

ARCHAEOLOGICAL WATCHING BRIEF REPORT:
PASTURE WHARF CHIMNEY, BARTON-UPON-HUMBER
NORTH LINCOLNSHIRE

NGR: SE 04138 23341
AAL Site Code: BAPW 11
North Lincolnshire Museum Site Code: BNEK
OASIS Reference Number: allenarc1-112254



Report prepared for Scorer and Hawkins
On behalf of
Lincolnshire Wildlife Trust

By
Allen Archaeology Limited
Report Number 2011070

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Element	Name	Date
Report prepared by:	Maria Piirainen	25/10/2011
Illustrations prepared by:	Maria Piirainen	21/10/2011
Report edited by:	Chris Clay	26/10/2011
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Executive Summary

- Allen Archaeology Limited was commissioned by Scorer and Hawkins on behalf of their client, Lincolnshire Wildlife Trust, to undertake an archaeological watching brief during the restoration of a chimney at Pasture Wharf Nature Reserve near Barton-upon-Humber, North Lincolnshire.
- The chimney was once part of the much larger complex of Hoe Hill brick and tile works, established in the 1860s and became disused between 1950 and 1968.
- During the watching brief the full extent of the chimney's foundation was exposed, as was a solid concrete foundation and the floor of a demolished brick structure. A brick arch on the north elevation was fully exposed, and may have been connected to a flue running from the kilns to the north, and heating a drying shed between the chimney and the kilns.

1.0 Introduction

- 1.1 Allen Archaeology Limited (hereafter AAL) was commissioned by Scorer and Hawkins on behalf of their client, Lincolnshire Wildlife Trust, to undertake a watching brief on a 19th century brick chimney at Pasture Wharf Nature Reserve, near Barton-upon-Humber in North Lincolnshire.
- 1.0 The methodology conforms to a brief prepared by the Environmental Stewardship Adviser for Natural England, and the IfA *'Standard and guidance for archaeological watching briefs'* (1999, revised 2001 and 2008). All English Heritage guidelines on archaeological practice were also followed (www.helm.org/server/show/nav.7740), including *'Management of Research Projects in the Historic Environment'* (English Heritage 2006).
- 1.1 A copy of the survey report and the full project archive will be submitted to North Lincolnshire Museum within twelve months of completion of the project, and will be stored under the North Lincolnshire Museum Site Code BNEK.

2.0 Site Location and Description

- 2.1 The development is centred on a brick chimney located c.1.75km north-east of central Barton-upon-Humber and less than 200m south of the Humber foreshore, in the administrative district of North Lincolnshire. The chimney stands in the Pasture Wharf Nature Reserve, approximately 170m east-south-east of Hoe Hill House, amid the former clay pits that are now open water and reed beds, forming important habitats for breeding birds and other wildlife. The site centers on NGR SE 04138 23341 and lies at approximately 4m above Ordnance Datum.
- 2.2 The local geology comprises bedrock deposits of Ferriby Chalk sealed by superficial deposits of Estuarine Alluvium (British Geological Survey 1983).

3.0 Project Background

- 3.1 There is no planning application associated with the development. The works are being undertaken following the preparation of a management plan prepared for the conservation of the chimney. The management plan included a programme of photographic recording of the chimney and historical research previously undertaken by this company (AAL 2009).

4.0 Archaeological and Historical Background

- 4.1 For a more in-depth historical background of the chimney the reader is referred to the AAL building survey of 2009 *'Building Survey Report: Pasture Wharf Chimney, Barton-Upon-Humber, North Lincolnshire'*. The information presented below is a summary of the results of that report.
- 4.2 The numerous brick and tile works that developed in Barton-upon-Humber represented an important local industry, providing employment for residents of the town for many decades. By 1826 there were four yards operating in Barton, five in 1842 and six in 1849. By the end of the 19th century there were fifteen yards in Barton with ten more in Barrow and New Holland.
- 4.3 On the 1887 Ordnance Survey map the brickyard east of Hoe Hill comprised a number of small structures, probably kilns, immediately to the south of the Humber Bank, with further buildings

at the north end of a north – south track that runs down to Pasture Road. These buildings are likely to represent worker's cottages.

- 4.4 Structures with dotted outlines probably represent buildings that are proposed or under construction in 1887. This includes a T-shaped arrangement of buildings with the location of the chimney at the junction of the three structures. The roof scars on the east and west elevations of the chimney are likely to relate to these buildings. A tramway runs to the south from these buildings terminating in a clay pit. During the 1930s – 50s Ernest Coulam, a former worker of Hoe Hill brickworks mentions three large updraught kilns on the site, as well as a range of ancillary storage buildings and a millhouse for grinding the clay. It is believed that the extant chimney acted as a flue for a steam engine powering a winch for the trams as well as the clay milling machinery.
- 4.5 The final closure date of the Hoe Hill brickworks is unclear, but is placed somewhere in the period between 1950, when Ernest Coulam left the yard, and 1968, when the Ordnance Survey map shows the works as 'disused'.
- 4.6 The chimney itself is a square, brick-built structure with an English Garden Wall Bond. It measures approximately 2m square at the base, with a height of approximately 13.25m. The lower portion of the chimney has parallel vertical sides to a height of approximately 5.5m, above which the upper portion of the chimney tapers slightly from a width of c.1.8m to c.1.55m. The two components of the chimney are divided by a prominent string course, comprising a protruding lower stretcher course, over which another stretcher course and two header courses protrude slightly further out from the face of the brickwork.
- 4.7 Several areas of damage were evident on the chimney. At the top of the structure, the bricks had split and separated along a zigzagging vertical line of mortar joints, and a small number of bricks were missing in the west elevation, broadly along the line of the roof scar and probably the result of the demolition of the building that was previously attached at this location. Some of the internal brickwork has also collapsed, as there was a large amount of loose brick rubble evident inside the small arch at the base of the north elevation.

5.0 Methodology

- 5.1 Prior to the monitoring commencing, the unsafe top section (approximately 1.5m) of the chimney had been removed and the area had been cleared of vegetation. The archaeological monitoring was carried out by Mike Jarvis on behalf of AAL on Monday 19th September 2011. The area around the chimney was excavated with a tracked 360° mini excavator fitted with a toothed 300mm wide bucket. The excavated area measured approximately 5m x 7m and was excavated to a maximum depth of c.0.7m, to allow underpinning and stabilisation of the foundations of the chimney.
- 5.2 All exposed plan and section surfaces were inspected for any archaeological features and deposits to determine the stratigraphic sequence. Each context observed was recorded on pro-forma AAL context record sheets, accompanied by section drawings at appropriate scales. A photographic record was maintained throughout the watching brief with selected shots included as an appendix to this report (see Appendix 1).

- 5.3 Each layer, deposit or feature was allocated a unique three digit identifier (context number), and accorded a written description, a summary of these are included in Appendix 3 (e.g. chimney structure 03).

6.0 Results (Figures 2 – 4)

- 6.1 The trench around the chimney was excavated to a depth of c.0.7m. The uppermost layer removed consisted of a c.0.2m – 0.7m thick overburden 001. The layer was a mix of very loose mid brown clayey silt, with abundant brick and tile. To the west and north this layer gradually slumped down towards a concrete foundation 004 which had a width of c.2m and was visible above the ground surface. The overburden 001 also sealed an un-bonded brick surface or floor 005 on the west side of the chimney. The brick floor sealed reddish brown clay 002 and the foundation and brick chimney 003 cut through this natural geology.
- 6.2 The chimney foundation consisted of nine courses of brickwork, each stepped out by half a brick width from the course above, with a total width of c.3.3m. The full size of the semi-circular arched opening on the north elevation was exposed, measuring c.0.9m in height and 0.4m in width. A gap the same width as the opening had been cut through the brick foundations in front of this opening, suggesting that a flue probably ran into the chimney below ground level.

7.0 Discussion and Conclusions

- 7.1 During the watching brief the trench exposed significantly more of the chimney's stepped brick foundation than was visible during the previous building survey of 2009, and also fully exposed the arched opening or flue on the north elevation. A section had been cut through the foundations immediately in front of this arch, probably to accommodate a below ground flue. A similar arrangement was recorded during a recent survey of the largely complete William Blyth's tile yard, to the north-west of Barton (AAL 2011, Plate 27). A brick chimney in Blyth's yard had arched flues entering the east and west sides of the chimney, with the western example running below ground towards the kilns approximately 10m to the west. It is possible that a similar arrangement was used at the Pasture Wharf site, with the flue running considerably further (approximately 50m north) to the kilns. The historic mapping of the site (reproduced in AAL 2009, Figures 5 and 6) shows a building running along this line, and this may well represent a drying shed, which was provided with heating by means of the flue running from the kilns below its floor.
- 7.2 The concrete foundation 004 and brick floor 005 are likely to be associated with a demolished building which once incorporated the chimney (AAL 2009). The concrete foundation is particularly substantial and may represent a pad to support some machinery within the building, rather than representing a wall footing. The overburden sealing brick floor 005 and slumping down around the foundation is likely to be associated with the demolition and removal of structures surrounding the chimney in the 1970s.
- 7.3 No earlier archaeological features or deposits were exposed during the watching brief.

8.0 Effectiveness of Methodology

- 8.1 The watching brief was appropriate to the scale and nature of the development. It has shown that the groundworks have not impacted upon any significant archaeological features and deposits, although additional elements of the former brickworks associated with the extant chimney have been exposed.

9.0 Acknowledgements

- 9.1 Allen Archaeology Limited would like to thank Scorer and Hawkins, and their client Lincolnshire Wildlife Trust for this commission.

10.0 References

AAL, 2009, *Building Survey Report: Pasture Wharf Chimney, Barton-Upon-Humber, North Lincolnshire*, AAL Report Number 2009063

AAL, 2011, *Humber Foreshore Industrial Archaeology Survey (Stage 2): South Ferriby to Barton-upon-Humber*, Allen Archaeology Limited, AAL Report Number 2011003

British Geological Survey, 1983, *Kingston upon Hull. England and Wales Sheet 80 Solid Edition. 1:50000 Series*. Keyworth, Nottingham: British Geological Survey

IfA, 1999 (revised 2001 and 2008), *Standard and guidance for archaeological watching briefs*. Reading, Institute for Archaeologists

Appendix 1: Colour Plates



Plate 1: General view of the site during the groundworks, looking west-south-west



Plate 2: General view of the chimney opening and the foundation. North elevation, looking south



Plate 3: Brick foundation 004, looking west

Appendix 2: Context Summary List

Context No.	Type	Description	Interpretation
001	Layer	Very loose mid brown clayey silt, brick and tile, seals 002	Overburden/demolition material
002	Layer	Very firm mid reddish brown clay, sealed by 002	Natural geology
003	Structure	Chimney structure	Chimney
004	Structure	Substantial brick/concrete base	Foundation
005	Surface	Un-bonded brick surface to east side of chimney	Floor

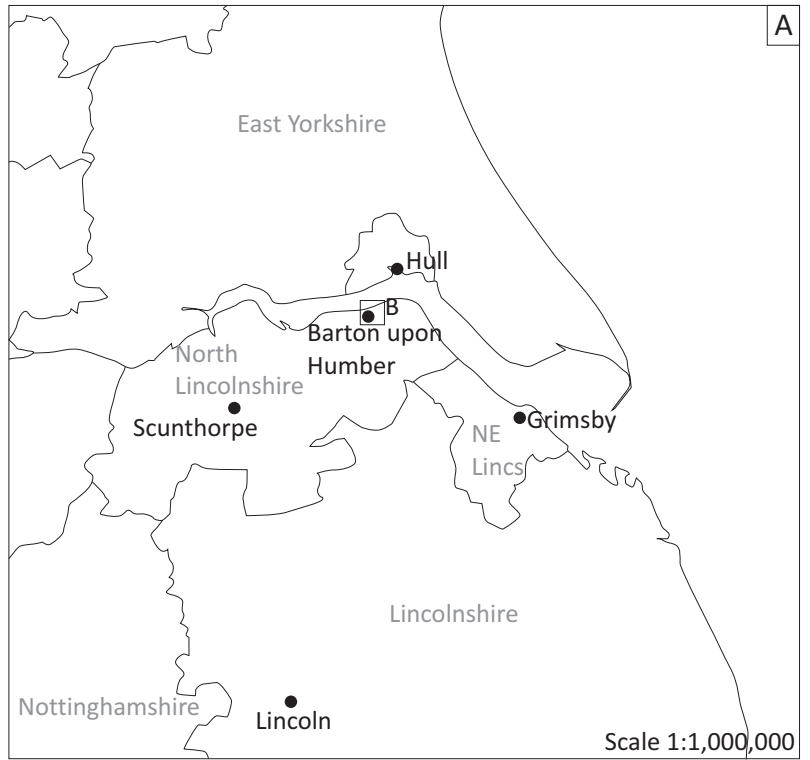


Figure 1: Site location at scale 1:25,000, with site outlined in red
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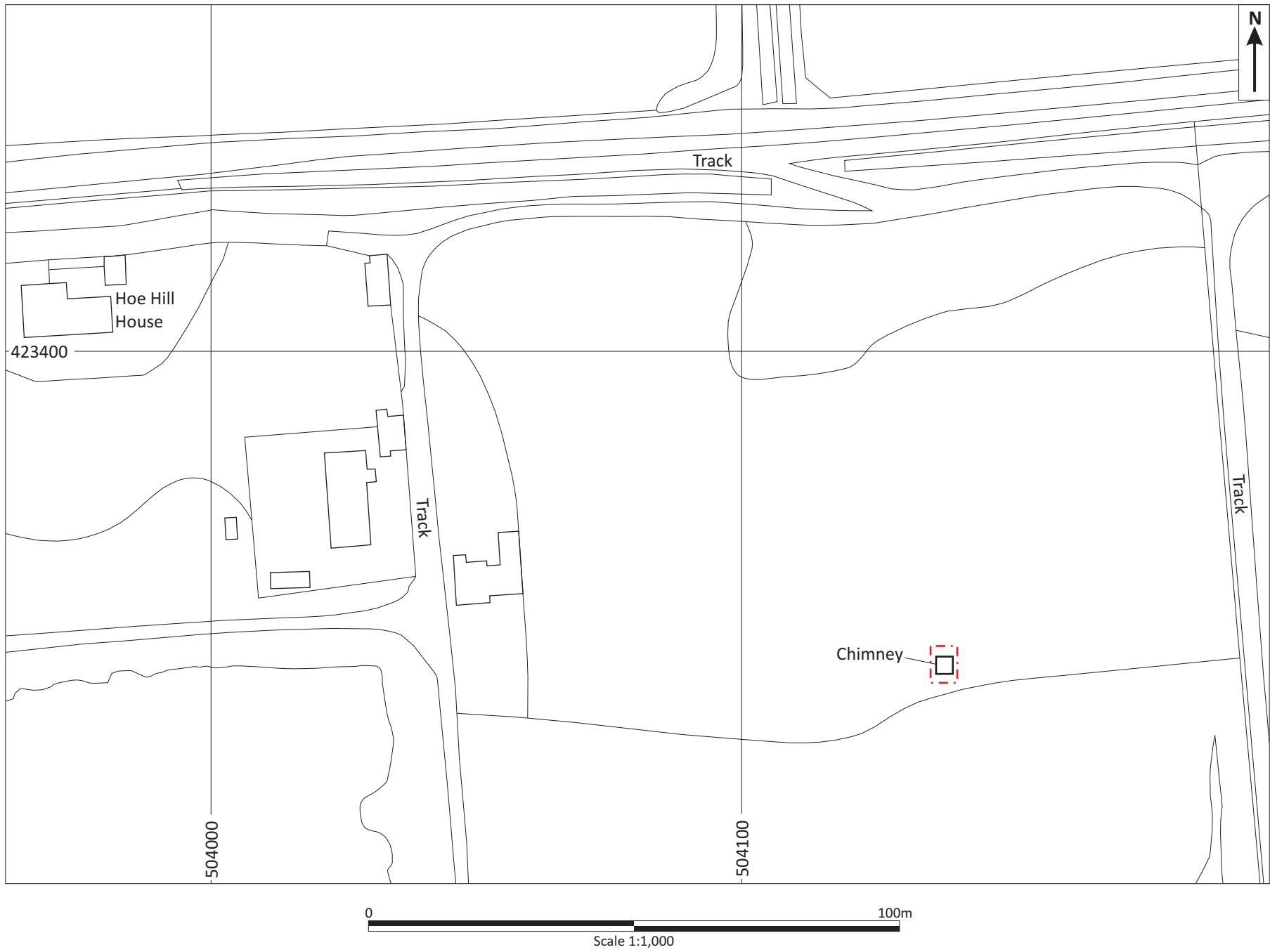
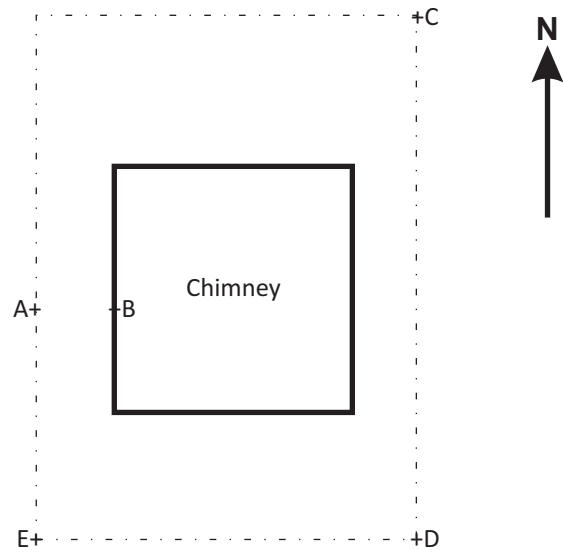
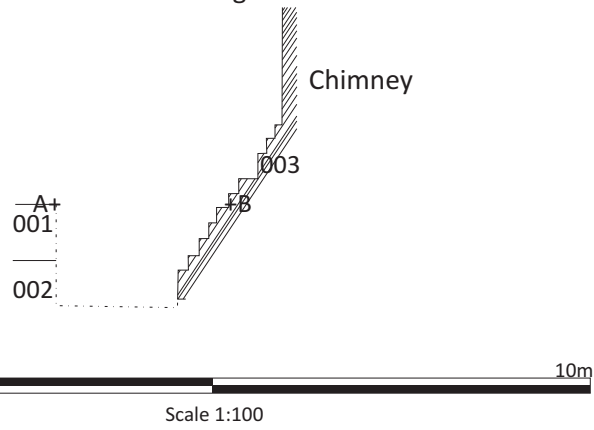


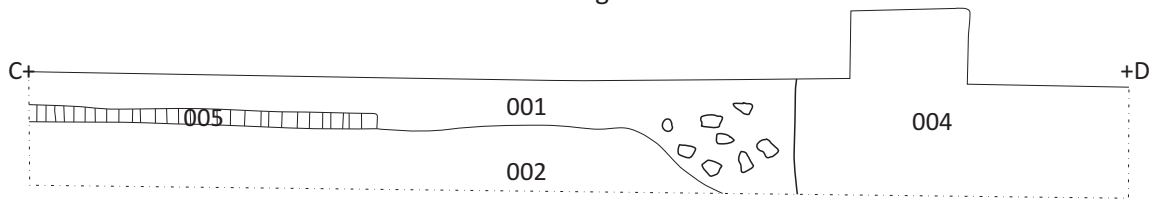
Figure 2: Site location plan at scale 1:1,000 with excavated area in red



South Facing Profile



West Facing Section



North Facing Section

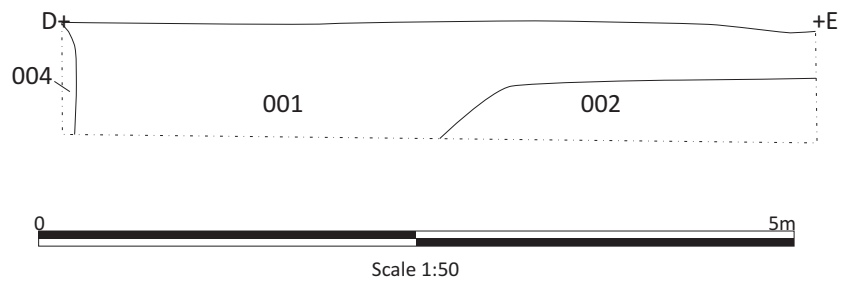


Figure 3: Plan and profile drawing at scale 1:100 and sections at scale 1:50

North Elevation

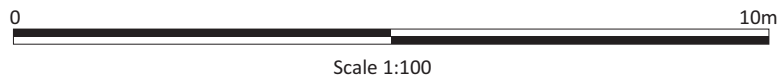
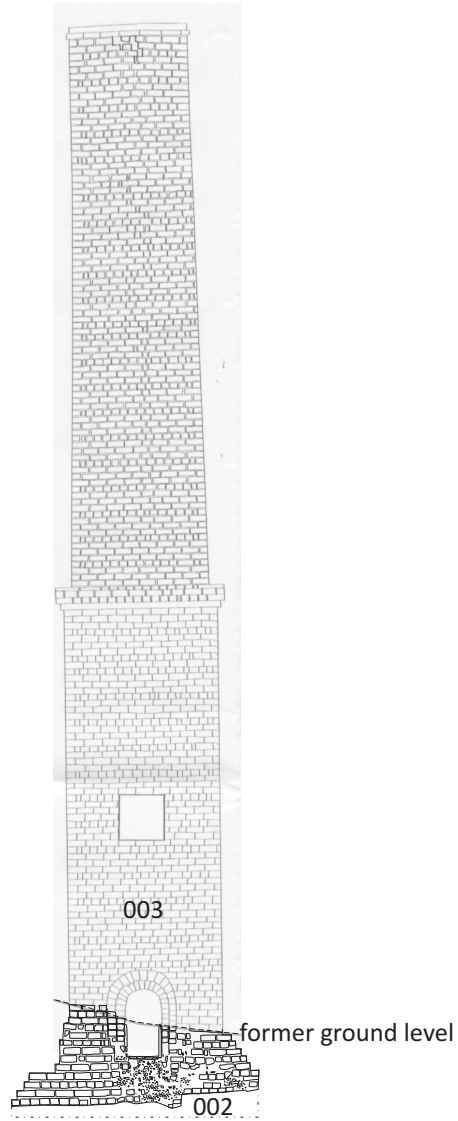


Figure 4: Amended elevation of chimney at scale 1:100 (based on survey by Surveyline Geomatics UK Limited, drawing reference SL2205/2)



Allen Archaeology Limited
Website: www.allenarchaeology.co.uk

Company Registered in England and Wales No: 6935529

Lincoln
Unit 1C
Branston Business Park
Lincoln Road
Branston
Lincolnshire LN4 1NT

Birmingham
Arion Business Centre
Harriet House
118 High Street
Birmingham
B23 6BG

Cambridge
Wellington House
East Road
Cambridge
CB1 1BH

Southampton
International House
Southampton International Business Park
George Curl Way
Southampton
SO18 2RZ

Tel/Fax: +44 (0) 1522 794400
Email: info@allenarchaeology.co.uk

Tel/Fax: +44 (0) 800 610 2545
Email: birmingham@allenarchaeology.co.uk

Tel/Fax: +44 (0) 800 610 2550
Email: cambridge@allenarchaeology.co.uk

Tel: +44 (0) 800 610 2555
Email: southampton@allenarchaeology.co.uk