

Cart-shed and granary  
Heath Hall Farm  
Warmfield-cum-Heath, West Yorkshire:  
Historic Building Record



September 2019

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Some pages are at A3 size*

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## SUMMARY

The grade II listed cart-shed and granary (known locally as “the bothy”), at Heath Hall Farm (NGR: SE 35640 20285), is an 18th or early 19th century building, perhaps by John Carr. It is of considerable architectural significance, because of its simple but well executed exterior, its four upper cruck trusses of oak, and a small timber crane (also oak) set within a gable loading doorway, all of which make it a prestigious component of the home farm. The recording work was carried out for the owner Mrs Oddie, to fulfil a condition of planning consent for the building’s conversion.

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2	General view of the building, looking south
3	General view of the building, looking south-west
4	Front elevation
5	Detail of voussoirs to left-hand arch, front elevation
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8	General view of the building, looking east
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- 53 Detail of brick pier between bays 2 and 3 of rear lean-to, looking south-east
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## **CART-SHED AND GRANARY, HEATH HALL FARM, WARMFIELD-CUM-HEATH, WEST YORKSHIRE:**

### **HISTORIC BUILDING RECORD**

#### **1 Introduction**

- 1.1 This report presents the results of historic building recording of the grade II listed cart-shed with granary over (known locally as “the bothy”) at Heath Hall Farm, Heath, near Wakefield, West Yorkshire. The work was carried out in August 2019 for the owner and developer, Mrs Oddie, through her agent George F White, to fulfil a condition of planning consent from Wakefield Council for the building’s conversion.
- 1.2 The building recorded is mid to late 18th, or early 19th century, and appears to be later than had previously been supposed (early 18th century), to judge from a combination of map and architectural evidence. It was erected while the Heath Hall estate was owned by the Smyth family, perhaps by the architect John Carr, although no direct documentary evidence regarding it is known to survive. It comprises a two-storey stone structure with the ground floor (cart-shed) having two open arches to the front, and a loft with lime-ash floor, used for grain storage. Of particular importance are the four upper cruck trusses, which are of oak, a material used for almost all the original timber components.
- 1.3 The recording work was carried out in accordance with a specification issued on behalf of the local planning authority by the West Yorkshire Archaeology Advisory Service (WYAAS) (see Appendix 1), and included external and internal photography, and the preparation of floor plans and other drawings. This report will be submitted to the client, the local planning authority, the West Yorkshire Historic Environment Record, as well as the OASIS project for online publication<sup>1</sup>.

#### **2 Location**

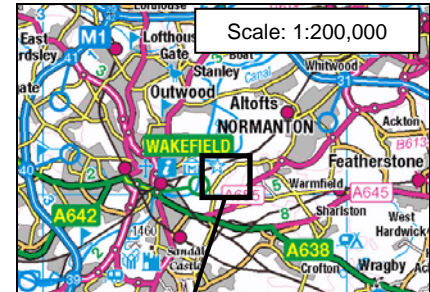
- 2.1 The building stands within a group at Heath Hall Farm, at the north-east edge of the dispersed village of Heath, in Warmfield-cum-Heath civil parish, 2km east of Wakefield city centre and close to the right bank of the river Calder (figure 1).
- 2.2 The cart-shed stands within a linear enclosure, between stone boundary walls, and faces south-west towards Heath Hall and its former stables; a lean-to has been added along its north-east side. The building lies at about 47m above Ordnance Datum, at NGR: SE 35640 20285 (figures 2 & 3).

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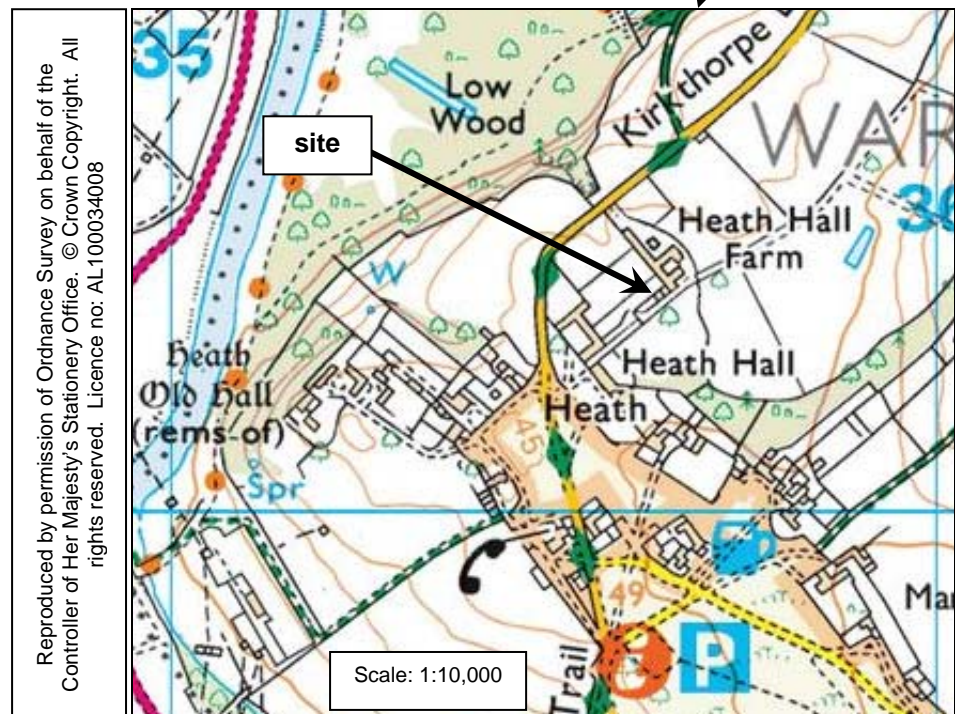
<sup>1</sup> [“Online Access to the Index of Archaeological Investigation”](#)

### 3 Current use

- 3.1 The ground floor of the building is currently in use for lambing, but the first floor is disused.



1: Location map (i)



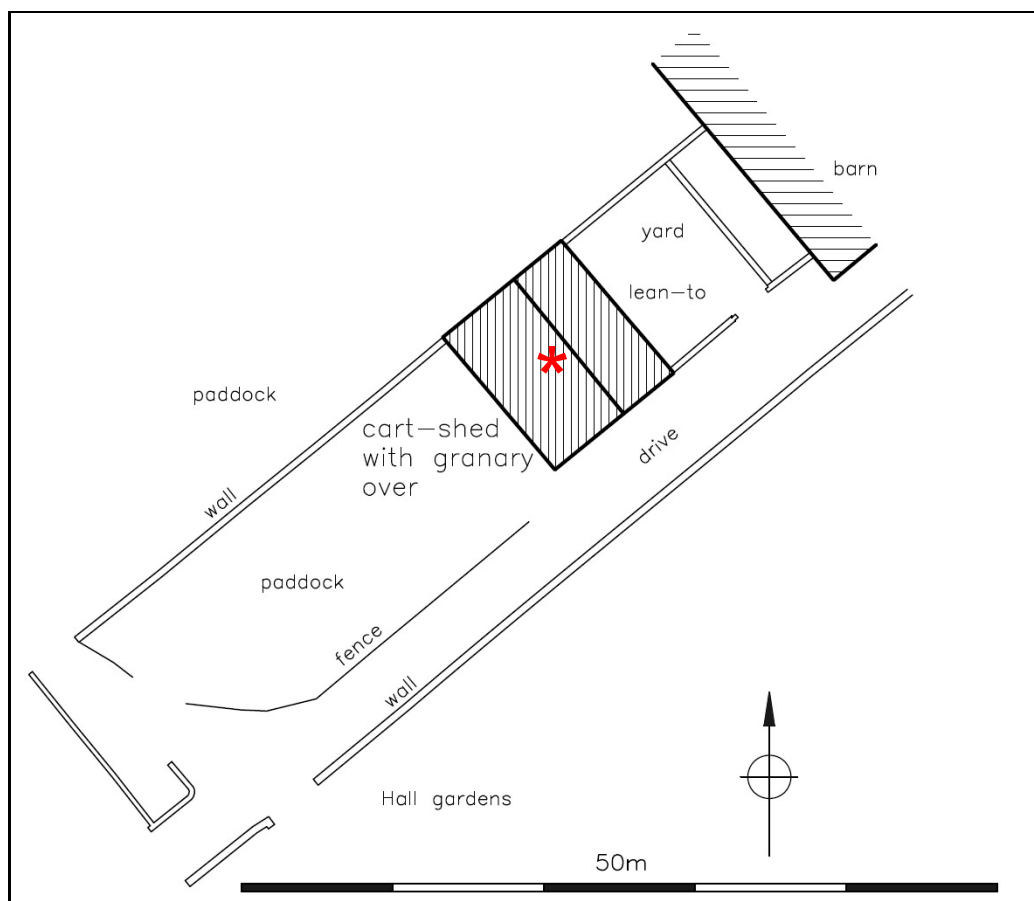
2: Location map (ii)

### 4 Planning background

- 4.1 The building is grade II listed as having special architectural or historic interest, under the title “*Cartshed and granary approximately 20 metres south west of rear of barn at Heath Hall Farm*”<sup>2</sup>. It was first listed in 1986, and also lies within the Heath Conservation Area.

<sup>2</sup> National Heritage List for England, entry number 1313218  
<https://www.historicengland.org.uk/listing/the-list/list-entry/1313218>





3: Site plan (1:500)

- 4.2 Planning and listed building consents (application nos. 16/03081/FUL and 16/03082/LBC) were granted by Wakefield Council on 11 December 2017, for: *“Change of use of existing Bothy to a two bedroom dwelling to include internal and external alterations and a single storey glazed extension”*.
- 4.3 Condition 7 of the planning consent stipulates that:  
 “Development shall not commence until the applicant, or their agents or successors in title, has secured the implementation of a programme of archaeological and architectural recording. This recording must be carried out by an appropriately qualified and experienced archaeological organisation or consultant, in accordance with a written scheme of investigation which has first been submitted by the applicant and approved in writing by the Local Planning Authority.”  
 No such condition is attached to the listed building consent.
- 4.4 The written scheme of investigation, supplied by WYAAS in the form of a detailed specification, has been approved by the local planning authority (see Appendix).

## 5 Previous investigative work

- 5.1 The building seems to have attracted the attention of archaeologists as well as local and architectural historians for a number of years, as it forms a distinctive component of the estate buildings at Heath Hall, although no detailed survey or record appears to have been made prior to the present work.
- 5.2 The description of the building in the National Heritage List entry is as follows:  
Cart-shed with granary above. Early C18. Hammer-dressed stone, stone slate roof. Two storeys, five bays. Quoins. Paired basket-arched cart entries with composite jambs and voussoirs. Coped gables with kneelers. Left-hand return has two-light flat-faced mullioned window with recessed mullion to apex of gable. Right-hand return has first floor doorway with composite jambs in ashlar.  
Interior: Beamed ceiling with four stop-chamfered spine beams and square-cut joists supports lime-ash floor. Roof has upper-cruck trusses with collars supporting short king-posts, diamond-set ridge piece, two chamfered purlins either side morticed and pegged through the principals.
- 5.3 A planning application in 2003 for a more extensive development at Heath Hall (not carried out) led to an inspection of the building by the then West Yorkshire Archaeology Service's Senior Historic Buildings Officer. He opined that the cart-shed was contemporary with the first phase of Heath Hall, as built by Theophilus Shelton ca.1709, though the grounds for that are not given. He considered it an interesting multi-purpose building, with two basket-arched entries to the cart-shed, and with granary above, the upper floor being of lime-ash on a substantial oak floor-frame of unusual construction. In its gable end was a loading door with original oak pivot hoist, while the roof had four impressive upper cruck trusses. Against the rear was an outshut divided into three stables, the central one with original fittings and floor<sup>3</sup>.
- 5.4 A request has been made to the West Yorkshire Historic Environment Record for any further information on the site, but none has been forthcoming at the time of writing.

## 6 Historical background

- 6.1 A rapid search of relevant material held by the West Yorkshire History Centre, Wakefield, and the Wakefield Local Studies Library, was carried out to provide background information on the building's history. No detailed information has however come to light regarding the cart-shed itself.

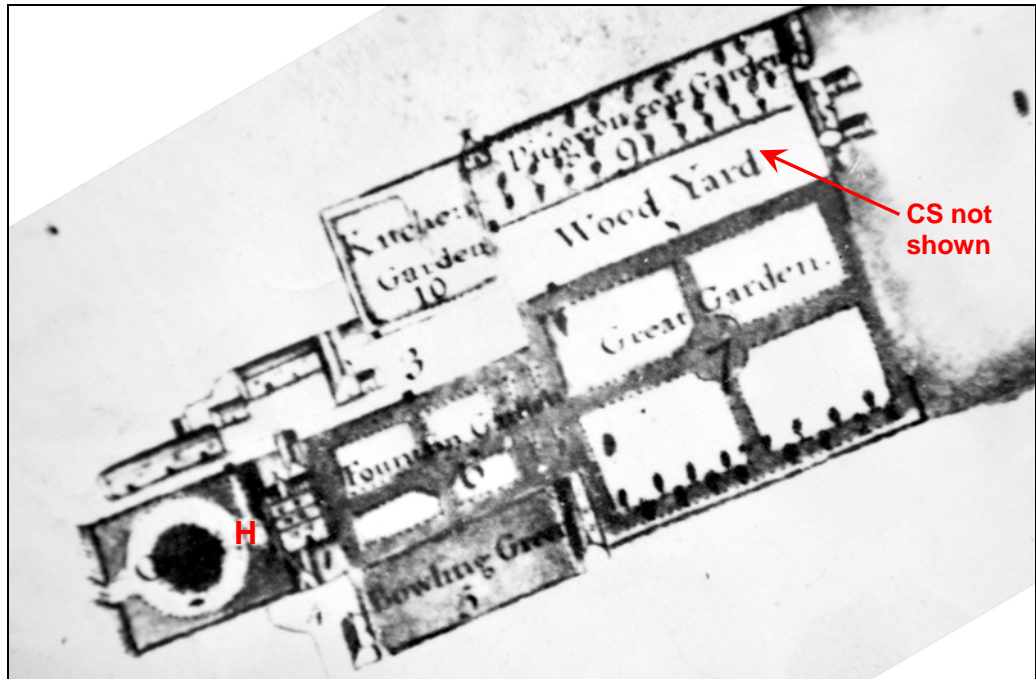
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<sup>3</sup> West Yorkshire Archive Service online catalogue: WYHER/13277  
<https://www.catalogue.wyjs.org.uk/CalmView/Record.aspx?src=CalmView.Catalog&id=HER%2f54%2f27&pos=1>

- 6.2 The Heath Estate (now dispersed and in various hands) has its origins in the 16th century and earlier, but it was the very wealthy John Smyth (1654 - 1729), who in 1709 bought the property on a fortune made in agriculture and woolstapling, and employed the architect Theophilus Shelton to begin the creation of the present Heath Hall (then known as Esholt or Eshald Hall), together with much of the village and farm.
- 6.3 Later in the 18th century, the son of Smyth's nephew (also John, 1715 – 1771) employed John Carr, the prolific and accomplished architect of the time, to enlarge and radically change Esholt Hall into Heath Hall, work which was carried out between 1754 and 1780. The resulting composition is considered one of Carr's finest houses, though almost no documentation of Carr's work survives. As well as work to the principal building, there seems to have been an ongoing process of change to the estate during that century, which continued into the following.
- 6.4 Subsequent generations of Smyths and their descendants held the Hall until 1958, when it was bought by Mr Oddie, whose descendants still own Heath Hall Farm.

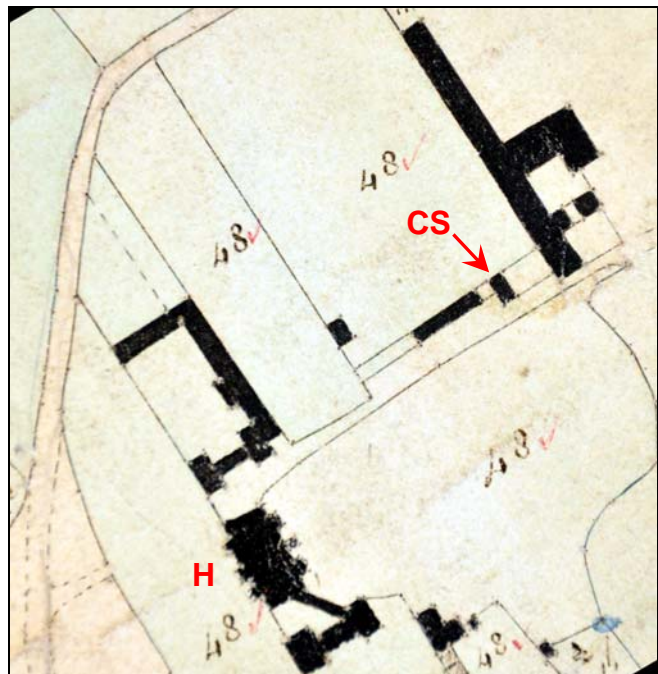
### **Historic maps**

- 6.5 Some of the map extracts reproduced below have been rotated so north lies at the top in all cases; none is at its original scale. "H" is used to indicate Heath Hall, and "CS" the cart-shed, where depicted.
- 6.6 The earliest known detailed map of the site dates from 1745 and is by William Dickinson, drawn before John Carr was employed to enlarge the Hall (figure 4). Its depictions of buildings are partly pictorial, and the extent of changes to the hall grounds mean that it is not easy to relate those shown to present-day structures, but nonetheless this map appears *not* to show the cart-shed, which it is believed would have stood within the "Wood Yard", had it been extant. This omission casts great doubt on the purported early 18th century date which has been ascribed to the building previously.



4: 1745 estate map<sup>4</sup>

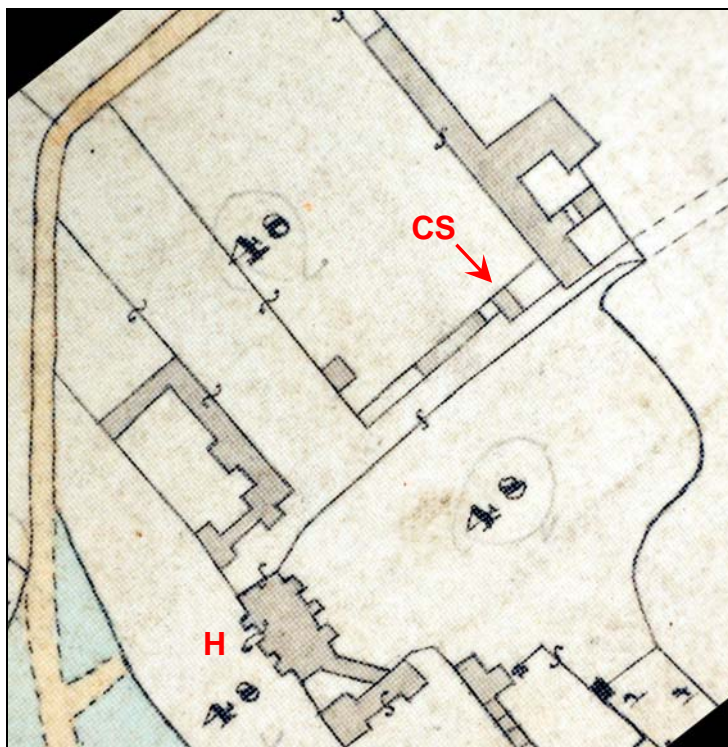
6.7 The earliest map which shows the cart-shed dates from 1824, and is by George Charlesworth (figure 5). This depicts it clearly, and without the lean-to along the north-east side. Close to the south-west of it, arranged perpendicularly, is a much longer building, no longer extant.



5: 1824 township map<sup>5</sup>

<sup>4</sup> A map of all the lands belonging to John Smyth Esq at Heath and Warmfield near Wakefield... by Will. Dickinson 1745 WYAS Wakefield: Z52(L)

- 6.8 The 1840 tithe map shows a very similar arrangement (figure 6), and may have simply been copied from the 1824 map.

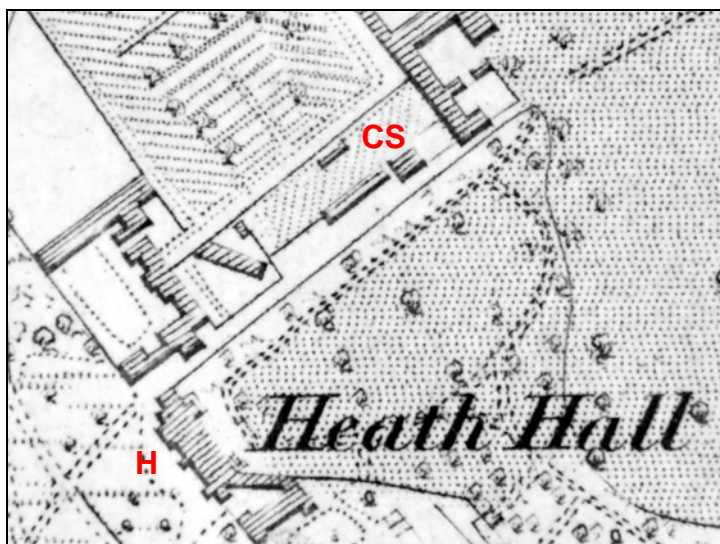


6: 1840 tithe map<sup>6</sup>

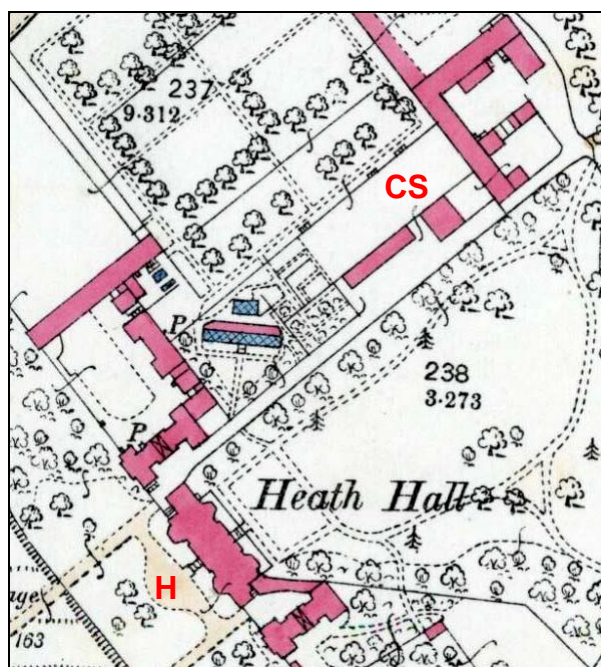
- 6.9 The first edition Ordnance Survey 1:10560 map, surveyed 1849 to 1851, indicates that the cart-shed had been extended by the addition of the lean-to (figure 7), and this is more clearly shown on the larger scale 1:2500 maps of 1893 and 1907 (figures 8 and 9). The 1914 edition is the first to depict the division of the building into two parts, but the outline of the building does not change between 1:2500 editions.

<sup>5</sup> *Plan of the townships of Warmfield cum Heath in the West Riding of the County of York, made 1824 by Geo Charlesworth* WYAS Wakefield: C547/2/5/1/1 [see also C547/2/5/2/3, another version]

<sup>6</sup> *Plan of the township of Warmfield cum Heath in the West Riding of the County of York, 1840* WYAS Wakefield: WDP75/42 [see also C547/2/5/1/2, another version]



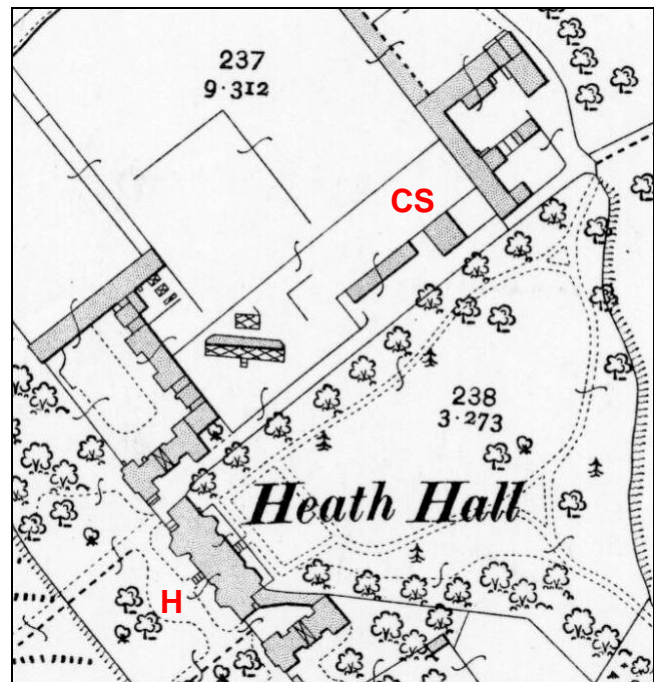
7: 1854 OS map<sup>7</sup>



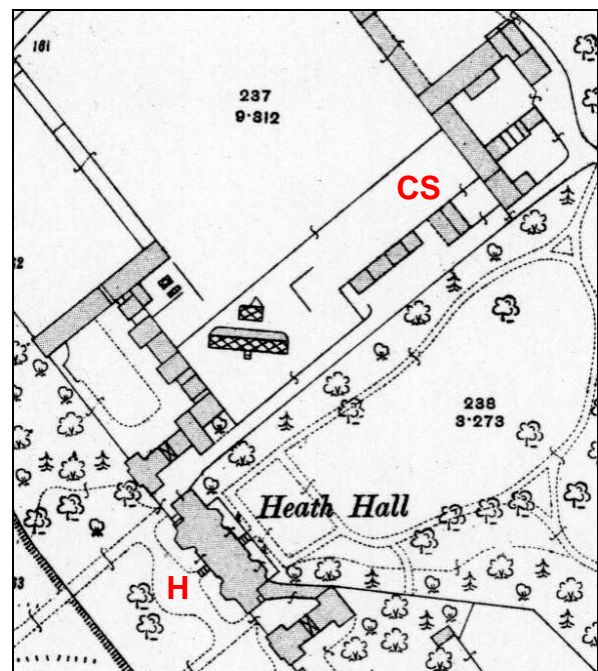
8: OS 1:2500 map, 1893<sup>8</sup>

<sup>7</sup> Yorkshire, sheet 248, surveyed 1849 to 51

<sup>8</sup> Yorkshire, sheet 248.18; surveyed 1890



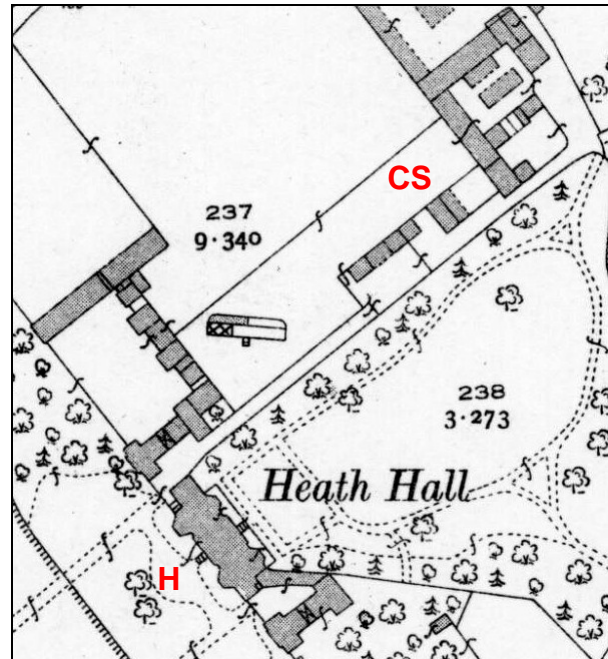
9: OS 1:2500 map, 1907<sup>9</sup>



10: OS 1:2500 map, 1914<sup>10</sup>

<sup>9</sup> Yorkshire, sheet 248.18; revised 1904-5

<sup>10</sup> Yorkshire, sheet 248.18; revised 1913

11: OS 1:2500 map, 1938<sup>11</sup>

## 7 Recording methodology

- 7.1 The recording was carried out on 28 August 2019, and involved inspection of the building, supported by a photographic survey of the exterior and interior, together with the production of floor plans, a sectional elevation, and detailed drawing of the crane. All work was in accordance with the specification.
- 7.2 Photography was carried out using a digital SLR camera. The photographs include a scale, in the form of a 2m/1m ranging pole marked with 0.5m graduations, or a 0.5m/0.2m baton marked with 0.1m graduations, and all are copied in this report, where they are referred to in the text by numbers in **bold**. Locations of all photographs taken are marked on copies of the site plan and floor plans. All photographs will be deposited with the Archaeology Data Service.
- 7.3 The drawn record used a detailed instrument survey provided by the agent as the basis for the floor plans and sectional elevation, with additional observations and measurements being made on site.

<sup>11</sup> Yorkshire, sheet 248.18; revised 1938



## 8 Building description

### Setting

- 8.1 The cart-shed faces south-west across a grassed paddock (1), its north-west side contiguous with a tall (ca. 2m high) boundary wall, beyond which is another narrow paddock (2). A drive leading from the Stables to the farm buildings passes the south-east gable, and to the rear is a small yard between the building and the long two-storey range of farm buildings facing north-east (3).

### Main structure

- 8.2 The south-west front has a symmetrical arrangement of two cart entries with basket-arches (4). In this side of the building, the main walling stone to the lower storey is laid in shallow, even courses, and its plain, hammer-dressed finish contrasts with the voussoirs to the arches, which have a finely milled finish characteristic of the late 18th or early 19th century (5). There is no evidence for any doors having been hung within the arches, either outside or inside the building. There is a plain plinth confined to this elevation, and a course of longer stones forms the base for the first floor, and these, together with the stonework above it, have flatter faces, but more obvious tooling. The quoins at the south corner are consistent in form throughout the height of the building (6), and all four corners terminate in cyma-shaped kneelers, overlain by chamfered coping, though all are badly weathered (7).
- 8.3 There is also variation within the stonework in the north-west gable (8,9). On the ground floor, the thin courses of the front wall return for a short distance, and continue for a short way to the south-west within the boundary wall, but there is an obvious change about 2m from the corner, to much larger blocks, many of them edge-laid. These continue to the north-east within the wall beyond the rear of the building, thus implying that the boundary wall is of different date to either side of the building, and the difference in coping (flagstones to the south-west, half-round coping to the north-east) supports this interpretation. Higher up within the gable, the long blocks of the course supporting the first floor continue, in similar fashion to those in the front. The two-light window within this gable has had its jambs replaced in the last few years.
- 8.4 The south-west gable has a dichotomy in stonework between ground and first floor, similar to that seen in the front elevation (10): at first floor level it incorporates a loading doorway with composite jambs, the jambs and lintel rebated for an external door (11). (The sill is a 20th century replacement, as is

the door itself.) There is a ragged joint where the building has been extended to the north-east (12).

- 8.5 The cart-shed's rear elevation is now only visible within the three bays of the later lean-to, and much of it has been whitewashed, but the stonework is well-coursed, and incorporates that with long blocks, which mark the level of the first floor (13).
- 8.6 There is a stone slate roof over all parts of the building, re-laid in recent years over a modern membrane, with selective replacement of roof purlins and rafters.

Interior: ground floor

- 8.7 The ground floor forms a single space, with the floor surface currently buried beneath manure (14-17). The only original internal masonry structure is a short flight of stone steps at the south corner (18), which appear to have been surmounted by a timber ladder, to give access through a large trapdoor overhead (the present ladder is modern) (19,20). There are also a 20th century brick-built trough at the north corner, incorporating a cast iron bath, and modern pens against the south-east wall.
- 8.8 A small number of sturdy, cantilevered oak brackets project into the space at about 1.7m above floor level, from three of the outer walls, and these brackets measure between 0.3 and 0.5m long. However, there are also numerous sockets to indicate where similar brackets used to be situated, so the majority have clearly been lost (21,22). They seem to have been intended for hanging equipment from, presumably the paraphernalia associated with the carts which are thought to have been stored in here.
- 8.9 The first floor frame of oak is perhaps the most remarkable feature of the ground floor space, and it is a well-executed, substantial structure, designed for a considerable load. Four beams span between front and back walls, their ends evenly spaced at the north-west ends, but within the south-west side they are laid on the piers to either side of and between the arches, thereby producing an unusual but regular zig-zag arrangement, of five wedge-shaped bays (23,24). The beams are approximately 300mm in section, and have rough chamfers where they have been converted from whole trees, but the chamfers are not stopped (as stated in the listed building description); they are attached to the feet of the upper crucks on the first floor by iron straps (25). Within the outer and central bays (bays 1, 3 and 5), joists run longitudinally and directly on the main beams, while in the two wider, intervening bays (2 and 4), subsidiary beams run longitudinally with joists across them, perpendicular to the others. A central

walk-way on the first floor is reinforced by additional joists placed perpendicularly, in bays 1, 3 and 5 (26).

- 8.10 There is no sign of any of the timbers in the frame having been re-used from an earlier building, but in the two beams closest to the arches there are small, redundant peg holes, with irregular spacing, which are enigmatic (27). They are much too small to have held harr-hung doors.

Interior: first floor

- 8.11 The first floor or loft has lime-plastered walls, and forms five wedge-shaped bays between four upper cruck trusses (28,29). This loft was used as a granary, with the grain stored loose in open bays, enclosed by low timber partitions. The loading doorway in the south-east gable formed the access for this material, and the two-light window in the north-west gable provided light and ventilation (30); a 20th century shutter was once fastened to this window, and it is presumed (but not certain) that this opening was also shuttered originally.
- 8.12 The majority of the loft or first floor is laid with lime-ash over a bed of reeds, the underside of which is plastered (31). However, the south-east end of the loft, adjacent to the gable loading doorway and not intended for grain storage, is floored with wide, softwood boards (32); the use of this softwood, almost certainly of foreign origin, indicates that this material was available, but that lime-ash was considered more suitable for grain storage. The access to the loft from below is also located in this area, and forms a large trap, from which the door has been lost, although a large H-hinge survives on one side (33), and an iron plate for fastening the door is still intact opposite (20).
- 8.13 Attached to the jamb of the gable loading doorway is a simple swivelling crane, fashioned from oak, and set on iron hinges (34,35). It comprises an upright post with inclined jib and cambered brace, which can be turned through 180°, so as to bring loads into or out of the building. The jib has a pair of slots, one of which contains a wooden pulley (36).
- 8.14 That part of the first floor which is laid with lime-ash formed two pairs of storage bays, enclosed by low timber partitions, with a central walk-way down the middle of the building between them (37,38). The partitions are simple softwood planks, fastened to vertical batons tenoned into rails within the floor (39). The longitudinal partitions on either side of the gangway are only 280mm high, but those perpendicular to these, at the south-east end of the lime-ash floor, and mid-way between there and the north-west gable, were up to 850mm high (40). Most of those have however been removed, as have parts of those along the

gangway, but their positions can be ascertained by an absence of plaster, where they joined the outer walls (41,42). Some of the partitions, and the feet of some of the upper crucks, have had a red wash applied, perhaps a preservative.

#### Roof structure

- 8.15 The four upper cruck trusses<sup>12</sup> are substantial compositions in oak, which seem to represent a conscious revival of the vernacular, within a building whose form is otherwise of a style very much in keeping with late 18th or early 19th century ideas. The upper crucks themselves are sharply elbowed and relatively short, but of very substantial scantling, and each pair represents the two inverted halves of a tree, with branching accounting for the elbows (43). As noted above, the feet of the crucks are attached to the ceiling beams below with iron straps (25).
- 8.16 The trusses have pegged collars, at a height which bestows a good head-height for users of the first floor, and three of them have short, splayed king-posts above them (44), though the north-west truss does not, and here the crucks are instead notched and tenoned together (45); the collar to this truss is also distinct, in being strengthened by an elbowed brace. Those three trusses with king-posts bear Roman numerals at the three joints to the collar, the numbers facing towards the centre of the building in each case. The sequence is from I to III on the main collar/king-post joint (46), and from II to IIII on the collar/cruck joints, running from north-west to south-east (47).
- 8.17 The longitudinal roof timbers include the diamond-set ridge (48), and two pairs of substantial side-purlins (49). The latter run for a single bay, with their ends being tenoned through the crucks and fastened with pegs, in the manner of tusk-tenons (50). Overlying the purlins, the rafters are also oak (except where replaced in recent re-roofing).

#### Lean-to

- 8.18 The addition of a rear lean-to had taken place by about 1850, according to the Ordnance Survey, and to judge from the materials used, it is likely to have been built shortly before then, though there may have been some subsequent alteration to it.
- 8.19 The lean-to's two outer side walls are of stone and continue as the yard wall to the north-east, but its north-east front is largely open, with two wide piers of machine-cut brick forming the entrances to three compartments (51,52). In

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<sup>12</sup> These are upper crucks, rather than raised crucks: see Alcock, NW et al, 1996 *Recording Timber-Framed Buildings: An Illustrated Glossary*, pF7

section, these piers are unusual, in that their short sides are canted or pointed, through the use of specially cut bricks, but it is far from clear what advantage this would have conferred (53), and there is no sign that doors or door frames have been fitted within the openings. However, in the north-west wall (which continues as the yard boundary), is a vertical row of three small sockets, which may have held the ends of horizontal poles to keep livestock in or out of the building (54), but these are not matched within the opposing brick pier, hinting that the present brick piers may not be original to the lean-to.

- 8.20 In contrast to the two piers on the north-east side, the two internal cross-walls are of irregular, hand-cut brick, which is 18th century in character rather than 19th century, though of course it might have been re-used in this location (55,56). The cross-walls simply abut the stone rear of the cart-shed, although there are square openings through them, in each case one close to ground level and the second just below the roof. The floors of two bays have a combination of brick and stone floors, with the stone floor being inlaid with a shallow drainage channel, running to the north-west (57); the third, north-west bay is now concreted, along with the yard. No fixtures or fittings remain within any of the three bays (58), although in 2003 it was noted that the central one contained stable fittings. If used as stables, it is peculiar that they were not enclosed on the north-east side by doors. Overhead, the roof is supported by plain purlins spanning between the cross-walls: most of the purlins have been replaced in the recent re-roofing, but some original one, of imported, machine-sawn softwood, remain in place.

## **9 Conclusion**

- 9.1 The main part of the building, comprising cart-shed with granary over, appears most likely to date from between the mid 18th and the early 19th century: on map evidence it can be supposed that it had not been constructed by 1745, but was extant by 1824, and nothing in the architecture of the structure contradicts this supposition, so it is not believed (as has previously been suggested) to be contemporary with Shilton's early 18th century work, nor attributable to him, but rather came with Carr's remodelling of the house and estate from the 1750s or later. On the available evidence therefore, it is likely to be the work of John Carr.
- 9.2 The main structure was integrated into an existing yard wall on one side, and externally was of an accomplished, largely symmetrical design, with considerable aesthetic qualities. It was constructed from coursed stonework embellished with a pair of basket-arched openings, gable coping and shaped kneelers. The ground floor space is largely plain, and believed to have been intended for housing carts or implements for the farm, although in this respect the south-

westerly aspect is at odds with perceived wisdom, as it would expose carts to wind, sun and rain more than a north-easterly one, and the possibility that it was meant as a shelter shed for livestock (who would benefit from the south-westerly aspect's greater exposure to the sun) cannot be dismissed.

- 9.3 The roof structure for the building is remarkable in its use of upper cruck trusses, in a technically challenging, but sturdy, non-parallel arrangement, which places them away from the weaker parts of the south-west wall. This demonstrates a high level of design and craft skills on the part of the architect, builder, and carpenter, but also a good understanding of cruck construction, which was by the 18th century a very much antiquated roof form. Its use inside an agricultural building, where it would have been hidden from the patron and his guests, implies a wealthy owner for whom money was almost no object, but also perhaps one who appreciated the visual qualities which the roof bestowed, and so may have had an interest in the operations of the home farm. The oak-built crane in the gable doorway is further evidence of the building's opulence, in combination with its functional role.

## **Appendix: WYAAS Specification**

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### **SPECIFICATION FOR A DRAWN AND PHOTOGRAPHIC RECORD AT THE BOTHY, HEATH HALL, HEATH, WAKEFIELD**

#### **SE 35640 20285**

This specification is prepared on behalf of Wakefield Metropolitan District Council at the request of Mr Kevin Ayrton (tel.: 01677 458209). It details the requirements for an archaeological and architectural recording to preserve evidence of the Bothy's original form and development during works to convert the building into a single dwelling (planning consent 16/03081/FUL & 16/03082/LBC).

#### **1. Summary**

1.1 This specification covers the requirements for an archaeological and architectural record (drawn and photographic recording) at the Bothy, **Heath Hall Stables, Heath, Wakefield WF1 5SL** to record evidence of its construction and historic uses revealed during works to bring it into use as a dwelling.

1.2 This specification has been prepared by the West Yorkshire Archaeology Advisory Service (WYAAS), the holders of the West Yorkshire Historic Environment Record on behalf of Wakefield Metropolitan District Council.

**1.3 Failure to fully comply with the terms of this specification will be treated as a breach of planning consent by WYAAS.**

**1.4 Please note the WYAAS require a hard copy of the final report to be submitted to the West Yorkshire Historic Environment Record to enable the results of fieldwork to be made publically accessible as required by the National Planning Policy Framework. The WYAAS will only recommend discharge of any archaeological planning condition once a report been received and found to be satisfactory.**

#### **2 Archaeological / Architectural Interest**

2.1 The Bothy is a grade II listed building and designated heritage asset (National Heritage List for England Nos. 1,313,218 and West Yorkshire Historic Environment Record PRN 13277). The bothy is located in the Heath conservation area.

2.2 The Bothy is thought to date to the early 18th century and is one of a group of buildings associated with the construction of Heath Hall to the design of Theophilus Shelton (1645-1717). The Bothy comprises a cart shed with granary above and a later outshut extension housing a stable block with three stalls.

2.3 The building retains a number of unusual if not unique features to West Yorkshire. Foremost amongst these is the building's raised-cruck roof structure – a very late occurrence of this form- with collars and king posts supporting a diamond set ridge. The raised crucks are believed to be "tied" into the granary's unusual and complex first floor oak floor structure (the ceiling beams acting as tie beams). Taken together these elements give the impression of a late employment of vernacular timber building techniques which would have been perceived to have been of low status by the middle years of the 17th century . However, their use here may be linked to the granary's specialist function as a store for cereals and a

desire for great strength or another, now obscure advantage, the builder believed was conveyed by a timber structure.

2.4 Other unusual and interesting features include the granary's lime-ash floor, stone mullioned window, taking-in door internal access to the first floor, original timber crane and stone kneelers.

2.5 The Bothy is notable for its use of anachronistic and unusual features in a small functional building. Both the building's structure and fittings are associated with its original function and require recording prior to and during alteration.

2.6 For an understanding of wider archaeological research priorities for West Yorkshire's built heritage please see the historic buildings research agenda available as a PDF document to download from the WYAAS website:

<http://www.wyjs.org.uk/archaeology-advisory/>

### **3 Aims of the Project**

3.1 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 Bothy, 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, Nepshaw Lane South, Morley, Leeds LS27 7JQ; email [wyher@wyjs.org.uk](mailto:wyher@wyjs.org.uk)).

#### **4.1 Health and Safety**

4.1.1 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 may wish 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 contaminants which constitute potential Health and Safety hazards 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.

#### **4.2 Confirmation of Adherence to Specification**

4.2.1 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. 9.1.

#### **4.3 Confirmation of Timetable and Contractors' Qualifications**

4.3.1 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.*)



4.3.2 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 timber framed buildings. The timetable should be adequate to allow the work to be undertaken to the appropriate professional standard.

#### **4.4 Notification and Monitoring**

4.4.1 The Local Authority and WYAAS should receive at least one week's notice in writing of the intention to start fieldwork.

### **5 Recording Methodology**

#### **5.1 Site preparation**

5.1.1 Prior to the commencement of work on site the building recorder should identify all removable modern material (including late 20th and 21st-century partitions, dry-boarding, suspended ceilings etc.) which may significantly obscure material 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.

#### **5.2 Documentary research**

5.2.1 **Prior to the commencement of work on site the building recorder must consult the Historic Environment Record** in order to gain an overview of the archaeological/historical background of the site and its environs and undertake a rapid map-regression exercise based on the readily-available map and photographic evidence.

5.2.2 Note, the WYHER charges for commercial consultations. Please contact us for further details.

#### **5.3 Site/building plans**

5.3.1 The as "existing plans" of the building can, if appropriate, be used for any annotation relative to the photographic record (permission of the copyright holder must be sought).

5.3.2 Failing this, an accurate sketch plan of the building, marked with a north pointer, should be derived from the most appropriate large-scale historic mapping and reproduced at an appropriate scale (not smaller than 1:100). This plan should then be used for any annotation relative to the photographic record.

### **6 Photographic Record**

#### **6.1 External photographs**

6.1.1 An external photographic record should be made of The Bothy, from vantage points including all external elevations. Using medium format monochrome film (see a fully digital option described in section 6.5.1 below). These photographs should be as nearly parallel to the elevation being photographed as is possible within the constraints of the site; this may require photographs from a number of vantage points. A general external photographic record should also be made which includes a number of oblique general views of the elevation from all sides, showing the building as a whole in its setting. In addition, a 35mm general colour-slide or good quality digital survey of the Bothy should also be provided (using a variety of wide-angle, medium and long-distance lenses). While it is not necessary

to duplicate every black-and-white shot, the colour record should be sufficiently comprehensive to provide a good picture of the form and general appearance of the farm building.

## **6.2 Internal photographs**

6.2.1 A general internal photographic record should be made of the Bothy. General views should be taken of each room or discrete internal space from a sufficient number of vantage points to adequately record the form, general appearance and manner of construction of each area photographed. In areas which are wholly modern in appearance, character and materials, a single shot to record current appearance will suffice.

## **6.3 Detail photographs**

6.3.1 In addition, detailed record shots should be made of all features of archaeological and architectural interest identified during the process of appraisal. Typically, items of interest would include:

- All original structural elements, roof structures, crucks and trusses
- Carpenters' marks on wooden members, graffiti or inscriptions on lead work etc.
- Any apotropaic markings on masonry or timbers
- Floor surfaces and coverings
- Evidence of original access arrangements including the taking –in door
- Any means of securing the granary
- Evidence of original fenestration
- Evidence of ventilation
- The crane/hoist
- Architectural decoration such as the kneelers
- 

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.

## **6.4 Equipment**

6.4.1 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 (but see below for digital archiving of all digital recording).

6.4.2 The contractor must have proven expertise in this type of work.

6.4.3 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.

### **6.4.4 Film stock**

6.4.5 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.

6.4.6 Also see alternative for archiving digital images in section 6.6.2 below.

## **6.5 Printing**

6.5.1 Record photographs should be printed at a minimum of 5" x 7" .In addition a small selection of photographs (the best 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.

6.5.2 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 written details of the paper/inks used in writing to the local authority with supporting documentation indicating their archival stability/durability.

## **6.6 Digital photography**

6.6.1 Digital photography may be employed as an alternative to the use of colour transparencies. Good quality digital photography may be supplied, using cameras with a minimum resolution of 10 megapixels; RAW format may be used to capture images but these must be archived as described below. Digital photography should follow the guidance given by Historic England in Digital Image Capture and File Storage: Guidelines for Best Practice, July 2015. 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 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 the archaeological contractor accompanying the hard copy of the report.

### **6.6.2 Use of Digital Archiving in Place of Film**

6.6.2.1 In response to the mounting costs and decreasing numbers of practitioners offering professional photographic building recording on large and medium format chemical film the WYAAS have investigated other means to secure the long term preservation of photographic images. The WYAAS are satisfied that it is now feasible to substitute digital photography for this aspect of building recording in some projects as an alternative to the monochrome photography specified above.

6.6.2.2 The long-term archiving and curation of image captured during building recording will be carried out by the Archaeological Data Service (ADS). The ADS charge for this service and it is the contractor's responsibility to pay for this long term curation. See:

<http://archaeologydataservice.ac.uk/advice/chargingPolicy.xhtml>

6.6.2.3 An estimate of the cost of archiving digital images and reports using the ADS Easy service can be obtained from the ADS website:

<http://archaeologydataservice.ac.uk/easy/costing>

6.6.2.4 The buildings archaeologist should be aware of the ADS' policies and requirements for metadata accompanying digital files. Comprehensive guidance can be found on the ADS website dealing with planning for the creation of a digital archive, collecting data, selection and discard policies, file structures, licencing and the transfer of material to the ADS.

### **6.6.3 Equipment**

6.6.3.1 A digital SLR with a resolution of at least 10 megapixel should be employed. Cameras with an FX sensor, which is close to equivalency with 35mm film, are preferable to DX sensor equipped cameras. A variety of lenses should be used to best capture the subject and its setting

6.6.3.2 Care should be taken to ensure sharply focused well composed photographs are taken and when appropriate the camera should be set up and levelled on a tripod, e.g. when recording facades and larger interior spaces. The use of perspective shift lenses or pan and tilt adaptors may be necessary in some situations to achieve an acceptable image. Alternatively lens distortion may be removed post-capture by software but this must be recorded in the photographic catalogue and details of the software used given in the report. Original pre-correction images should be included in the site archive.

6.6.3.3 Photographs should be taken with a low ISO setting to reduce noise in the images captured.

6.6.3.4 The camera should also be Exchange Image File (EXIF) compliant and accurate time, date and, where applicable, GPS information and other metadata set up prior to commencing recording work on site. Further requirements relating to metadata are described below.

### **6.6.4 Archiving Digital Photographs**

6.6.4.1 Photographs and reports should be archived using the ADS Easy online service. (<http://archaeologydataservice.ac.uk/easy/home>). An estimate of the cost to archive digital images and reports using the ADS Easy service can be obtained from the ADS website

<http://archaeologydataservice.ac.uk/easy/costing>

6.6.4.2 The buildings archaeologist should be aware of the ADS' policies and requirements for metadata accompanying digital files. Comprehensive guidance can be found on the ADS website dealing with planning for the creation of a digital archive, collecting data, selection and discard policies, file structures and naming conventions, licencing and the transfer of material to the ADS

<http://archaeologydataservice.ac.uk/advice/guidelinesForDepositors.xhtml>

6.6.4.3 Meta data: in addition to the EXIF data stored in each image the contractor should create Project Level meta data. The coverage field in this document should include the

historic township, site name and grid reference of the site ([http://guides.archaeologydataservice.ac.uk/g2gp/CreateData\\_1-2](http://guides.archaeologydataservice.ac.uk/g2gp/CreateData_1-2)).

6.6.4.4 A raster data meta data file, cataloguing the digital photographs, should also be prepared. A template for this spreadsheet is available to download from the ADS (a template & examples of the latter are available from the ADS at:

<http://archaeologydataservice.ac.uk/advice/FilelevelMetadata.xhtml>

6.6.4.5 When depositing files with the ADS the contractor should enable the automatic notification of the completion of this process and have an email sent from the ADS to the WYAAS at the following address [wyher@wyjs.org.uk](mailto:wyher@wyjs.org.uk).

6.6.4.6 The WYAAS will only recommend the discharge of planning conditions upon receipt of a notification from the ADS that photographs have been archived.

6.6.4.7 Please note the WYAAS still require hard copy of the report accompanied by laser prints of the photographs on archivally stable paper and a facsimile copy of the report in PDF format and the images on a “gold” archive quality CD.

## **6.7 Drawn Record**

6.7.1 The drawn record should comprise:

- Floor plans of the Bothy
- A sectional elevations of the Bothy showing a typical cruck truss
- An elevation of the crane

6.7.1.1 Drawings should be made at an appropriate scale (not smaller than 1:20 for plans; not smaller than 1:20 for sections). Masons' marks etc. should be drawn at 1:1. The structures should be recorded as existing, but a clear distinction should be made on the final drawings between surviving as-built features and all material introduced in the structure during the late 20th and 21st centuries.

### **6.7.2 Scope of record**

6.7.2.1 Examples of items of archaeological and architectural interest identified during the process of appraisal are listed in 6.3.1 above. However, this list should not be treated as exhaustive. The archaeologist 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
- blocked, altered or introduced openings
- evidence for phasing, and for historical additions or alterations to the building.

### **6.7.3 Dimensional accuracy**

6.7.3.1 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).

#### 6.7.4 Drawing method

6.7.4.1 The survey may be executed either by hand or by means of reflectorless EDM as appropriate. In accordance with national guidelines<sup>13</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 practice*, and the WYAAS would recommend that the CAD layering protocol detailed in the same volume (8.3, Table 2) should be adhered to.

### 6.8 Rectified Digital Photography

6.8.1 As an adjunct to hand drawn elevations and plans the recording of significant and complex built structures, stone and brick surfaces may be carried out using digital rectified photography to provide ortho-photographic images at the scales given in section 6.7.1.1 above. Photographs must be taken at a resolution adequate to allow the creation of images at these scales. The collection and archiving of digital photographs used to create ortho-photographs must follow and comply with Historic England's guidance contained in "Measured and Drawn: Techniques and practice for the metric survey of historic buildings (2nd edition)", English Heritage 2009" and Photogrammetric Applications for Cultural Heritage, Guidance for Good Practice", Historic England 2017.

6.8.2 In general photographs must be taken parallel or near parallel to the subject's main surface, sufficient photographs must be taken from additional viewpoints to capture any changes in level or concealed areas; photographs must have sufficient overlap (60%-80%) to ensure good interpolation by the software used; targets or scales must be used and the resulting image must be checked against the subject/archaeological features before their destruction. Ortho-photographs or copies should be annotated with relevant context numbers (and feature boundaries when not obvious) and be cross referenced in the descriptive and interpretive text in the site report.

## 7 Documentation

7.1.1 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.).

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<sup>13</sup> English Heritage 2006, *Understanding Historic Buildings – a guide to good recording practice*, 7.1.1ff

7.1.2 The location of graffiti etc. and any reused timbers should be identified and included on these photographic location drawings as well as other annotated drawings as appropriate.

## **8 Post-Recording Work and Report Preparation**

### **8.1 Report Preparation**

#### **8.1.1 Report format and content**

8.1.1.1 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 survey
- a brief architectural description of the the Bothy presented in a logical manner (as a walk around and through the building, starting with setting, then progressing to all sides of the structure in sequence, and finally to the interior from the ground floor up)
- a discussion placing the Bothy in its local and historical contexts, describing and analysing the development of individual structures and of the complex as a whole. This analysis should consider the historical plan form, and layout of the building.

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.

#### **8.1.2 Report Illustrations**

8.1.2.1 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
- any relevant historic map editions, with the position and extent of the site clearly indicated
- A sectional elevation of the Bothy
- any additional illustrations pertinent to the site (e.g. rectified images)
- a complete set of good-quality laser copies of all photographs. All photographs should be accompanied by detailed captions clearly locating and identifying any pertinent features.

8.1.2.2 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 also be included in brackets at the end of each caption.

### **8.2 Report deposition**

**8.2.1 A recommendation to discharge the archaeological recording condition will only be made on receipt of a satisfactory hard copy of the full final report by the WYAAS.**

**8.2.2 A hard copy of the report (plus a an ISO19005 compliant PDF(A) facsimile on an archive quality “gold” compact disk) is to be supplied directly to the WYAAS, in a timely manner and certainly within a period of two months following completion of fieldwork.** The report should be supplied to the client and to the local planning authority and an identical copy (but also including the photographic prints and any colour slides) supplied to the West Yorkshire HER – see para.8.3 below for details). 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.

8.2.3 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.

8.2.4 With the permission of the client, the building recorder is encouraged to consider the deposition of a copy of the report for this site with the appropriate Local History Library.

8.2.5 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.

8.2.6 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)).

**8.3 Deposition with WYAAS (as holders of the West Yorkshire Historic Environment Record)**

8.3.1 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

8.3.2 Colour slides should be mounted, and the mounts suitably marked with the 'The Bothy' 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).

8.3.3 7.3.3 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 use by third parties, with the copyright owner suitably acknowledged.

## **9 Technical Queries**

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

## **10 Valid Period of Specification**

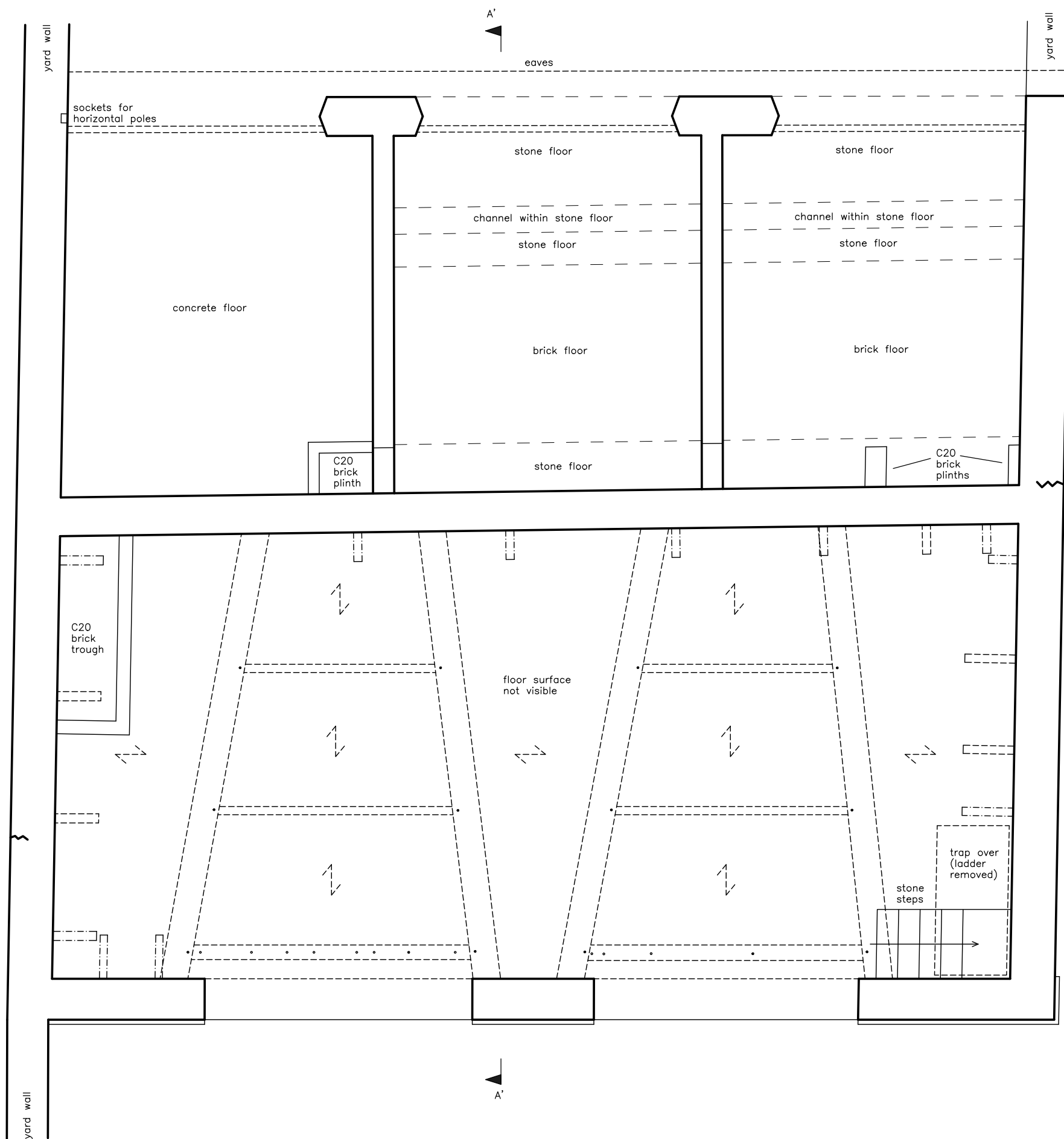
10.1.1 This specification is valid for a period of one year but may then need to be revised to take account of changing techniques and approaches.

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

**June 2019**

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ADDED LEAN-TO

CART-SHED

- KEY**
- timber wall bracket
  - timber wall bracket (removed)
  - step up
  - direction of joists overhead

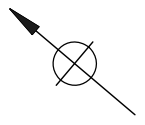


CART-SHED AND GRANARY  
 HEATH HALL FARM  
 HEATH, WEST YORKSHIRE  
 (NGR: SE 35640 20285);  
 HISTORIC BUILDING SURVEY

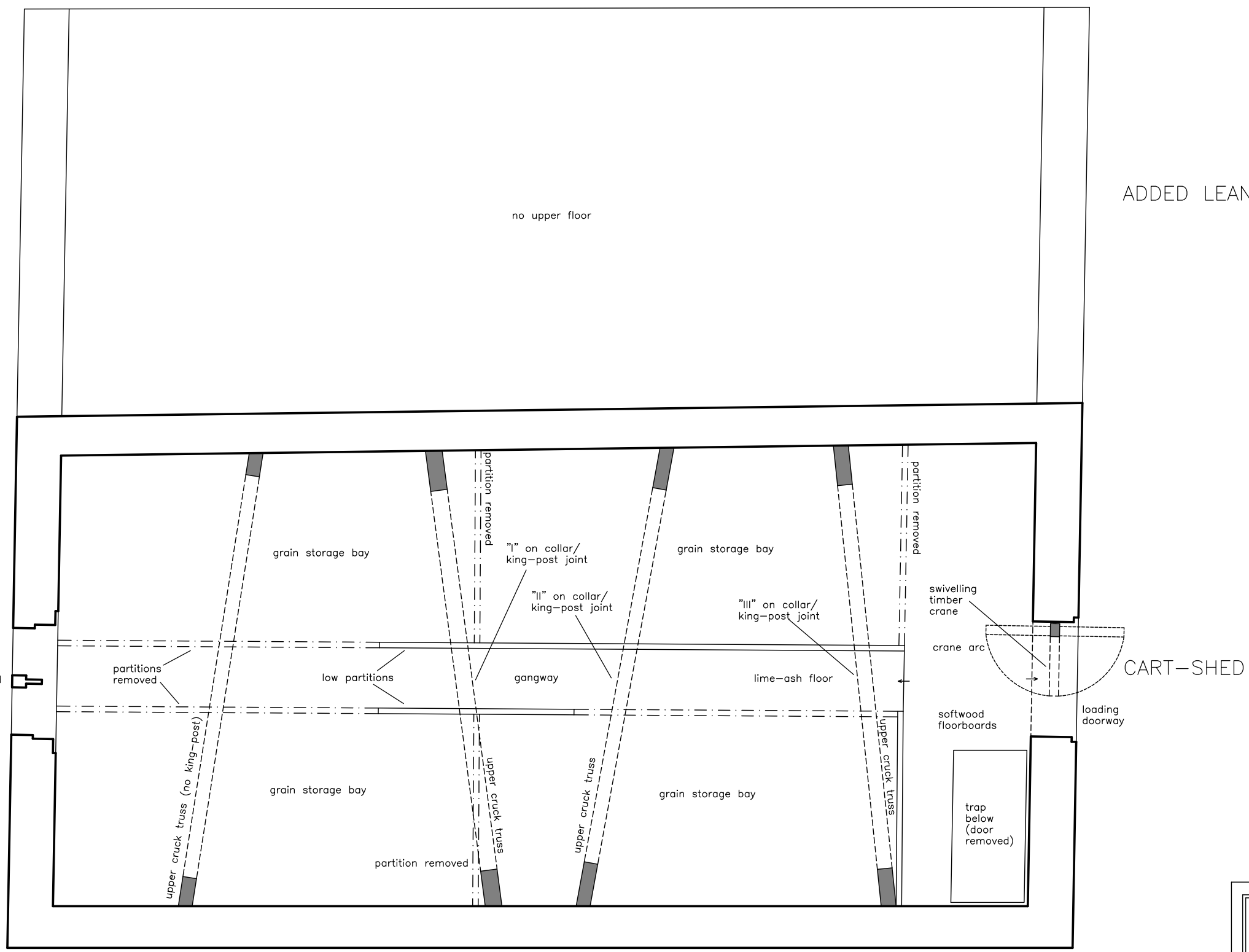
FIGURE 12:  
 GROUND FLOOR PLAN

SCALE: 1:50 (at A3)  
 DATE OF SURVEY: AUGUST 2019

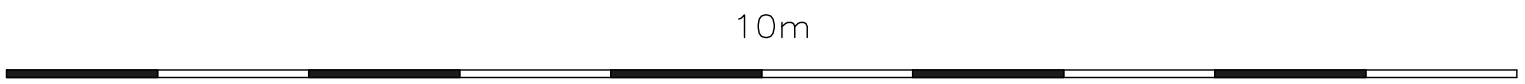
STEPHEN HAIGH  
 Buildings Archaeologist







KEY  
 ↑ step up



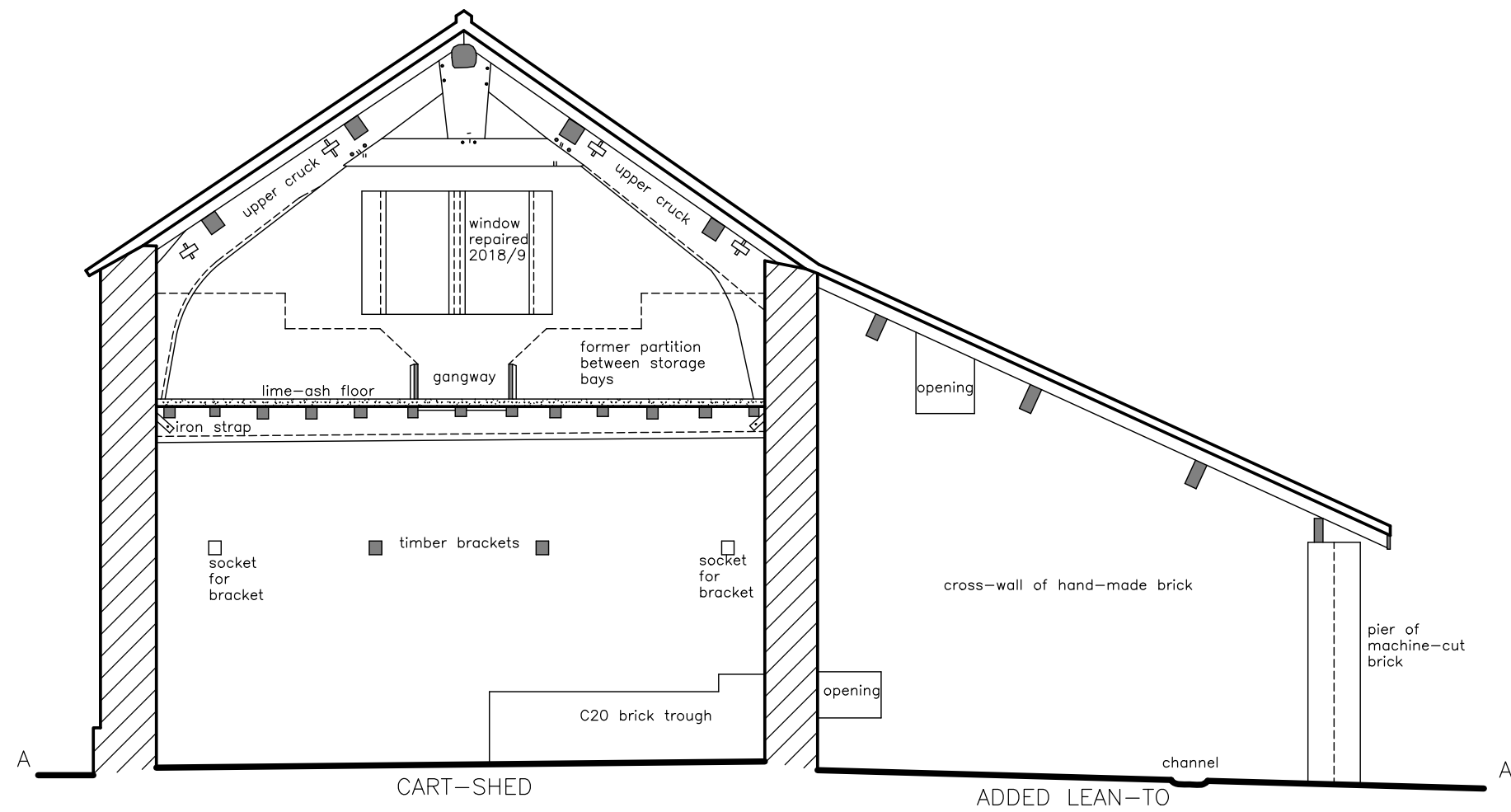
CART-SHED AND GRANARY  
 HEATH HALL FARM  
 HEATH, WEST YORKSHIRE  
 (NGR: SE 35640 20285);  
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FIGURE 13:  
 FIRST FLOOR PLAN

SCALE: 1:50 (at A3)  
 DATE OF SURVEY: AUGUST 2019

STEPHEN HAIGH  
 Buildings Archaeologist





CART-SHED AND GRANARY  
 HEATH HALL FARM  
 HEATH, WEST YORKSHIRE  
 (NGR: SE 35640 20285);  
 HISTORIC BUILDING SURVEY

FIGURE 14:  
 SECTIONAL ELEVATION

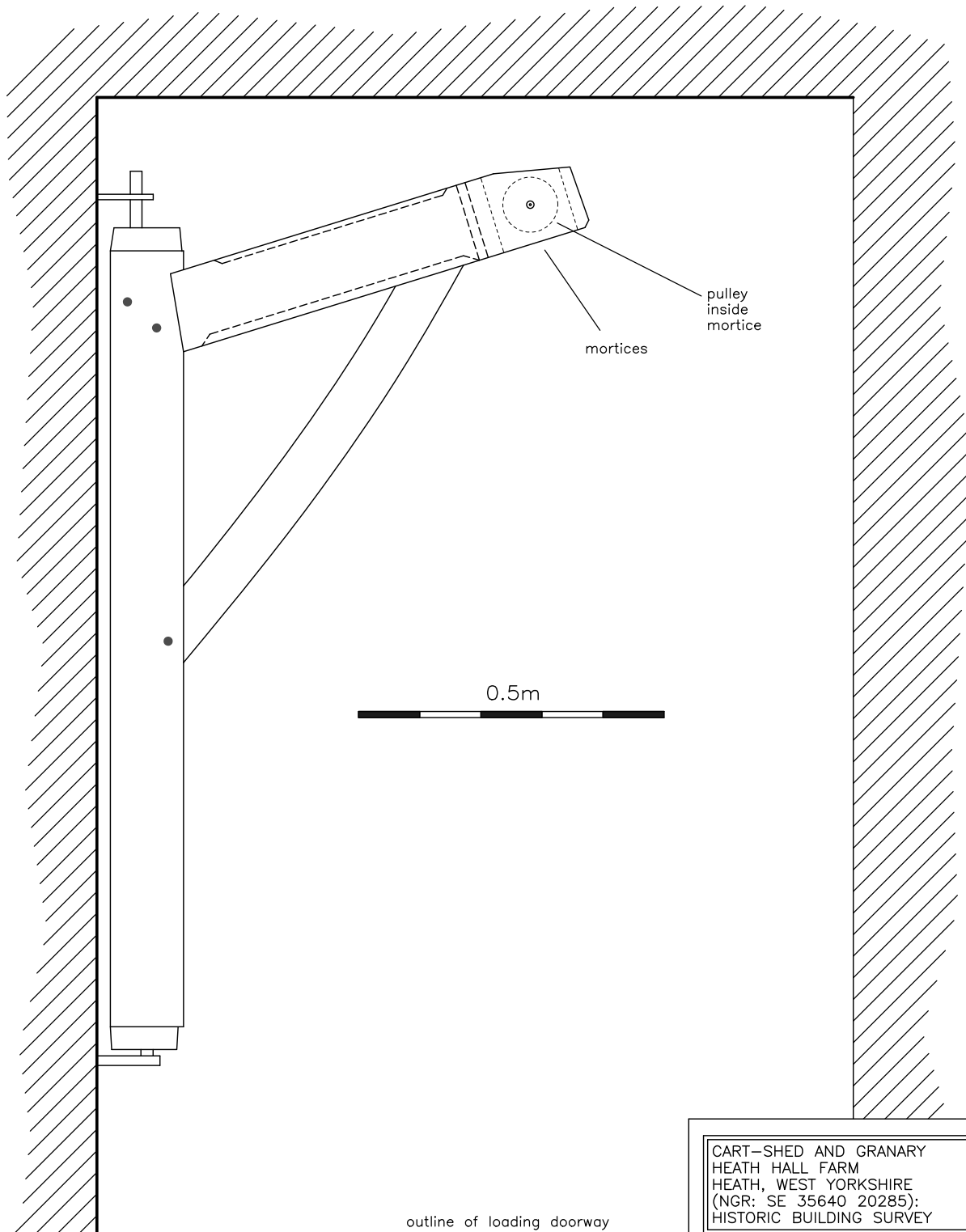
SCALE: 1:50 (at A3)

DATE OF SURVEY: AUGUST 2019

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 Buildings Archaeologist







CART-SHED AND GRANARY  
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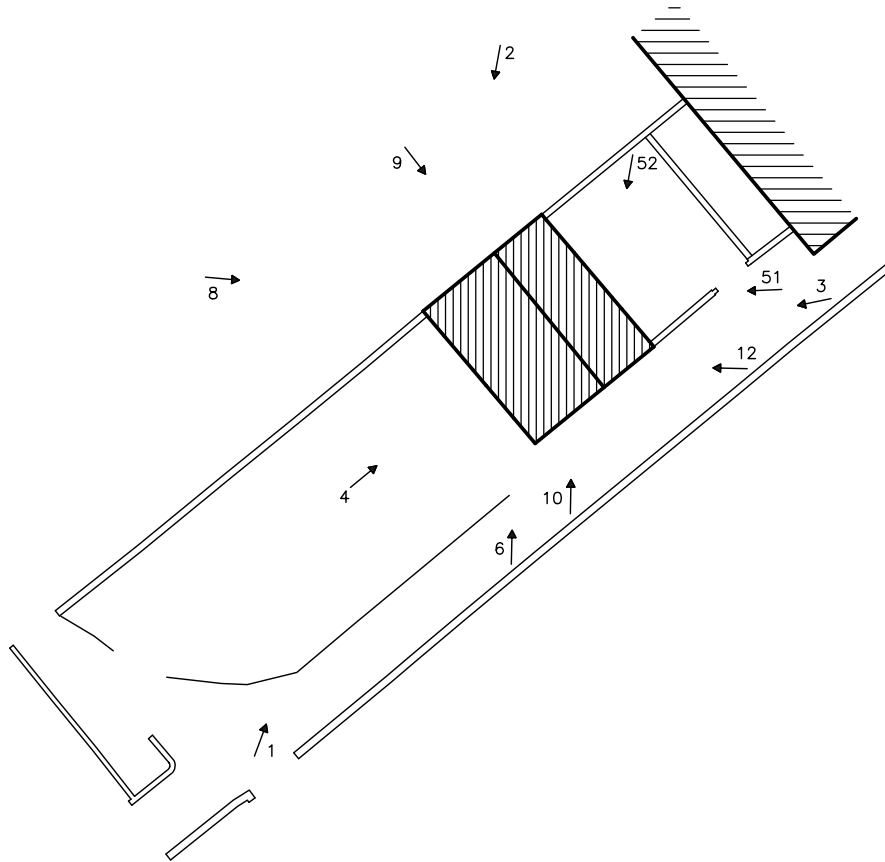
FIGURE 15:  
 ELEVATION OF CRANE  
 VIEWED FROM FIRST FLOOR INTERIOR

SCALE: 1:10 (at A4)

DATE OF SURVEY: AUGUST 2019

STEPHEN HAIGH  
 Buildings Archaeologist





↗ 1: photograph direction and number

CART-SHED AND GRANARY  
 HEATH HALL FARM  
 HEATH, WEST YORKSHIRE  
 (NGR: SE 35640 20285):  
 HISTORIC BUILDING SURVEY

FIGURE 16:  
 SITE PLAN  
 WITH PHOTOGRAPH LOCATIONS

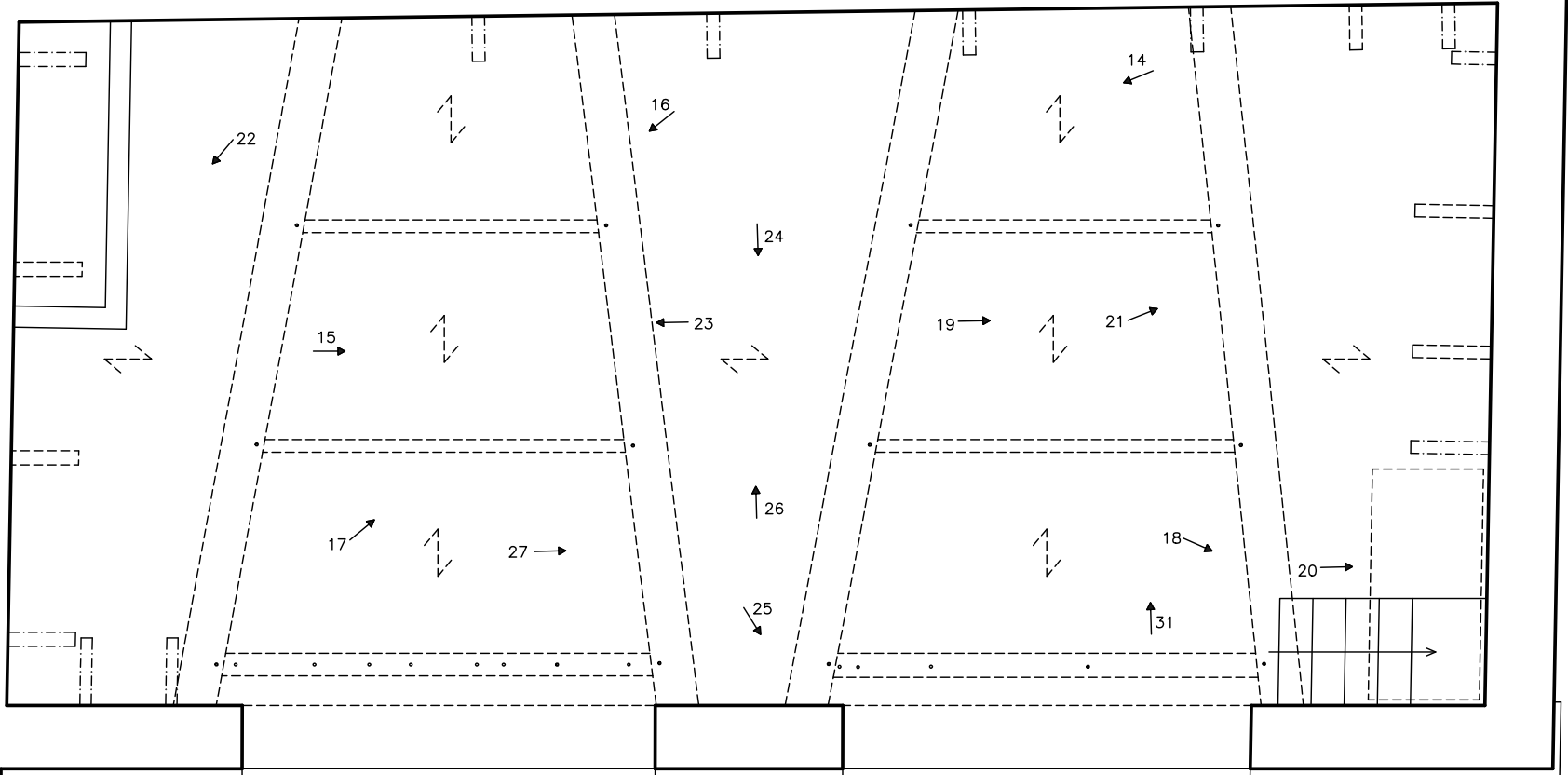
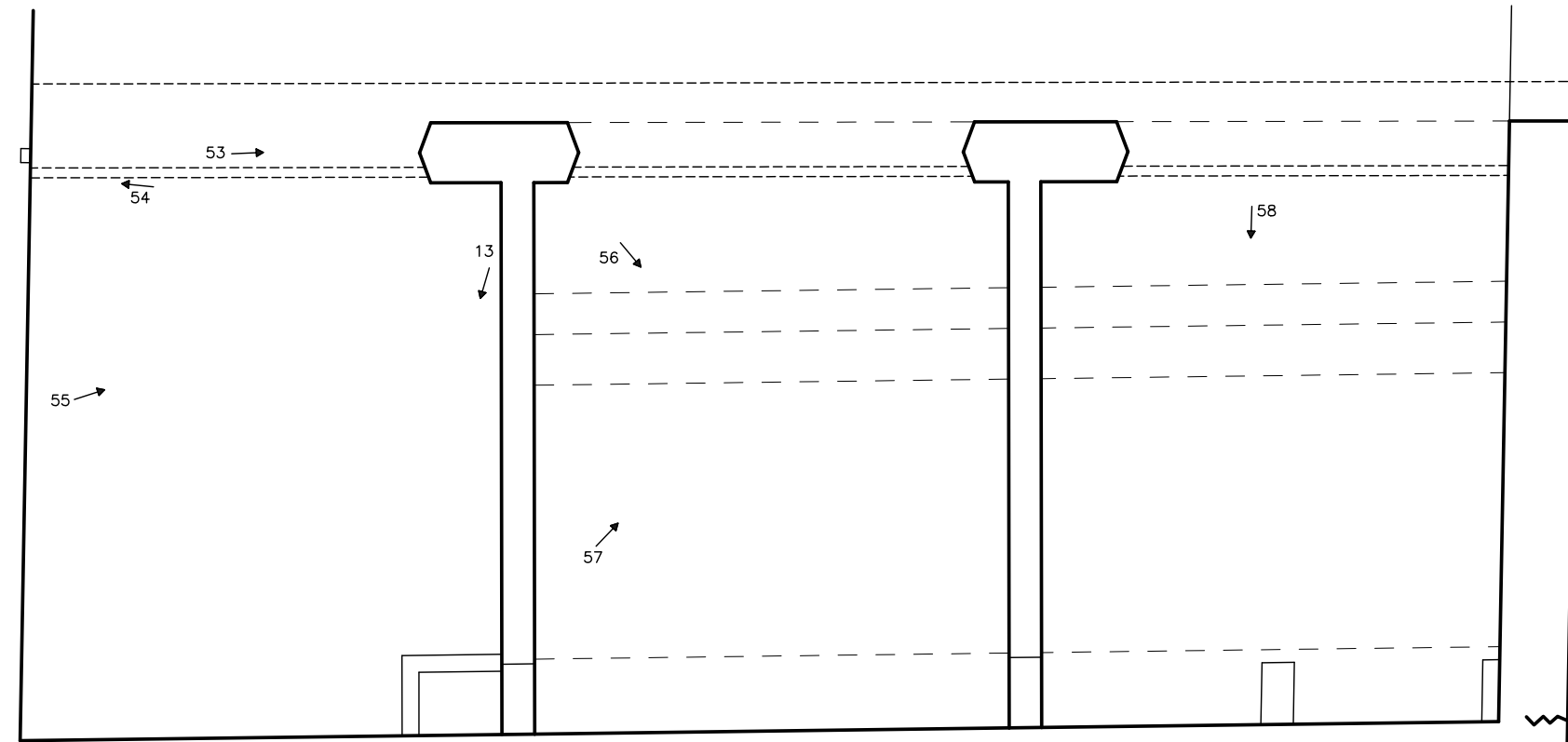
SCALE: 1:500 (at A4)

DATE OF SURVEY: AUGUST 2019

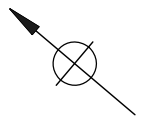
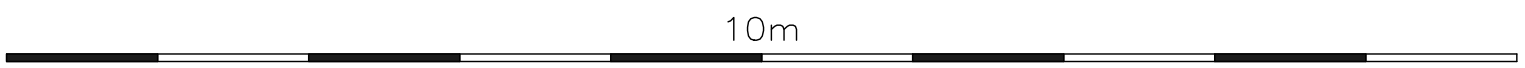
STEPHEN HAIGH  
 Buildings Archaeologist







KEY  
 ↗ 1: photograph direction and number



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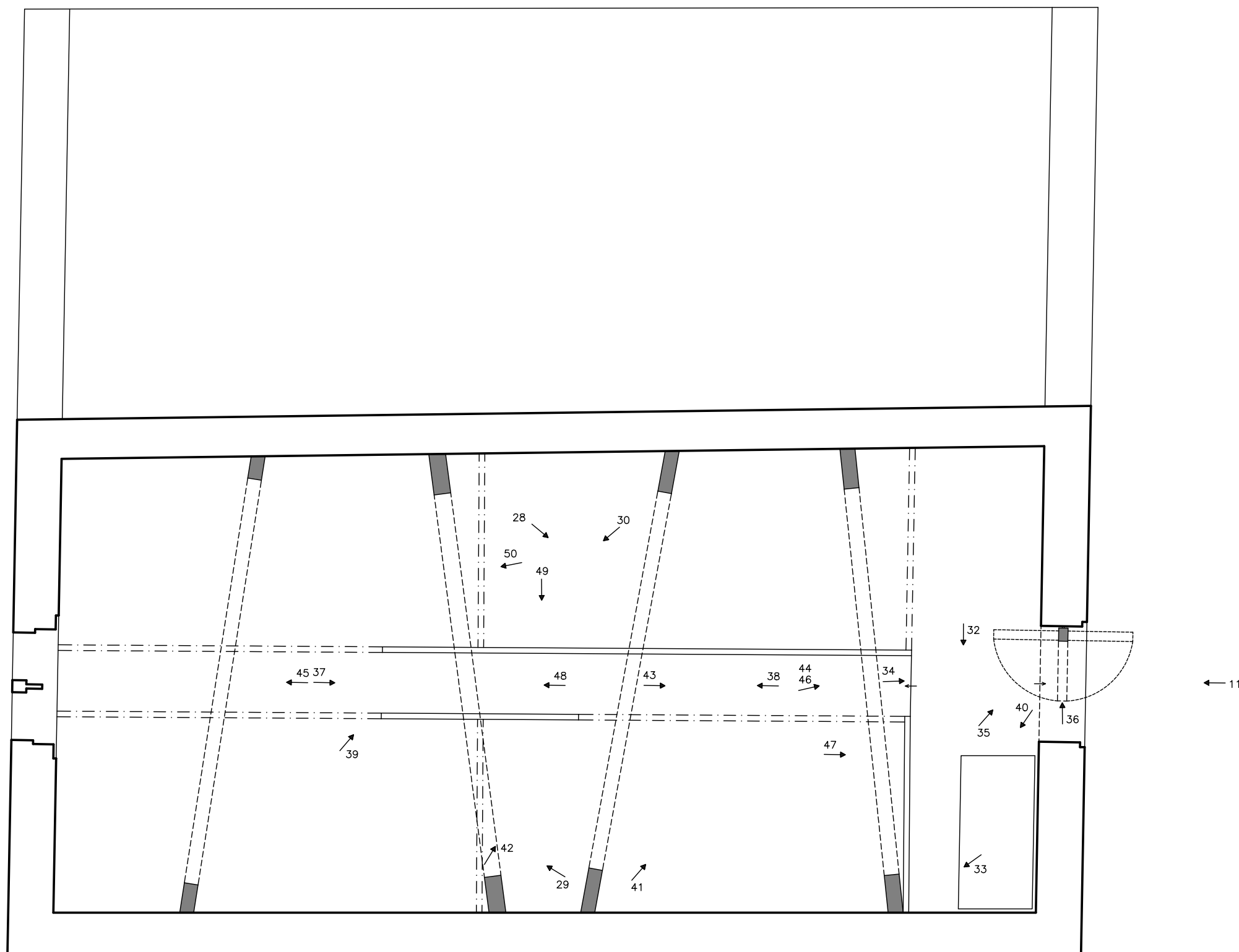
FIGURE 17:  
 GROUND FLOOR PLAN  
 WITH KEY TO PHOTOGRAPHS

SCALE: 1:50 (at A3)

DATE OF SURVEY: AUGUST 2019

STEPHEN HAIGH  
 Buildings Archaeologist





KEY

↗ 1: photograph direction and number

10m



CART-SHED AND GRANARY  
 HEATH HALL FARM  
 HEATH, WEST YORKSHIRE  
 (NGR: SE 35640 20285);  
 HISTORIC BUILDING SURVEY

FIGURE 18:  
 FIRST FLOOR PLAN  
 WITH KEY TO PHOTOGRAPHS

SCALE: 1:50 (at A3)

DATE OF SURVEY: AUGUST 2019

STEPHEN HAIGH  
 Buildings Archaeologist







Photo 1: General view of the building, looking north-east



Photo 2: General view of the building, looking south



Photo 3: General view of the building, looking south-west



Photo 4: Front elevation



Photo 5: Detail of voussoirs to left-hand arch, front elevation



Photo 6: General view of the building, looking north



Photo 7: Detail of kneeler at south corner



Photo 8: General view of the building, looking east



Photo 9: General view of the building, looking south-east



Photo 10: South-east gable, looking north



Photo 11: Loading door in south-east gable



Photo 12: General view of the building, looking west



Photo 13: Rear of cart-shed within lean-to, looking south-west



Photo 14: Ground floor of cart-shed, looking north-west



Photo 15: Ground floor of cart-shed, looking south-east



Photo 16: Ground floor of cart-shed, looking into west corner





Photo 17: Ground floor of cart-shed, looking east towards rear wall



Photo 18: Detail of stone steps in south corner of ground floor



Photo 19: Ground floor of cart-shed, looking towards south-east wall



Photo 20: Trap over ground floor (access to first floor, formerly with door), looking south-east



Photo 21: Ground floor of cart-shed, looking towards east corner, with oak brackets in wall



Photo 22: Ground floor of cart-shed, looking towards west corner, with oak brackets in wall



Photo 23: Underside of first floor, looking north-west



Photo 24: Underside of first floor in centre of building, looking south-west



Photo 25: Detail of iron strap at end of ceiling beam, south-west side of ground floor



Photo 26: Underside of first floor in centre of building, with reinforcement for gangway



Photo 27: Underside of first floor by front arch, with pegs/peg-holes in beam



Photo 28: First floor, looking south



Photo 29: First floor, looking north



Photo 30: First floor, looking west



Photo 31: Underside of first floor, showing exposed reeds below lime-ash floor

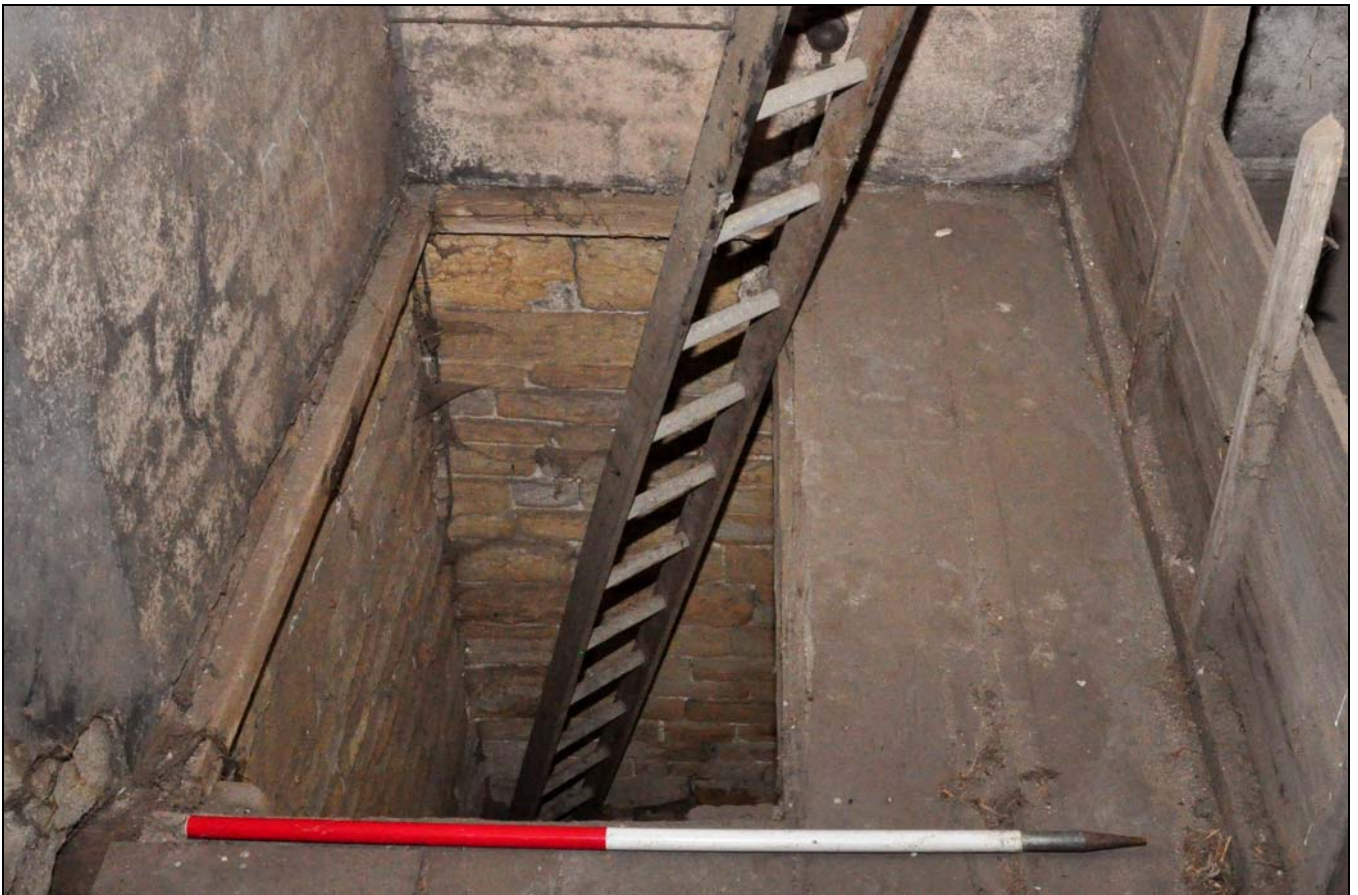


Photo 32: View down onto trap in south corner of first floor





Photo 33: Detail of hinge from trap-door in first floor, looking west



Photo 34: Internal view of loading doorway in south-east gable, with crane



Photo 35: Crane in south-east loading doorway



Photo 36: Detail of underside of crane jib, with wooden pulley



Photo 37: First floor, looking south-east



Photo 38: First floor, looking north-west



Photo 39: Detail of low partitions flanking gangway on first floor, looking east



Photo 40: Detail of low partition near trap-door, looking west



Photo 41: View towards east corner of first floor



Photo 42: North-east side of first floor, with traces of removed partition



Photo 43: South-east truss, looking south-east



Photo 44: Detail of collar and king-post in south-east truss, looking south-east



Photo 45: Detail of collar in north-west truss, looking north-west



Photo 46: Detail of joint numbering on collar at foot of king-post, south-east truss



Photo 47: Detail of joint numbering on collar at joint with cruck, south-east truss



Photo 48: Head of king-post and ridge piece, looking north-west





Photo 49: South-west side of first floor, showing closely spaced upper cruck trusses and short purlins



Photo 50: Detail of joint numbering and purlin tenon, north-east side of roof



Photo 51: General view of the rear lean-to, looking west



Photo 52: General view of the rear lean-to, looking south



Photo 53: Detail of brick pier between bays 2 and 3 of rear lean-to, looking south-east



Photo 54: Detail of sockets for horizontal poles in yard wall next to bay 3 of rear lean-to, looking north-west



Photo 55: Cross-wall between bays 2 and 3 of rear lean-to, looking south-east



Photo 56: Central bay of rear lean-to, looking south



Photo 57: Floor surfaces in central bay of rear lean-to, looking east



Photo 58: Bay 1 of rear lean-to, looking south-west