
**HISTORIC BUILDING RECORDING
ON SAWPIT AND DUTCH BARN
AT THE WOODYARD,
BELTON HOUSE,
LINCOLNSHIRE**

Work Undertaken For The
National Trust

May 2018

Report Compiled by
Vicky Mellor BSc (Hons) MCIfA

Grid Reference: SK 92963 39633 and SK 92911 39633
OASIS Record Number: archaeol-318303

APS Report No. **36/18**

**ARCHAEOLOGICAL
PROJECT
SERVICES**



CONTENTS

List of Figures

List of Plates

1.	SUMMARY	1
2.	INTRODUCTION.....	1
2.1	DEFINITION OF ARCHAEOLOGICAL BUILDING RECORDING	1
2.2	PLANNING BACKGROUND.....	1
2.3	SITE LOCATION	1
3.	AIMS	2
4.	METHODS.....	2
5.	HISTORICAL EVIDENCE	4
6.	FABRIC EVIDENCE	6
7.	DISCUSSION	21
8.	CONCLUSION	24
9.	ACKNOWLEDGEMENTS	25
10.	PERSONNEL.....	25
11.	BIBLIOGRAPHY	25
12.	ABBREVIATIONS.....	26

Appendices

- 1 The Archive
- 2 OASIS Record Sheet

List of Figures

- Figure 1a Extract from Belton Tithe Map 1837 (LA Ref. DIOC/TITHE AWARD/F 18)
- Figure 1b Extract from Plan of Belton Village from a new survey of 1888 (NT archive)
- Figure 2a Extract from Ordnance Survey 25” map sheet CXIV.NW, surveyed 1888, published 1889
- Figure 2b Extract from Ordnance Survey 25” map sheet CXIV.NW, surveyed 1903, published 1905
- Figure 3 Extract from Ordnance Survey 1:2500 map published 1971
- Figure 4 Sawyers working in a saw pit (Bailey 1994, 11)
- Figure 5 General location plan
- Figure 6 Site location map
- Figure 7 Site plan showing recorded buildings and surrounding Listed Buildings
- Figure 8 Sawpit plan with plate locations
- Figure 9 Sawpit elevations
- Figure 10 Dutch barn plan and elevations with plate locations

List of Plates

- Plate 1 General view of the sawpit from southwest
- Plate 2 General view of the Dutch barn from southeast
- Plate 3 South gable of sawpit
- Plate 4 Decorative stone kneeler at west side of south elevation of sawpit
- Plate 5 Iron hinge and pintle of south door of sawpit
- Plate 6 Stone corbel at southeast corner of sawpit
- Plate 7 Matching stone corbels of sawpit and adjacent building
- Plate 8 Stone corbel at northwest corner of adjacent building
- Plate 9 East elevation of sawpit, looking northwest
- Plate 10 East elevation of sawpit, looking southwest
- Plate 11 Brick buttress of east elevation of sawpit
- Plate 12 Repaired buttress of east elevation of sawpit, with fresh mortar and slate capping
- Plate 13 North gable of sawpit, looking west

- Plate 14 North gable of sawpit, looking southeast
- Plate 15 West elevation of the sawpit
- Plate 16 West elevation of sawpit showing weatherboard, opening beneath and masonry course in brickwork
- Plate 17 West elevation of sawpit showing brick infill with inserted window
- Plate 18 West elevation of sawpit, detail of inserted brickwork and window
- Plate 19 Timber structure of west wall of sawpit viewed internally
- Plate 20 Detail of brick and timber structure of west sawpit wall
- Plate 21 Detail of west wall of sawpit showing iron pin through strut joining horizontal beams
- Plate 22 General view of sawpit interior from north
- Plate 23 Sawpit, looking southeast
- Plate 24 Sawpit, looking north
- Plate 25 Timber planks and joists of sawpit, looking northeast
- Plate 26 Detail of timber planks, joists and wood flooring at northwest of building
- Plate 27 Iron bar spanning sawpit with iron device attached
- Plate 28 Detail of sawpit roof structure externally
- Plate 29 Detail of sawpit roof structure internally
- Plate 30 General view of Dutch barn from northeast
- Plate 31 North elevation of Dutch barn
- Plate 32 East elevation of Dutch barn
- Plate 33 Oblique view of west elevation of Dutch barn
- Plate 34 South elevation of Dutch barn
- Plate 35 Detail of south elevation of Dutch barn showing iron frame on concrete pad and timber walling
- Plate 36 General view of Dutch barn interior
- Plate 37 Detail of Dutch barn steel frame set on concrete pad
- Plate 38 Roof structure of Dutch barn
- Plate 39 Detail of timber in north wall of Dutch barn frame
- Plate 40 Detail of wood infill in north wall of Dutch barn
- Plate 41 Iron guttering fixing attached to Dutch barn

1. SUMMARY

A programme of historic building recording was undertaken on a sawpit and Dutch barn in the estate yard, and former timber yard, of Belton House, Lincolnshire. The sawpit is a Grade II Listed Building (HE List No. 1236108).

The building elevations, floor plan and other details were recorded in writing, graphically and photographically.

The 19th century sawpit retains many original features, including the brick-lined sawpit, timber posts, joists and planks on which timbers would have been placed for hand-sawing. A large opening in the west side of the building would have allowed heavy timber to be rolled directly into the building from a waggon, and an iron bar spanning the building may have served as part of a hoist or crane to aid positioning of the timber ready for sawing.

A small portion of the large west opening has been infilled, presumably to provide additional support to the heavy pantile roof. As only a small area was infilled at this time, it may suggest that the sawpit was still in use at the time of the repair.

Paired, matching corbels were recorded on the southeast corner of the sawpit and an adjacent building, indicating these are directly contemporary. These corbels, along with buttresses along the east side of the sawpit, may have supported the roof of a now-lost contemporary building on the east side of the sawpit.

Historic maps indicate these buildings are all likely to date from between 1837 and 1883, as part of the creation of a model village at Belton commissioned by the Brownlows.

A steel and timber framed Dutch barn, clad in corrugated iron, was also recorded, with historic maps indicating a broad date range for its construction of 1905 to 1971.

2. INTRODUCTION

2.1 Definition of Archaeological Building Recording

Building recording is defined as ‘a programme of work intended to establish the character, history, dating, form and archaeological development of a specified building, structure, or complex and its setting, including its buried components on land or under water.’ (Cifa 2014).

2.2 Planning Background

A programme of historic building recording was requested by the National Trust Archaeologist in order to ensure adequate recording and understanding of significance of the historical fabric before subsequent works in the Woodyard.

The building recording was carried out on 16th March 2018 by Neil Parker, assisted by Jonathan Smith.

2.3 Site Location

Belton is located 3.5km north of Grantham in the administrative district of South Kesteven,

Lincolnshire (Figure 5).

The investigation site is located in the village of Belton, to the north of Main Road, approximately 90m north of the parish church of St Peter and St Paul, and 300m north of Belton House (Figure 6).

The sawpit lies at National Grid Reference 492963 339633 and the Dutch barn at National Grid Reference 492911 339633 (Figures 6 & 7).

The investigation area is at a height of around 45m AOD, on a gentle slope down to the west towards the River Witham, which lies approximately 60m west of the site.

3. AIMS

The aims of the work were to provide a permanent record and understanding of significance of the standing buildings on the site in order to assist in the determination of a suitable future use whether as a conversion, extension or demolition.

4. METHODS

Recording of the building was undertaken in accordance with Historic England guidelines 2016 and ALGAO guidelines 1997. The sawpit was recorded in line with Historic England Level 2-3 standards, and the Dutch barn to Level 1-2 standards (2016).

Subject to accessibility and safety considerations, the recording of the buildings included:

- A photographic survey showing the buildings in context, general and detailed views of the exterior, interior views of the principal rooms and circulation areas and structural or decorative details.
- A written record providing an account of the building's location, type, materials and possible dates.
- The production of annotated sketched plans and elevations with measurements for the Dutch barn.
- The annotation and addition of measured detail to provided surveyed plans and elevations of the sawpit.

Photographic recording was undertaken with a digital camera. A manual 35mm camera fitted with a macro lens and using black and white film was also used. An index of the photographs was compiled on an annotated register.



Plate 1 General view of the sawpit from southwest



Plate 2 General view of the Dutch barn from southeast

5. HISTORICAL EVIDENCE

In the 19th century Jeffrey Wyatt and Anthony Salvin were commissioned to design a model village at Belton for the 2nd Lord Brownlow. This included cottages for estate workers, almshouses, a school, forge and an inn as well as a village cross and pump obelisk on the street frontage. The Home Farm was also rebuilt at this time and a sawpit was erected in the estate yard (SKDC 2009).

The sawpit is not shown on the Tithe map of 1837 (Figure 1a) but is shown on an estate plan of 1883 (Figure 1b).

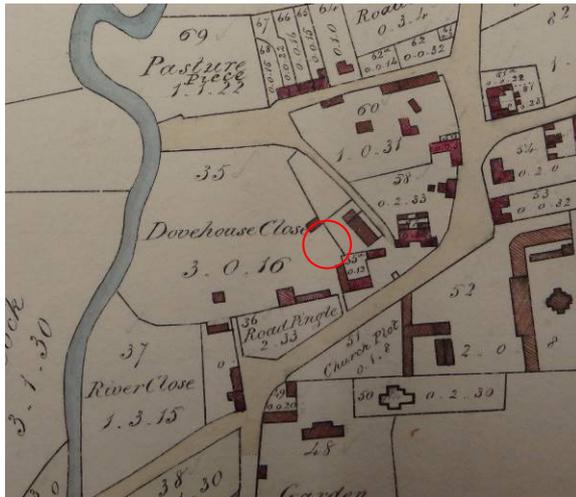


Figure 1a Extract from Belton Tithe Map 1837 (LA Ref. DIOC/TITHE AWARD/F 18)



Figure 1b Extract from Plan of Belton Village from a new survey of 1883 (NT archive)

The recorded sawpit is a freestanding rectangular structure, but on the 1883 plan is shown with buildings adjoining its east side and southeast corner (Figure 1b). Early Ordnance Survey maps of the area show these adjacent structures more clearly (Figure 2a and 2b).



Figure 2a Extract from Ordnance Survey 25" map sheet CXIV.NW, surveyed 1888, published 1889



Figure 2b Extract from Ordnance Survey 25" map sheet CXIV.NW, surveyed 1903, published 1905

The arrangement of buildings shown on the 1905 Ordnance Survey map (Figure 2b) is repeated on mid 20th century 6" Ordnance Survey maps (not reproduced here), although detail

of buildings in the site is rather limited on these relatively small scale maps.

The 1971 Ordnance Survey 1:2500 map appears to show that the adjoining buildings at the east of the sawpit have been removed by this time (Figure 3). Structures are however still depicted attached to the south of the sawpit.

Additional buildings shown in the estate yard on the 1971 map include the Dutch barn (Figure 3, circled in blue).

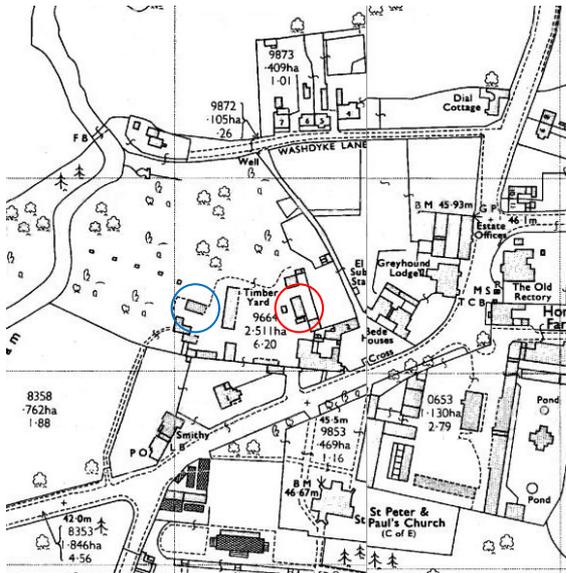


Figure 3 Extract from Ordnance Survey 1:2500 map published 1971

A brief examination of trade directories was undertaken, with White's and Kelly's directories of 1842 to 1937 being consulted. Few residents of the village are recorded in the village summaries, which appear to be restricted to naming a small number of notable individuals, with no sawyers being listed. However, in 1892, 1896, 1900 and 1905 a 'woodman and assistant overseer' is listed as Frederick Osmond (or Osmond Frederick) Wainwright. It seems probable that he is included in the directory due to his role as assistant overseer, but he may also have worked in the recorded sawpit in his role as woodman. A brief internet search indicates that he may be the same Osmond Frederick Wainwright b.1848 d.1935 who's grave is located in SS Peter and Paul's churchyard (<https://www.findagrave.com/>).

The recorded buildings lie in the Belton Conservation Area. Three Grade II Listed buildings are located in the Woodyard; the recorded sawpit (HE List No. 1236108), a mid 18th century dovecote (HE List No. 1194843) and the 19th century south entrance gates and wall (HE List No. 1264752). The 19th century Old School, adjoining the southeast corner of the site, is also Grade II Listed (HE List No. 1187956) (Figure 7).

6. FABRIC EVIDENCE

Sawpit (Figures 6 & 7)

The sawpit comprises a rectangular northnorthwest-southsoutheast building of English garden wall brickwork and timber. A single internal space is partly open to a large pit below ground level. Only the north portion of a pantile roof survives (Plate 1).

South elevation of sawpit

The south gable end of the sawpit is in brick with stone detailing (Plate 3). The height of the eaves has been reduced here, presumably when the roof was removed, and slates have been used to cap part of the wall to provide some weatherproofing. The original eaves level is marked by matching decorative stone kneelers at both sides of the south elevation (Plates 3 & 4).



Plate 3 South gable of sawpit



Plate 4 Decorative stone kneeler at west side of south elevation of sawpit

A single opening is present in the south elevation, an off-centre doorway with an alternating soldier and rowlock brick segmental arch over it (Plate 3). One of a former pair of double doors in this opening survives, and comprises a planked wooden door supported on external iron hinges on pintles (Plate 5). A small area of brick surfacing is visible beneath vegetation just outside the south door of the sawpit (Plate 3).



Plate 5 Iron hinge and pintle of south door of sawpit

A stone corbel at the southeast corner of this elevation matches another on the nearby building to the south (Plates 3 & 6-8), indicating the former presence of a beam or arch between these two buildings. This may have formed an entrance to the now-open area to the east of the sawpit.



Plate 6 Stone corbel at southeast corner of sawpit



Plate 7 Matching stone corbels of sawpit and adjacent building



Plate 8 Stone corbel at northwest corner of adjacent building

The sawpit corbel is balanced at the west of this elevation by a short course of stonework at the southwest corner of the building (Plate 3). This single stone extends around the corner and along the west elevation (Plate 15).

East elevation of sawpit

The east elevation of the sawpit is of brick with seven contemporary brick buttresses along its length (Plates 9 & 10).



Plate 9 East elevation of sawpit, looking northwest



Plate 10 East elevation of sawpit, looking southwest

Some of these buttresses retains a stone cap, which appears to be original (Plate 11), whilst others have obvious signs of repair and have been capped with slate (Plate 12) or breeze blocks (Plate 9). Where present, the upper surface of the original capping stones matches the level of the corbel at the southeast corner of the buildings (Plate 9). The buttresses presumably provide additional support adjacent to the deep pit inside the building, but together with the corbel may have also served as supports for a former structure to the east side of the sawpit.

An aperture, the size of a single header brick, was located at the top of each of the buttresses (where they were not obscured externally by later repairs), immediately above the level of the capping stone where this survives (Plate 11). These apertures extend through the full thickness of the wall.



Plate 11 Brick buttress of east elevation of sawpit with stone capping and aperture above



Plate 12 Repaired buttress of east elevation of sawpit, with fresh mortar and slate capping

North elevation of sawpit

The north gable is brick and survives to its full height (Plates 13 & 14). This elevation

features stone kneelers matching those of the south gable, and here they support the projecting coping stones at the roofline, forming a kneelered-gable. Presumably matching coping stones have been lost from the south gable.



Plate 13 North gable of sawpit, looking west



Plate 14 North gable of sawpit, looking southeast

The opening for a double doorway, off centre and opposing that of the south gable, was recorded. This opening has a segmental arch of a single course of rowlock bricks and a wood lintel keyed in to the brickwork surrounding the door (Plate 14). A timber purlin is visible in an aperture cut through the brickwork at the west side, although the east side of this elevation is largely obscured by ivy (Plate 14). The slightly plainer arch and surround to the north door may reflect its position, facing away from the estate yard entrance.

West elevation of sawpit

The north and south ends of the west elevation are of brick with the majority of this elevation being open at ground level (Plate 15).



Plate 15 West elevation of the sawpit

Areas of original brickwork at either end of this elevation include a masonry course, above which timbers in turn support a weatherboard covering to the upper third of the wall (Plates 15 & 16). A variety of gutter brackets are fixed to the timber at the top of the west elevation, and include iron examples (Plates 4 & 16).

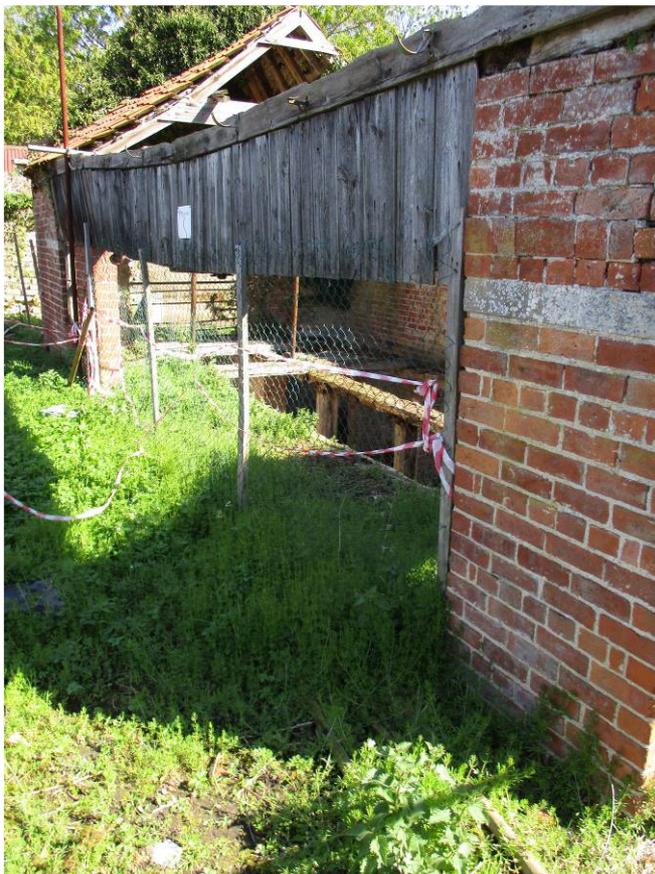


Plate 16 West elevation of sawpit showing weatherboard, opening beneath and masonry course in brickwork

An area of brickwork at the north side of the large central opening in this elevation is a later addition, infilling part of the opening, and including a timber-framed un-glazed window

(Plates 17 & 18). Aside from this brick infill, the elevation beneath the weatherboard is open. The additional brickwork may have been inserted to provide additional support to this wall and roof above. The original brickwork at the north of the west elevation appears to have been deformed and repaired above the masonry course adjacent to the inserted brickwork, and the timbers of the open span of this elevation are bowed. Both are likely the results of a heavy pantile roof above this wide opening.



Plate 17 West elevation of sawpit showing brick infill with inserted window



Plate 18 West elevation of sawpit, detail of inserted brickwork and window

Sawpit interior

The hand-sawn timbers of the upper third of the west elevation are clearly visible internally (Plate 19). A horizontal beam supports vertical struts, which along with angled timbers support a further horizontal beam at the roofline (Plates 19-21). The two horizontal beams are tied together by iron pins which pass through the length of the struts (Plate 21).



Plate 19 Timber structure of west wall of sawpit viewed internally



Plate 20 Detail of brick and timber structure of west sawpit wall



Plate 21 Detail of west wall of sawpit showing iron pin through strut joining horizontal beams

The sawpit interior comprises a single open space, much of which is occupied by a large brick-lined pit, internally measuring 9.75m x 3.47m x 1.97m deep (Plate 22). At the north, east and south the walls of the pit are continuous with the walls above at ground level. At the west side the pit is stepped in slightly in from the west wall (Plate 22). Due to the condition of the building the pit was not entered during the survey, and as a result the flooring material within the pit is not known.



Plate 22 General view of sawpit interior from north

Five brick plinths provide buttressing along the east wall of the pit and also form supports for a hand-sawn timber joist along the length of the building (Plates 23 & 24). A single brick plinth is located at each of the north and south walls of the building, to the east side of each doorway. A further joist is supported on these two plinths and three timber posts along the length of the joist. Each timber post rests on a dressed stone pad (Plates 23 & 24). The west brick wall of the pit is topped by a further joist along its length (Plate 22). Further planks at the west of this form wooden flooring at the northwest corner of the building (Plate 26).



Plate 23 Sawpit, looking southeast



Plate 24 Sawpit, looking north

The three parallel joists provided support for substantial hand-sawn timber planks set in notches in the joists at the north and south of the sawpit (Plates 24-26). Notches in joists which are not currently occupied by planks may indicate the position of lost timbers but could equally indicate that the planks could be repositioned as required for sawing. Although the joists are very weathered in places, it does not appear that they ever had notches along their entire length.



Plate 25 Timber planks and joists of sawpit, looking northeast



Plate 26 Detail of timber planks, joists and wood flooring at northwest of building

A bent iron bar spans the width of the sawpit, at eaves level (Plate 27). This includes an iron device with attached fragment of timber. It seems probable that this part of a lifting aid for manoeuvring heavy timbers, possibly part of a chain block, gantry crane or similar device.



Plate 27 Iron bar spanning sawpit with iron device attached

Sawpit roof



Plate 28 Detail of sawpit roof structure externally

Only a small area of the roof of the sawpit survives, at the north end of the building (Plate 28). Presumably the roof has survived here due to the brick walling on three sides providing better support than above the long west opening of the building.

The room is open to the rafters which are supported on purlins and a ridge board (Plate 29). Over the rafters is a layer of reeds (Plate 29), above which laths are visible externally, nailed to the rafters, with plaster between the laths (Plate 28).



Plate 29 Detail of sawpit roof structure internally

Dutch Barn (Figure 8)

The Dutch barn comprises a rectangular east-southeast-west-northwest building with a steel and timber frame which is clad in corrugated iron with some timber walling (Plate 30). The building comprises a single space open to the roof, and is currently in use as a timber store.



Plate 30 General view of Dutch barn from northeast



Plate 31 North elevation of Dutch barn

The exterior of the building is largely clad in corrugated iron, with corrugated sheeting occupying the upper two thirds of each of the south, west and north walls. Curving panels form the roof, and the roofspace, above the full width opening in the east gable of the building, is also clad in corrugated iron (Plates 31-34) The lower third of the north elevation is open (Plate 31), but the lower third of the south and west elevations have been partially infilled with timber and corrugated sheeting respectively (Plates 33-35).



Plate 32 East elevation of Dutch barn



Plate 33 Oblique view of west elevation of Dutch barn



Plate 34 South elevation of Dutch barn



Plate 35 Detail of south elevation of Dutch barn showing iron frame on concrete pad and timber walling

The structure of the barn is evident internally and comprises four vertical steel girders along each of the long sides of the building which support a horizontal timber wall plate along the length of the building (Plates 36 & 39). Each of the iron girders is set in a concrete plinth (Plate 37). The girders are also joined by horizontal timbers just above the one-third height base of the corrugated sheet walling (Plate 36).



Plate 36 General view of Dutch barn interior



Plate 37 Detail of Dutch barn steel frame set on concrete pad

Iron ties span the width of the barn, joining the longitudinal timbers above each girder (Plate 38). Each of these ties also has a central vertical member, linking the horizontal tie with the roof. The ties at the gable ends of the building also include additional angled braces (Plate 38).



Plate 38 Roof structure of Dutch barn



Plate 39 Detail of timber in north wall of Dutch barn frame

The timber infill of the south wall of the barn is also visible internally, and appears to comprise a 'fence' of vertical posts with halved logs nailed to it (Plates 40 & 35).



Plate 40 Detail of wood infill in north wall of Dutch barn



Plate 41 Iron guttering fixing attached to Dutch barn

Iron fixings for guttering are located at the eaves of the Dutch barn (Plate 41).

7. DISCUSSION

Sawpit

The model village at Belton was commissioned by the Brownlows in the 19th century, and included the sawpit in the estate yard. It was usual for the large estates in Lincolnshire to employ workmen to make items such as gates, troughs and fencing from their own timber (FitzRandolph and Hay 1977, 34). As such, it is probable that those estates located in wooded areas would have their own sawpits, which were favoured for cutting hard wood, with some estates even having their own creosote plants (eg. Brocklesby; Cox 1906, 420)

The sawpit is not shown on the 1837 Tithe map (Figure 1a), but is on an 1883 estate plan (Figure 1b), indicating a mid to later 19th century date range for the sawpit.

Historical maps show that originally an equally-sized roofed structure was once attached to the east side of the sawpit, and a further building was located at its southeast corner (Figures 1b-2b). Like the sawpit, these are absent from the 1837 map but shown in 1883. No roofed structure is extant to the east of the sawpit today, and historic maps indicate this may have been removed at some time between 1905 and 1971 (Figures 2b & 3). The mapped building to the southeast of the sawpit is extant (Figures 3 & 7).

Matching stone corbels on the southeast corner of the sawpit and the northwest corner of the adjacent building indicate these buildings are probably contemporary (Plates 6-8). The southeast corbel of the sawpit also protrudes from the east wall of the building, at the same level as a series of buttresses against this east wall, and the corbels and buttresses may all have served to support the roof of an adjacent structure at the east. Apertures in the brickwork above each of the east buttresses of the sawpit might have held roof timbers of an adjacent structure (Plates 10 & 11). The boundary wall of the estate yard here is of modern breeze block, and no further traces of a former 19th century building east of the sawpit were identified.

Given the lack of evidence for the eastern structure it is difficult to suggest what its form or function may have been. However, covered areas for the storage and seasoning of timber would have been required as part of the operation of the timber yard, and it may have served as a shelter for this purpose.

The sawpit appears to be largely original, with an area of brickwork infill in the west elevation being the most notable alteration (Plate 17). The building retains many original features, although much of the pantile roof has been lost.

The building is purpose-built for the hand sawing of timber. Sawpits for two-man sawing were invented in the 14th century, previously this work having been done using a high trestle (Rackham 2006, 223). Most sawpits were rough and short-term constructions in woods, but many permanent pits were also built, usually near workshops in villages (Weald and Downland Museum).

An early 19th century saw pit shed from Sheffield Park, Sussex is now at the Weald and Downland Museum, having originally been built as part of a model farmstead. That example also had one open side along the sawpit, through which logs could be rolled directly from the timber waggon over the pit (*ibid.*). This parallels the largely open west side of the Belton sawpit (Plates 15 & 6), which was originally 7.4m wide. Sturt's 1923 account of sawyers' work highlights the difficulties of manoeuvring timbers perhaps weighing half a ton onto a

saw pit (33), so ease of access would have been a prime consideration in the design of the building. The opening at Belton was aligned with the main entrance to the estate yard, probably so that waggons could be driven alongside the sawpit and timber rolled directly in (Figure 1b).

In Sturt's account the timber would first have to be prepared by removing bark to form a reasonably flat surface on which the 'top-sawyer' would need to stand to saw the tree in the saw pit. Later this would also provide a surface on which to accurately mark out lines for the saw cuts with a chalk led line or charcoal from a burnt stick if the timber was pale (34).

An iron bar spanning the Belton sawpit may have been used to reposition the timber once inside, and although slightly uncertain, an iron and timber object hanging from this may have served as part of a device similar to a chain block or gantry crane (Plate 27). The sawpit itself is divided into two longitudinal bays, possibly allowing two halves of a tree to be worked together, and probably helping to maintain access and egress to the pit while a timber was in place. The iron bar and attached device are lower in the centre of the room, above the divide in the pit, and this may have allowed the top sawyer to work on top of either the west or east bay without banging his head on the hoist (Plate 22).

The timber would have been positioned longitudinally over the pit at Belton, perhaps using iron 'dogs' to position it on the boards which cross the pit, as in Sturt's account. The weight of the timber would be supported on the thick wooden planks which survive between the joists of the sawpit (Plate 25). The saw would be operated by two sawyers, one in the pit and the other standing on the timber (Figures 4 & 9). The top-sawyer was the senior, and the bottom sawyer would often wear a brimmed hat to help keep some of the sawdust from his eyes (Bailey 1994, 11). Several parallel cuts would be made in the timber before it was moved to minimise repositioning of the hefty timber. When the parallel cuts had been made the bottom handles of the saw were detached and it was lifted out. Rollers beneath the timber would be moved, the saw reinserted and the cuts continued.



Figure 4 Sawyers working in a saw pit (Bailey 1994, 11)

The opposing double doors in the north and south gable ends (Plates 3 & 14) may have served to provide access for the sawyers and may have also been useful in repositioning long timbers, allowing them to extend outside the building if necessary. The area between the pit and the west wall of the building would have formed a passage for moving around the sawpit building (Figure 8). No evidence was identified during the survey for the method of access and egress to the pit, but it assumed that a repositionable ladder would have been used.

The pantile roof of the building would have facilitated working in all weathers. Weatherboard at the top of the west elevation would have served to give more shelter and to protect the structural timbers supporting the roof of the building.

An area of brick infill in the west wall was presumably in response to stress on the west wall and roof caused by the large opening here under the heavy pantile roof. As most of the west opening remained open after this infilling, reduced to 5.6m wide, it is presumed that the sawpit was still in use at the time of this repair.

Osmond Frederick Wainwright was listed as 'Woodman and Assistant Overseer' at Belton in 1892, 1896, 1900 and 1905, and is buried in the nearby churchyard. It seems likely that he may have overseen the selection of timber and work in the sawpit, if not himself being the top sawyer.

Some recent consolidation of the building is evident in small patches of repointing on some of the east buttresses and the addition of slates to prevent water ingress into the brickwork. The pantile roof has been largely removed, presumably due to collapse. Scaffolding is in place in parts of the building as reinforcement.

The evidential significance of the sawpit is high, with the historic use of the building clear in the remaining structure. Although these buildings were once commonplace in many estates, they were lost in later years due to the advent of the Sawmill and later iterations of modern cutting equipment, making this a fairly rare example. The sawpit's survival allows for conclusions to be drawn about the uses of other contemporary buildings, as seen on historic maps, which are no longer present. There is little architectural or communal significance to the site, however there may be some historical significance relating to the stories of local people who lived and worked on the estate whilst the sawpit was operational. This would merit further investigation.

The building is currently in a poor condition. The loss of the roof has exposed fabric to the weather and there is significant vegetation growth in places. There is evidence of timber decay and potential structural instability which prevented access to the inside of the sawpit. This is jeopardising significant heritage fabric. Of particular concern is the condition of timber and metal elements of the original sawpit structure which are key to understanding the use of the building. These will continue to decay if left in their current condition.

Dutch barn

Historic maps suggest that the 'Dutch barn' was constructed at some time between 1905 and 1971.

Brunskill defines a Dutch barn as a store for hay with a fixed roof and open sides, and notes that the familiar steel post and corrugated iron-roofed structures became widespread after about 1880 (2007, 194). These economical, pre-fabricated buildings were so popular that by Edwardian times they were said to be making thatching a lost art (Harvey 1984, 5), before

becoming overwhelmingly popular by the mid 20th century (*ibid.* 236-7).

No makers plates were seen on the barn during the survey, and so there is little evidence to refine the likely date of its construction.

There is no evidence as to the intended function of the Belton Dutch barn, but given its location in a timber yard, it seems likely that it may have at least partly served to store timber rather than hay. The corrugated iron and timber walling of the lower third of the south and west walls appear to be later additions to further weather-proof the building, and less ventilation would be required for the storage of timber than hay or straw.

The significance of the Dutch barn is tied to its association with the historic woodyard as a potential building for timber storage. If it did serve this purpose it would demonstrate the continued relevance and use of the sawpit and wider woodyard through the 20th Century. Documentary evidence suggests that it is not a particularly early example of a Dutch barn. This would indicate that the barn is of low significance in and of itself. As part of the collective story of the woodyard, however, it does have moderate significance.

The Dutch barn's condition is also poor, although it is still in use, unlike the sawpit. There is a large amount of rust visible on the corrugated iron sheeting which covers the barn. In places this sheeting has corroded to expose the substructure and allow water ingress through the roof.

8. CONCLUSION

Historic building recording was undertaken on a sawpit and Dutch barn in the estate yard, and former timber yard, of Belton House, Lincolnshire. The sawpit is a Grade II Listed Building (HE List No. 1236108).

The 19th century sawpit retains many original features, including the brick-lined sawpit, timber posts, joists and planks on which timbers would have been placed for hand-sawing. A large opening in the west side of the building would have allowed heavy timber to be rolled directly into the building from a waggon, and an iron bar spanning the building may have served as part of a hoist or crane to aid positioning of the timber ready for sawing. A small portion of the large west opening has been infilled, presumably to provide additional support to the heavy pantile roof. That only a small area was infilled at this time suggests that the sawpit was still in use at the time of the repair. Double doorways in the north and south gables of the building would have formed access for the sawyers, and may have also increased the manoeuvrability of timbers inside the building.

A corbel on the southeast corner of the sawpit matched that of an adjacent building, which is presumably directly contemporary. These corbels and buttresses along the east side of the sawpit may have supported the roof of a now-lost building on the east side of the sawpit, potentially a timber store.

Historic maps indicate these buildings are all likely to date from between 1837 and 1883, as part of the creation of a model village at Belton commissioned by the Brownlows.

A steel and timber framed Dutch barn, clad in corrugated iron, was also recorded, with historic maps indicating a broad date range for its construction of 1905 to 1971.

9. ACKNOWLEDGEMENTS

Archaeological Project Services would like to thank Rachael Hall of The National Trust who commissioned this work, and the staff at Belton House for facilitating access to the site and archive. The work was coordinated by Paul Cope-Faulkner who edited this report, the building recording was undertaken by Neil Parker and Jon Smith and documentary research was undertaken by Vicky Mellor, Neil Parker and Jon Smith. Thanks are due to the staff of the Lincolnshire Archive Office and Sleaford Library.

10. PERSONNEL

Project Coordinator: Paul Cope-Faulkner
Building Recording: Neil Parker and Jonathan Smith
Photographic reproduction: Vicky Mellor
CAD Illustration: Vicky Mellor
Analysis: Vicky Mellor

11. BIBLIOGRAPHY

ALGAO, 1997 *Analysis and Recording for the Conservation and Control of Works to Historic Buildings*

Bailey, J, 1994 *The Village Wheelwright*, Shire Album **11**

Belton Archives
1883, *Plan of Belton Village (from New Survey in 1883)*

Brunskill, RW, 2007 *Tradition Farm Buildings of Britain and their Conservation*

CIfA, 2014 *Standard and Guidance for Archaeological Investigation and Recording of Standing Buildings or Structures*

Cox, JC, 1906 Forestry, in W Page (ed), *The Victoria History of the County of Lincoln*

Find a Grave,
<https://www.findagrave.com/memorial/150776468/osmond-frederick-wainwright>
Accessed 17/05/2018

FitzRandolph, HE and MD Hay, 1977 *The Rural Industries of England and Wales: I Timber and Underwood Industries and Some Village Workshops*

Harvey, N, 1984 *A History of Farm Buildings in England and Wales*

Historic England, 2015 *Greater Lincolnshire Farmstead Character Statement*

Historic England, 2016 *Understanding Historic Buildings, A guide to good recording practice*

Historic England, 2018, *The List* (online)
<https://historicengland.org.uk/listing/the-list>

Accessed 18/05/2018

Kelly's Directory of Lincolnshire 1896

Kelly's Directory of Lincolnshire 1900

Kelly's Directory of Lincolnshire 1905

Kelly's Directory of Lincolnshire 1913

Kelly's Directory of Lincolnshire 1922

Kelly's Directory of Lincolnshire 1933

Kelly's Directory of Lincolnshire 1937

Lincolnshire Archives

1837 *Belton (Grantham): Tithe Apportionment and Map*, Lincolnshire Archive Reference **DIOC/TITHE AWARD/F 18**

Ordnance Survey, 1889 *Lincolnshire. Sheet CXIV.NW*, 25" map

Ordnance Survey, 1905 *Lincolnshire. Sheet CXIV.5*, 25" map

Ordnance Survey, 1971, 1:2500 map

SKDC (South Kesteven District Council), 2009 *Belton Conservation Area*

Sturt, G, 1923 (1974 reprint) *The Wheelwright's Shop*

Weald and Downland Museum (online)

<http://www.wealddown.co.uk/buildings/saw-pit-shed/>

Accessed 18/05/2018

White's History, Gazetteer and Directory of Lincolnshire 1842

White's History, Gazetteer and Directory of Lincolnshire 1856

White's History, Gazetteer and Directory of Lincolnshire 1872

White's History, Gazetteer and Directory of Lincolnshire 1882

White's History, Gazetteer and Directory of Lincolnshire 1892

12. ABBREVIATIONS

APS Archaeological Project Services

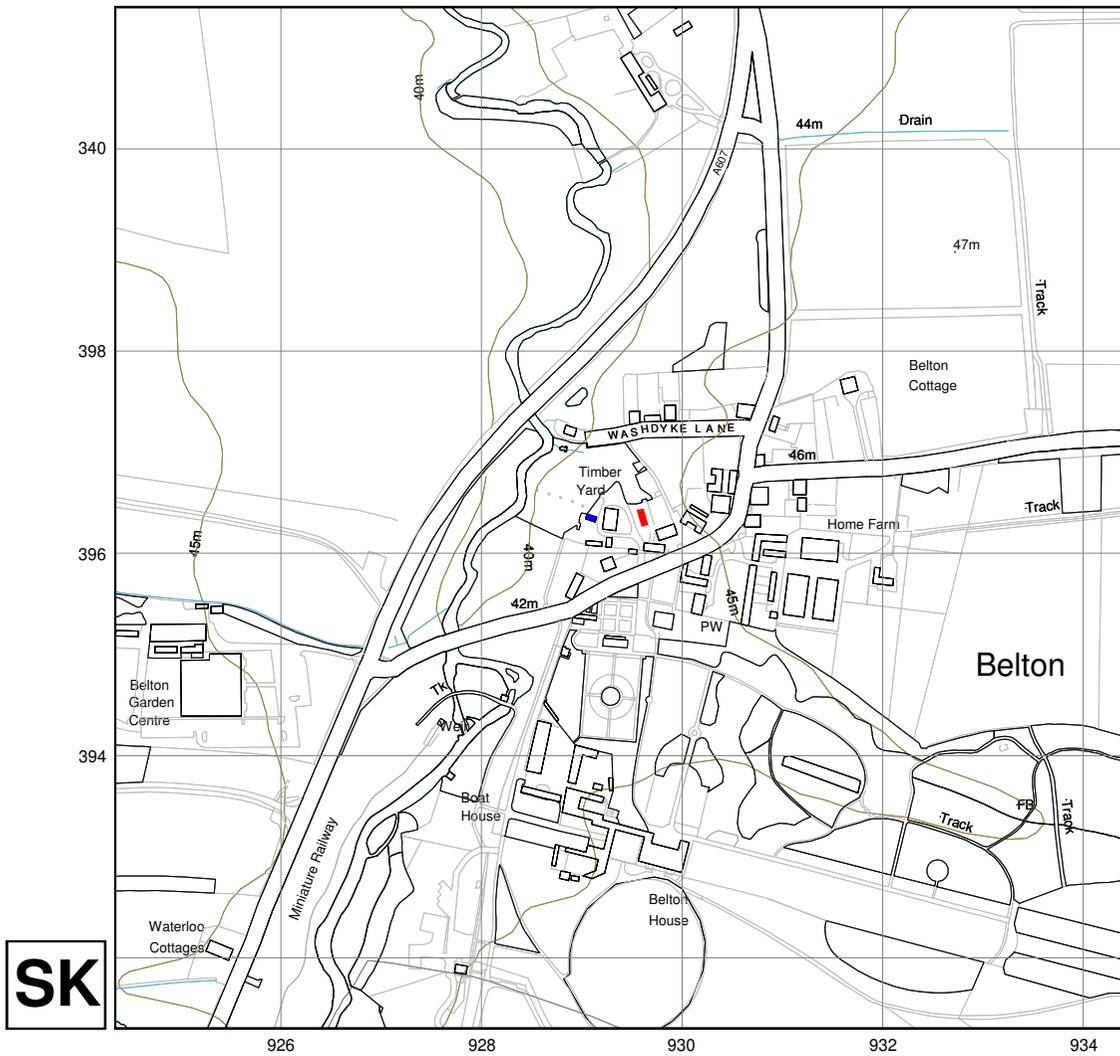
CIfA Chartered Institute for Archaeologists

NT National Trust

OS Ordnance Survey



Figure 5 General location plan



SK



© Ordnance Survey 2018. All Rights Reserved.
Licence No. 100020146

ARCHAEOLOGICAL PROJECT SERVICES



Project Name: Belton Woodyard

Scale 1:7500	Drawn by: PCF	Report No: 36/18
--------------	---------------	------------------

Figure 6 Site location map

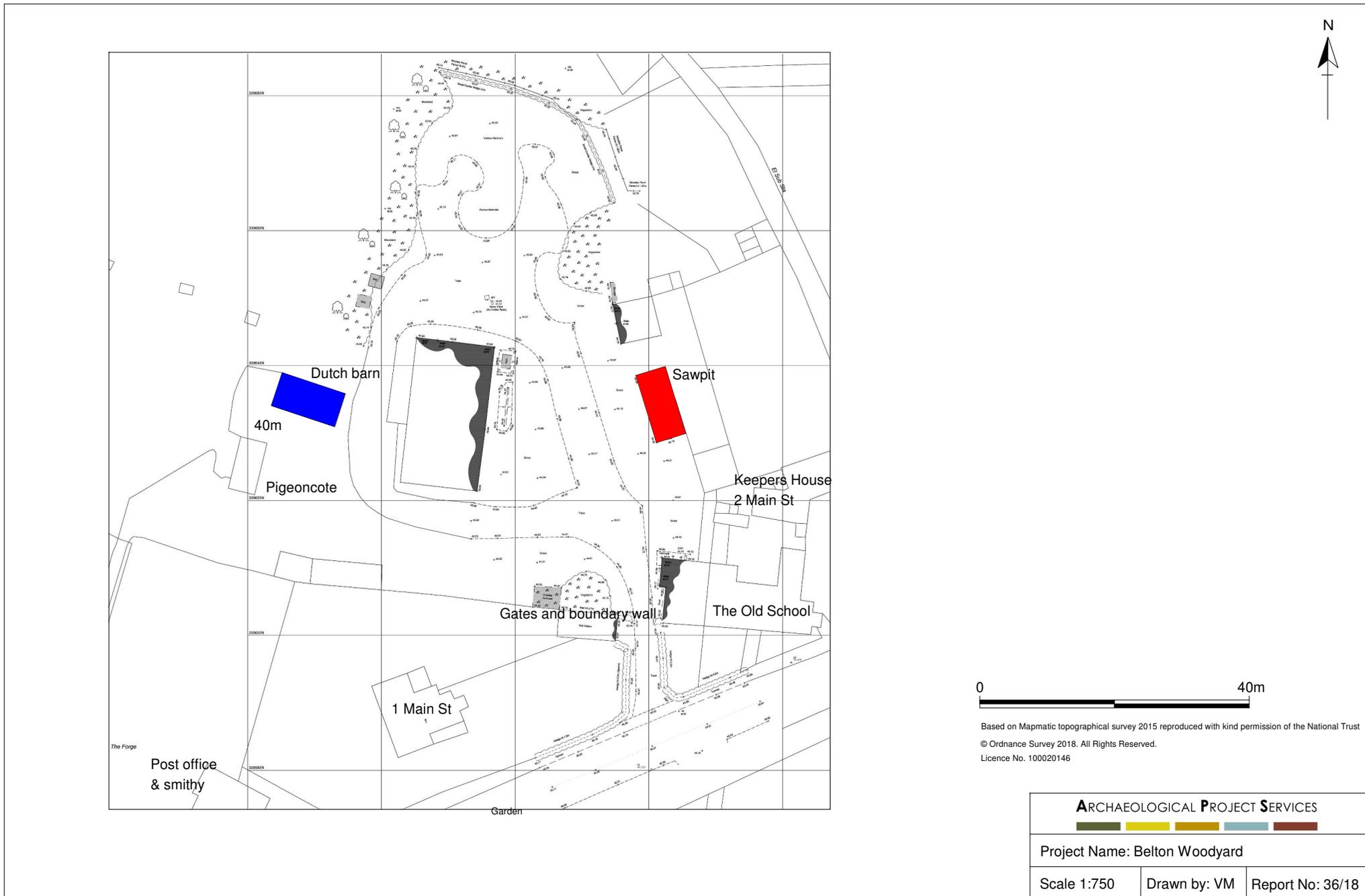


Figure 7 Site plan showing recorded buildings and surrounding Listed Buildings

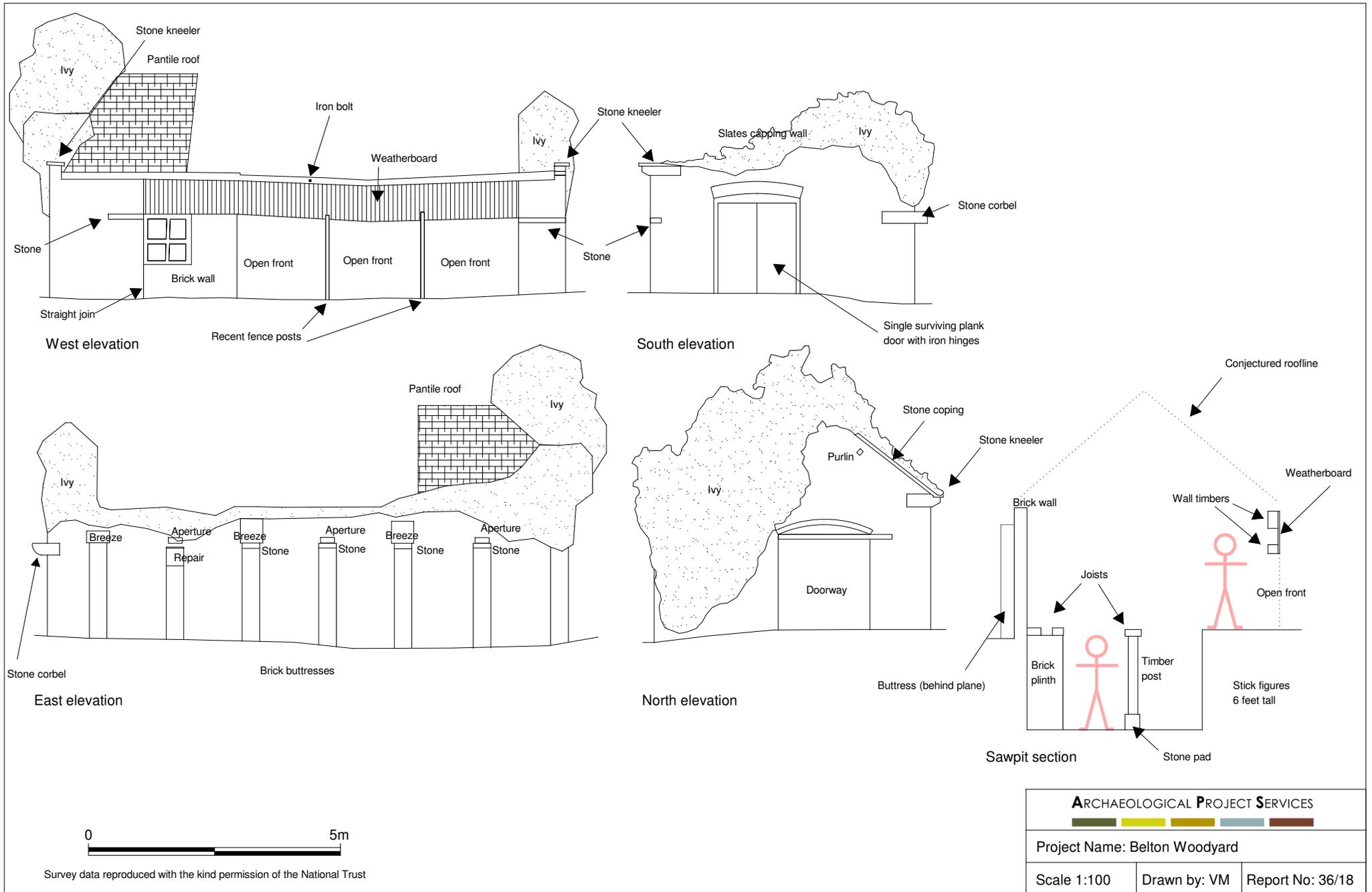


Figure 9 Sawpit elevations

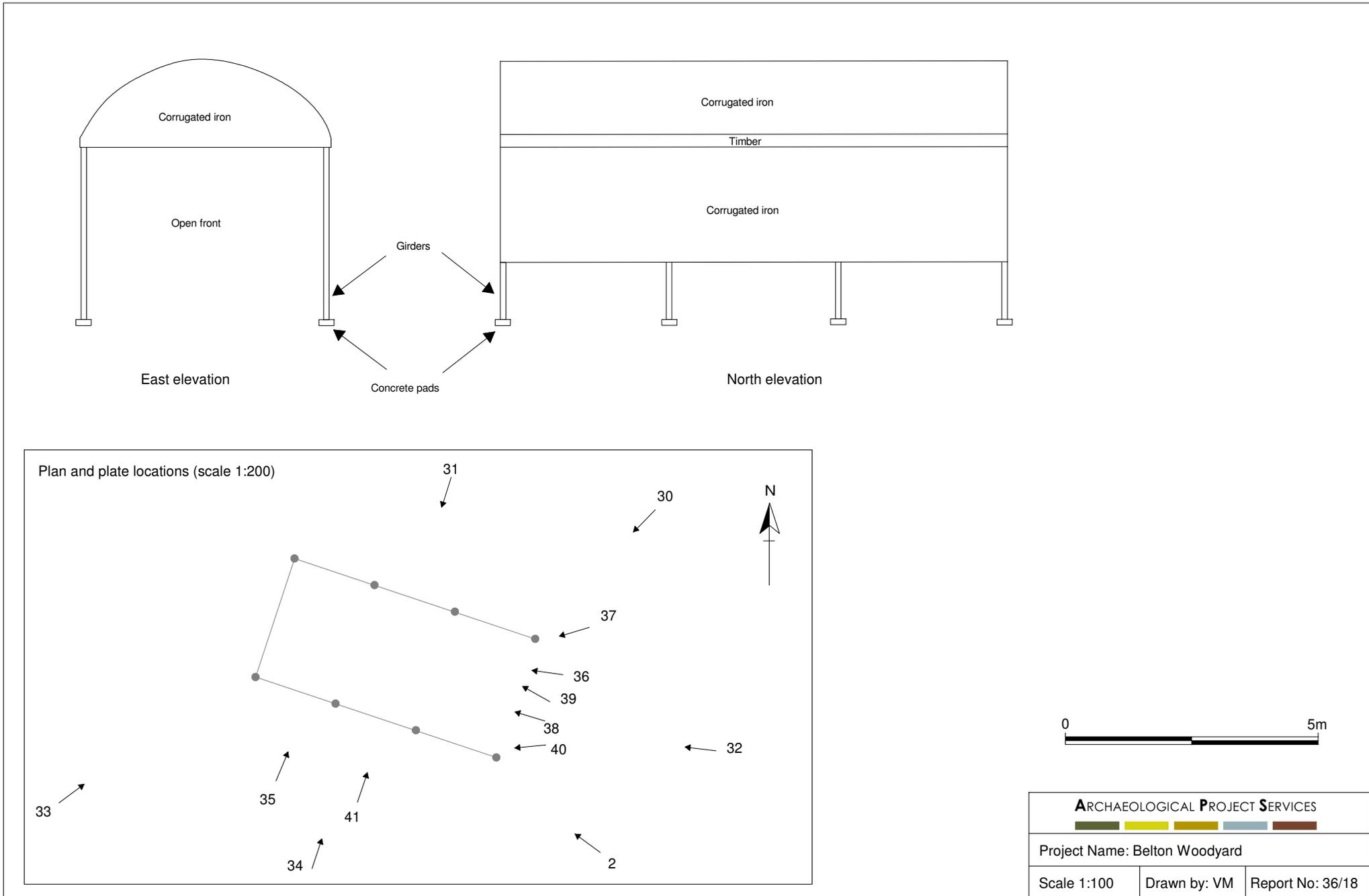


Figure 10 Dutch barn plan and elevations with plate locations

Appendix 1

THE ARCHIVE

The archive consists of:

- 1 Daily record sheet
- 3 Sheets of notes, also forming a photographic register
- 4 Annotated drawing sheets and sketches

All primary records are currently kept at:

Archaeological Project Services
The Old School
Cameron Street
Heckington
Sleaford
Lincolnshire
NG34 9RW

The ultimate destination of the project archive is:

National Trust
National Trust Regional Office
Clumber Park Stableyards
Worksop
Nottinghamshire
S80 3BE

Archaeological Project Services Site Code: BEWY18

OASIS record no: archaeo11-318303

The discussion and comments provided in this report are based on the archaeology revealed during the site investigations. Other archaeological finds and features may exist on the development site but away from the areas exposed during the course of this fieldwork. *Archaeological Project Services* cannot confirm that those areas unexposed are free from archaeology nor that any archaeology present there is of a similar character to that revealed during the current investigation.

Archaeological Project Services shall retain full copyright of any commissioned reports under the *Copyright, Designs and Patents Act 1988* with all rights reserved; excepting that it hereby provides an exclusive licence to the client for the use of such documents by the client in all matters directly relating to the project as described in the Project Specification.

Appendix 2

OASIS RECORD

OASIS ID: archaeol1-318303

Project details

Project name	Historic Building Recording: Belton House Woodyard
Short description of the project	Historic building recording was undertaken on a mid-19th century sawpit and a 20th century Dutch Barn located within the woodyard of Belton House.
Project dates	Start: 16-03-2018 End: 17-03-2018
Previous/future work	No / Not known
Any associated project reference codes	BEWY18 - Sitecode
Type of project	Building Recording
Site status	National Trust land
Site status	Listed Building
Current Land use	Other 2 - In use as a building
Monument type	SAWPIT Post Medieval
Monument type	DUTCH BARN Modern
Significant Finds	NONE None
Methods & techniques	"Annotated Sketch","Measured Survey","Photographic Survey","Survey/Recording Of Fabric/Structure"
Prompt	National Planning Policy Framework - NPPF

Project location

Country	England
Site location	LINCOLNSHIRE SOUTH KESTEVEN BELTON AND MANTHORPE Belton Woodyard
Study area	0 Square metres
Site coordinates	SK 92963 39633 52.945701146225 -0.616339238344 52 56 44 N 000 36 58 W Point
Site coordinates	SK 92911 39633 52.945710162809 -0.617112960078 52 56 44 N 000 37 01 W Point

Project creators

Name of Organisation	Archaeological Project Services
Project brief originator	None
Project design originator	Neil Parker
Project director/manager	Paul Cope-Faulkner
Project supervisor	Neil Parker

Project supervisor	Jonathon Smith
Type of sponsor/funding body	National Trust

Project archives

Physical Archive Exists?	No
Digital Archive recipient	Archaeological Project Services
Digital Contents	"Survey"
Digital Media available	"Images raster / digital photography", "Images vector", "Survey", "Text"
Paper Archive recipient	National Trust
Paper Contents	"Survey"
Paper Media available	"Drawing", "Miscellaneous Material", "Photograph", "Plan", "Report", "Survey "

Project bibliography

1

Publication type	Grey literature (unpublished document/manuscript)
Title	Historic Building Recording on Sawpit and Dutch Barn at The Woodyard, Belton House, Lincolnshire
Author(s)/Editor(s)	Mellor, V.
Other bibliographic details	36/18
Date	2018
Issuer or publisher	Archaeological Project Services
Place of issue or publication	Heckington, Sleaford
Description	A4 comb-bound