficult as they certainly continued northwards, southwards and upwards behind *in-situ* brick walling, but



they may have supported an opening in the brickwork for repair or relating to the use of the building at that time.

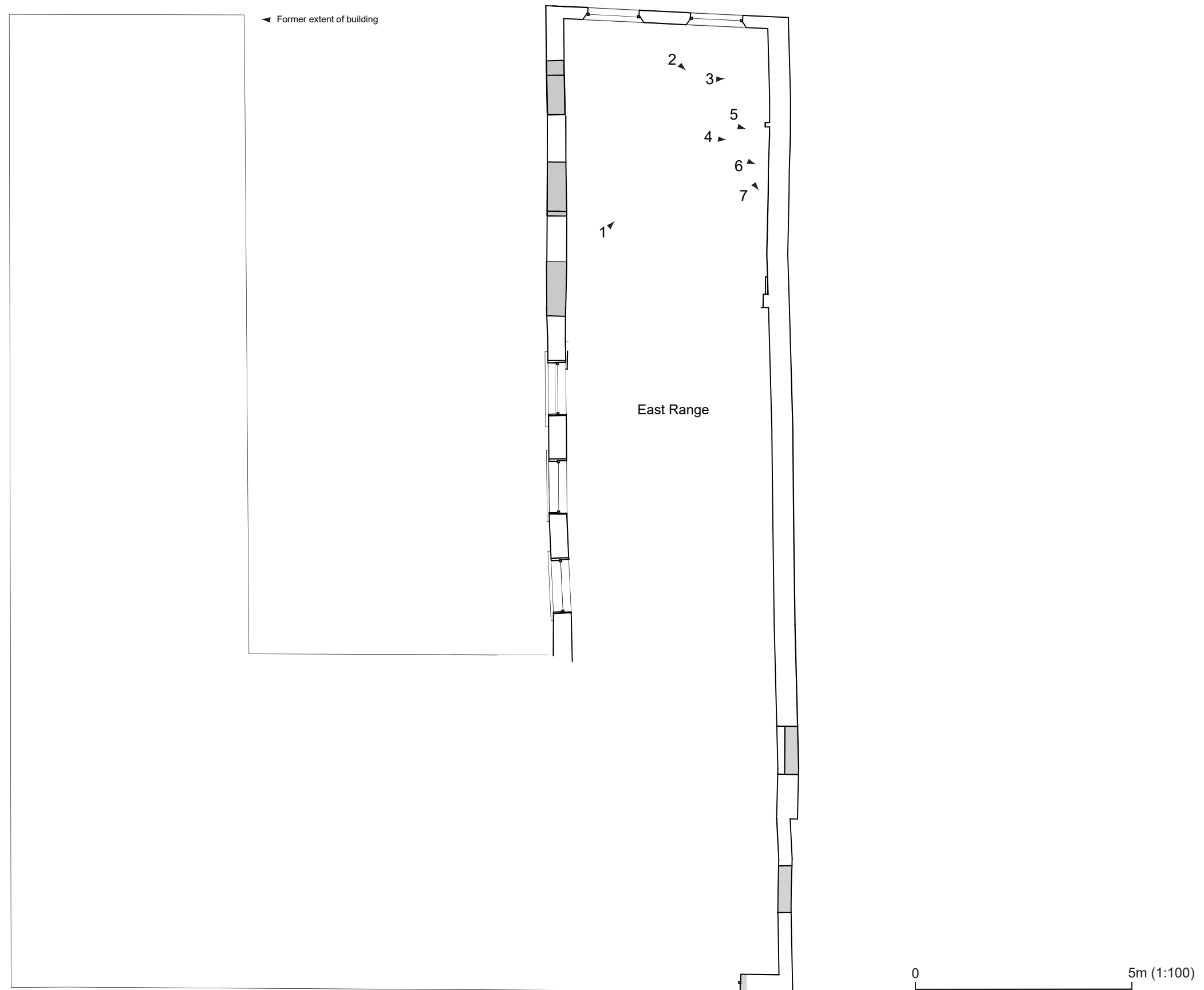


Fig. 1. Plan of the First White Cloth Hall showing photo directions



*Plate 1. General view of the northern end of the FWCH eastern range, looking north-east*



*Plate 2. General view of the exposed timbers, looking east*



*Plate 3. Timbers 1 and 4, looking east*



*Plate 4. Joint of Timber 2 and 3, looking east*





*Plate 5. Chiselled part of Timber 2, looking east*



*Plate 6. Timber 3, looking south-east*



*Plate 7. Timber 3 and 5, looking south-east*

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