



**Peel Fold Mill,
Stanhill Road,
Oswaldtwistle,
Lancashire**

**Archaeological
Investigation
Final Report**



Oxford Archaeology North

March 2013

Morris Homes Ltd

Issue No: 2012-13/1380
OA North Job No: L10548
NGR: 372704 427763

Document Title: PEEL FOLD MILL, STANHILL ROAD, OSWALDTWISTLE,
LANCASHIRE

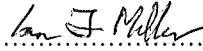
Document Type: Archaeological Investigation Final Report

Client Name: Morris Homes Ltd

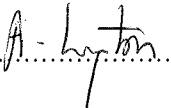
Issue Number: 2012-13/1380
OA Job Number: L10548
National Grid Reference: 372704 427763

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CONTENTS

SUMMARY	2
ACKNOWLEDGEMENTS.....	3
1. INTRODUCTION.....	4
1.1 Circumstances of Project.....	4
1.2 Location, Geology and Topography.....	5
2. METHODOLOGY.....	6
2.1 Introduction	6
2.2 Excavation.....	6
2.3 Finds	6
2.4 Archive.....	6
3. BACKGROUND.....	7
3.1 Development of Oswaldtwistle and Stanhill.....	7
3.2 Stanhill Mill	10
3.3 Edwardian Stanhill	12
4. SUMMARY OF THE FIELDWORK RESULTS	15
4.1 Introduction	15
4.2 Trial Trench 1: Peel Fold Mill Engine and Boiler House	15
4.3 Investigation of the Stanhill Road Cottages.....	19
4.4 The Finds.....	24
5. CONCLUSION.....	25
5.1 Introduction	25
5.2 Peel Fold Mill.....	25
5.3 Stanhill Road Cottages.....	25
BIBLIOGRAPHY	27
Cartographic Sources	27
Primary Sources	27
Secondary Sources	27
APPENDIX 1: WRITTEN SCHEME OF INVESTIGATION	29
ILLUSTRATIONS	37
Figures.....	37

SUMMARY

Morris Homes Ltd has secured planning permission (11/12/0288) for the redevelopment of a site on Stanhill Road, near Oswaldtwistle in Lancashire (centred on NGR 372704, 427763). The development proposals allow for the erection of 36 residential units, together with provision of vehicular access, landscaping and related infrastructure that will necessitate considerable earth-moving works. The site is of some archaeological interest in that it was occupied from the mid-1780s by a row of hand-loom weavers' cottages that fronted onto Stanhill Road. In 1860, the land to the rear of the cottages was developed as Stanhill Mill, a steam-powered cotton-weaving factory, which became known subsequently as Peel Fold Mill. An expansion of the mill in the early 1950s necessitated the demolition of the cottages, the site of which was subsumed by the footprint of the new building.

In consideration of the planning application for the proposed redevelopment of the site, the Lancashire County Archaeology Service (LCAS) recommended that a programme of archaeological investigation was carried out to inform the planning process. In the first instance, the investigation comprised trial trenching, which was intended to establish whether any buried remains of the eighteenth-century cottages and the mid-nineteenth-century textile mill survived *in-situ*, and whether they merited further archaeological excavation and recording in advance of the proposed development.

In November 2012, Oxford Archaeology North was commissioned to carry out the required scheme of trial investigation. This comprised the excavation of three trenches, which were targeted on the eighteenth-century cottages and the steam-power plant for the mid-nineteenth-century mill. The results obtained from the trial investigation demonstrated that the well-preserved remains of the cottages do survive beneath modern surfacing, and merited further archaeological recording in advance of development. The buried remains of the former textile mill, however, were more fragmentary. The former engine house had been almost completely destroyed, although some remains of the associated boiler house were found to survive *in-situ*; these surviving remains were recorded completely during the trial investigation.

Following consultation with LCAS, a second stage of archaeological investigation was carried out in advance of development. This comprised the excavation and detailed recording of a single trench, which was placed across the footprint of two of the eighteenth-century cottages. The stone-built foundations of both cottages were exposed, although little physical evidence survived for any internal fixtures or fittings, other than substantial stone partitions that separated the front and back rooms of the cottages.

ACKNOWLEDGEMENTS

Oxford Archaeology North (OA North) would like to thank Myk Flitcroft of CgMs Consulting for commissioning and supporting the project on behalf of Morris Homes Ltd. Thanks are also due to Doug Moir, the Development Control Archaeologist for Lancashire County Council, for his support and advice. Thanks are also expressed to the staff of the Lancashire Record Office in Preston for assistance with the documentary research.

The evaluation trenching was carried out by Graham Mottershead, assisted by Lewis Stitt. The report was compiled by Lewis Stitt and Ian Miller, the finds were examined by Christine Howard-Davis, and the illustrations were prepared by Mark Tidmarsh. The report was edited by Ian Miller, who was also responsible for project management.

1. INTRODUCTION

1.1 CIRCUMSTANCES OF PROJECT

- 1.1.1 Morris Homes Ltd has secured planning permission (11/12/0288) for the redevelopment of the site of Peel Fold Mill on Stanhill Road, near Oswaldtwistle (Fig 1). The development proposals allow for the erection of 36 residential units, together with associated landscaping and infrastructure, which will necessitate considerable earth-moving works. The site is of some archaeological interest in that it was occupied from the mid-1780s by a row of cottages that fronted onto Stanhill Road. In 1860, the land to the rear of the cottages was developed as a steam-powered cotton-weaving factory.
- 1.1.2 In consideration of the planning application for the proposed redevelopment of the site, the Lancashire County Archaeology Service (LCAS), which provides planning advice on archaeological issues to Hyndburn Borough Council, recommended that a programme of archaeological investigation of the site was carried out in advance of development. It was further recommended that the works were secured by means of a condition:
- ‘No works shall take place until the applicant, or their agents or their successors in title, has secured the implementation of a programme of archaeological work. This must be carried out in accordance with a Written Scheme of Investigation, which shall first have been submitted to and agreed in writing by the local planning authority.’*
- 1.1.3 In particular, LCAS highlighted the archaeological interest of any buried remains pertaining to the steam-power plant (engine, boilers and chimney) of the former mill, and any remains of the eighteenth-century cottages. It was recommended that in the first instance the Written Scheme of Investigation should allow for the trial excavation of structures shown on historical mapping. Following negotiations with CgMs Consulting, acting on behalf of Morris Homes Ltd, it was agreed that the most appropriate course of action would be to excavate evaluation trenches across the footprint of the identified historic structures.
- 1.1.4 In November 2012, Oxford Archaeology North (OA North) was commissioned by CgMs Consulting to produce the required Written Scheme of Investigation. This allowed for the excavation of three targeted evaluation trenches; a single large trench was placed across the footprint of the former mill’s steam-power plant, and two smaller trenches were intended to examine a sample of the eighteenth-century cottages (Fig 2). The evaluation trenching was carried out in November 2012, and whilst the buried remains of the former textile mill were fragmentary, those of the cottages merited further investigation and detailed recording in advance of their ultimate loss. This second stage of investigation was carried out in March 2013, in accordance with an updated Written Scheme of Investigation (*Appendix 1*).

1.2 LOCATION, GEOLOGY AND TOPOGRAPHY

- 1.2.1 The site of Peel Mill (centred on NGR 372704, 427763) lies *c* 1km to the north-west of Oswaldtwistle, in the Lancashire borough of Hyndburn (Fig 1). The site occupies a plot situated on the north side of Stanhill Road (Plate 1).



Plate 1: Recent aerial view of the study area

- 1.2.2 The underlying solid geology of the area consists of Lower Westphalian productive coal measures of the Carboniferous era (IGS 3rd edn 1979), which contributed to the early industrial exploitation of the area. The land falls away to the valley of the River Calder to the north, where the coal measures give way to millstone grit. The millstone grit strata also protrude through the coal measures on the hills to the south and forms the basic building materials of the settlements in the area (Ashmore 1969, 15).
- 1.2.3 The drift geology consists primarily of medium- to fine-textured till of the Brickfield Association (Hall and Folland 1970, 131). These are derived largely from Carboniferous rocks, and contain abundant sandstone and shale fragments.

2. METHODOLOGY

2.1 INTRODUCTION

2.1.1 The fieldwork undertaken followed the method statement detailed in the approved Written Scheme of Investigation (*Appendix 1*), and was consistent with the relevant standards and procedures provided by the Institute for Archaeologists, and their code of conduct.

2.2 EXCAVATION

2.2.1 The uppermost levels were excavated by a machine fitted with a toothless ditching bucket. The same machine was then used to define carefully the extent of any surviving walls, foundations and other remains, after which all excavations were undertaken manually.

2.2.2 All information was recorded stratigraphically with accompanying documentation (plans, sections and both colour slide and black and white print photographs, both of individual contexts and overall site shots from standard view points). Photography was undertaken with high-resolution digital cameras, all frames including a visible, graduated metric scale. Photographic records were also maintained on special photographic *pro-forma* sheets.

2.3 FINDS

2.3.1 ***Artefactual procedures:*** all finds recovered during the excavations were lifted, cleaned, bagged and boxed in accordance with the United Kingdom Institute for Conservation (UKIC) *First Aid For Finds* (1998). Recovery programmes were in accordance with best practice (current IfA guidelines) and subject to expert advice.

2.4 ARCHIVE

2.4.1 A full professional archive has been compiled in accordance with the Written Scheme of Investigation, and in accordance with current IfA and English Heritage guidelines (English Heritage 1991). The paper and digital archive will be deposited with the Lancashire Record Office on completion of the project, with a synthesis (in the form of an index to the archive and the report) deposited with the Lancashire Historic Environment Record. The Arts and Humanities Data Service (AHDS) online database project *Online Access to index of Archaeological Investigations* (OASIS) will also be completed as part of the archiving phase of the project.

3. BACKGROUND

3.1 DEVELOPMENT OF OSWALDTWISTLE AND STANHILL

- 3.1.1 The earliest documentary reference of Oswaldtwistle dates to *c* 1208, when Adam de Oswaldthuisal witnessed a grant of land by Adam de Rishton. The area formed part of the forest or chase of Accrington at that date, but Oswaldtwistle was considered a manor by the early fourteenth century (Farrer and Brownbill 1911, 435). A total of 27 persons within the township were liable to pay the Poll Tax of 1377, indicating that the population of Oswaldtwistle may have been in the region of 50. However, there were no focal elements, such as a church or market, suggesting that settlement was dispersed (Lancashire County Council 2005).
- 3.1.2 There were 37 houses in the township by the late sixteenth century, which had increased to over 100 by the time of the Hearth Tax in 1666 (Farrer and Brownbill 1911, 435), whilst the Poll Tax returns for 1660 show 227 inhabitants over the age of 16 (Hogg 1971, 9). This increase in the population strongly suggests a shift from a purely agrarian lifestyle to a mixed farming-weaving economy. The manufacture of textile goods in the Oswaldtwistle area was certainly well established by the end of the sixteenth century, when the principal fabrics produced were woollens (Rothwell 1993, 4). Pressure on agricultural land led to increasing colonies of hand-loom weavers living in cottages with no land attached, and where textile production was a full-time occupation. It is against this background that Stanhill developed on the north-western fringe of Oswaldtwistle.
- 3.1.3 Stanhill is closely associated with the initial development of the factory-based textile industry, as it was here that James Hargreaves was born in 1720 (Hogg 1971, 10). Hargreaves was a hand-loom weaver, like many of his neighbours, with his family carrying out the preparatory work that including spinning the cotton yarn. Hargreaves also had interests in carpentry and engineering, which he applied to streamlining the cotton-manufacturing processes. His most successful invention was the spinning jenny of *c* 1764, and whilst Hargreaves had not intended to market this revolutionary machine, it nevertheless became the catalyst for the mechanisation of the cotton-spinning industry (Aspin and Chapman 1964). The introduction of the spinning jenny enabled a surge in the quantity of cotton yarn that could be spun, increasing the supply of raw materials for the hand-loom weavers. By the late eighteenth century the production of woollen goods appears to have largely given way to cotton in the Oswaldtwistle area (Baines 1825).
- 3.1.4 The geography of settlement in the area is shown on William Yates' *'Map of the County Palatine of Lancaster'*, which was produced in 1784 (Plate 2). This provides the earliest detailed survey of the area, and indicates that Oswaldtwistle essentially comprised a series of scattered hamlets, of which Stanhill was one.

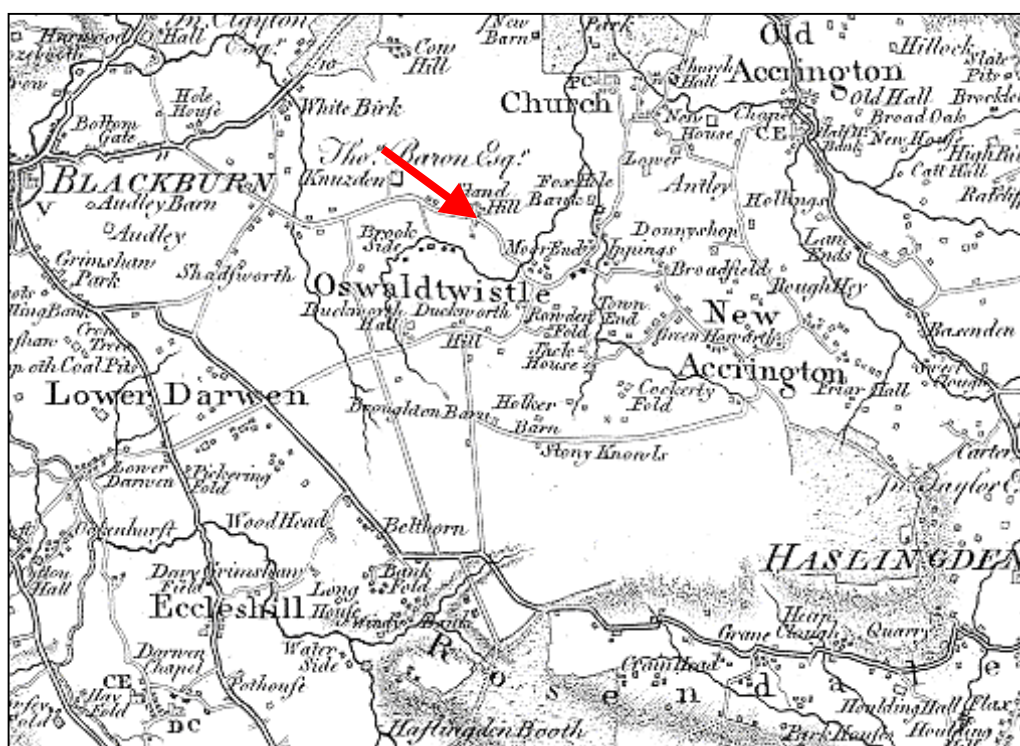


Plate 2: Extract from William Yates' map of 1784, with arrow marking the approximate location of the study area

- 3.1.5 Oswaldtwistle had a population of 2710 at the beginning of the nineteenth century, but this increased to 14,192 by the end of the century. This rapid expansion was due in no small part to its attractiveness to the development of hand-loom weaving. Oswaldtwistle had become a highly industrialised community by the 1820s; the first quarter of the new century had seen not only the expansion of factory-based calico printing, but also the introduction of steam-powered cotton spinning. Power-loom weaving had also been introduced into the area by the 1820s, although hand-loom weaving persisted until the third quarter of the nineteenth century.
- 3.1.6 Settlement in Oswaldtwistle in the 1840s was still concentrated largely along Union Road, with additional clusters at Foxhill Bank, Moscow Mills, Hippings, New Lane and Stanhill. There were over 1000 weavers in the township in 1841, although only 184 were hand-loom weavers, mainly in the moorland areas, and 83 of whom were weaving silk. The Census Returns for 1841 provide testament to the continued dominance of weaving as the principal occupation in Stanhill. The occupations of the weavers' family members are not recorded, suggesting that they may have been engaged in the preparatory processes, and that weaving here was still a cottage-based industry (Table 1).

ADDRESS	NAME	AGE	OCCUPATION
20 Stanhill	Robert Whewell (Head)	38	Calico Weaver
	Ellen Whewell (Wife)	35	
	Thomas Whewell	10	
	Mary Whewell	9	
	Nancy Whewell	7	
	Ellen Whewell	5	
	Alice Whewell	3	
	Walker Whewell	1	
22 Stanhill	Robert Warren (Head)	65	Calico Weaver
	Jane Warren (Wife)	65	
	Nancy Warren	40	
	Dorothy Warren	35	
	Mary Warren	30	
	Henry Warren	25	
	Jane Warren	20	
	Joseph Warren	12	
23 Stanhill	John Titherington (Head)	60	Labourer
	Ann Titherington (Wife)	50	
	Robert Titherington	10	
24 Stanhill	Jane Whitaker (Head)	40	Calico Weaver
	Alice Whitaker	35	
	Ester Whitaker	30	
	Ellen Whitaker	25	
26 Stanhill	John Smalley (Head)	30	Calico Weaver
	Mary Smalley	30	
	Cristebelow Smalley	7	
	Elizabeth Smalley	5	
	Juanna Smalley	3	
	John Smalley	1	
28 Stanhill	James Hindle (Head)	40	Calico Weaver
	Margaret Hindle	30	
	Betty Hindle	7	

Table 1: Extract from the 1841 Census Returns, providing details of the occupants of the houses in the study area

3.1.7 The Ordnance Survey first edition 6": 1 mile map of 1848 shows Stanhill as a linear settlement, with 'Higher', 'Middle' and 'Lower' elements flanking Stanhill House (Plate 3). The present study area lies in the centre of Middle Stanhill, which comprised rows of weavers' cottages on both sides of Stanhill Road, with a schoolhouse at the western end of the settlement.

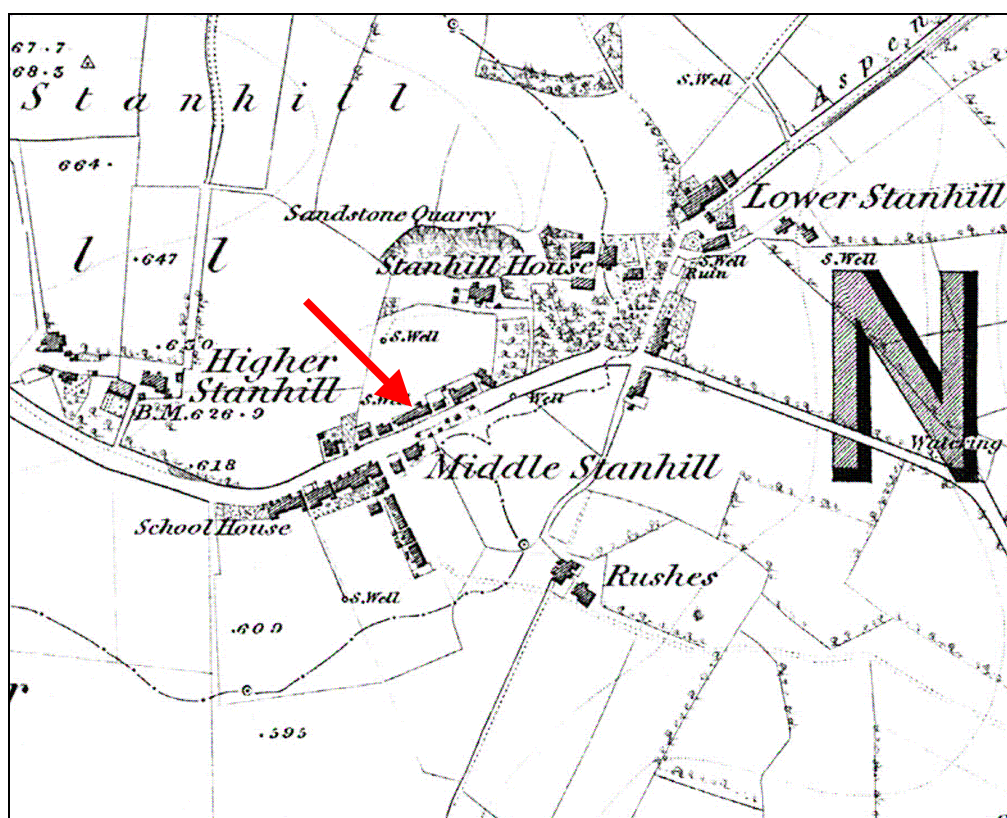


Plate 3: Extract from the Ordnance Survey map of 1848, with arrow marking the location of the present study area

3.2 STANHILL MILL

- 3.2.1 The rising ground to the rear of the cottages on the north side of Stanhill Road was developed initially in 1860, when Benjamin Grimshaw Pearson and William Alexander Briggs of Darwen established a small, steam-powered weaving mill that became known initially as Stanhill Mill. The mill was put into production in December 1860, when it was reported in the local newspaper that ‘Messrs Pearson and Briggs of Stanhill Mill started their engine’ (*Blackburn Standard*, 12 December 1860). The mill was powered by a 20hp horizontal engine that was manufactured and supplied by J & E Wood of Bolton (OA North 2010), and provided employment for 38 workers (Hogg 1973, 14). However, this proved to be an unfortunate time to start a new mill, as the American Civil War broke out in 1861 and contributed to the onset of the ‘cotton famine’ that brought considerable hardship to the Lancashire textile industry.
- 3.2.2 It seems that Pearson & Briggs had encountered financial difficulties by June 1861, as the partners conveyed and assigned all their real and personal estate and effects to James Baldwin and James Wallwork, ‘in trust for the equal benefit of the creditors of the said Benjamin Grimshaw Pearson and William Alexander Briggs’ (*London Gazette*, 9 July 1861). James Baldwin and James Wallwork were yarn agents in Manchester, and probably supplied Pearson and Briggs with the yarn used in their mill. The dissolution of the partnership between Pearson and Briggs was announced the following week (*London Gazette*, 16 July 1861).

- 3.2.3 Stanhill Mill was taken over subsequently by James Marshall, although his occupancy of the mill was short-lived, as he was declared bankrupt in October 1864 (*London Gazette*, 28 October 1864). A sale advertisement printed in the same year described the mill as having a capacity for 336 power looms, a 20hp steam engine, a gas plant, and an office and warehouse with a room above measuring 136ft by 30ft (Hogg 1971). The mill was purchased by James Bradley, a local chemical manufacturer, who leased the premises to a series of tenants (*Blackburn Standard*, 27 September 1865).
- 3.2.4 One of Bradley's first tenants was William Ellis Holt from Livesey, who took the mill in 1865 and combined the occupations of cotton manufacturer and Wesleyan Free Church Minister (Hogg 1973, 14). However, Holt soon met with financial difficulties, and in 1869 a composition deed was executed that described Holt of Stanhill Mill as a debtor to James Cockshutt, an overlooker of Stanhill, and Lawrence Cockshutt, a weaver of Stanhill (*London Gazette*, 9 April 1869). It seems that Holt went into partnership with these creditors for a short period as 'the partnership William Ellis Holt, James Cockshutt, and Lawrence Cockshutt, carrying on business as cotton manufacturers, at Stanhill under the style or firm of Holt & Cockshutts, was dissolved by mutual consent' (*London Gazette*, 14 March 1871). It appears that James Cockshutt may have remained in business on his own at Stanhill Mill, before going into partnership with Thomas and James Webster, trading under the name of Websters & Cockshutt. James Webster retired from the partnership in August 1889, whilst Thomas Webster and James Cockshutt continued in business (*London Gazette*, 16 August 1889). There is some evidence to suggest that Webster & Cockshutt were not the only tenants in the mill during this period, as Joseph Andrew Ainsworth, manufacturer at Stanhill Mill, was registered as a debtor in 1888 (*London Gazette*, 7 December 1888), whilst James Bradley is listed as a cotton manufacturer at the mill in a trade directory for 1887 (Slater 1887, 196). The layout of the study area during this period is captured on the Ordnance Survey map of 1893, which was surveyed in 1890-1 (Plate 4).

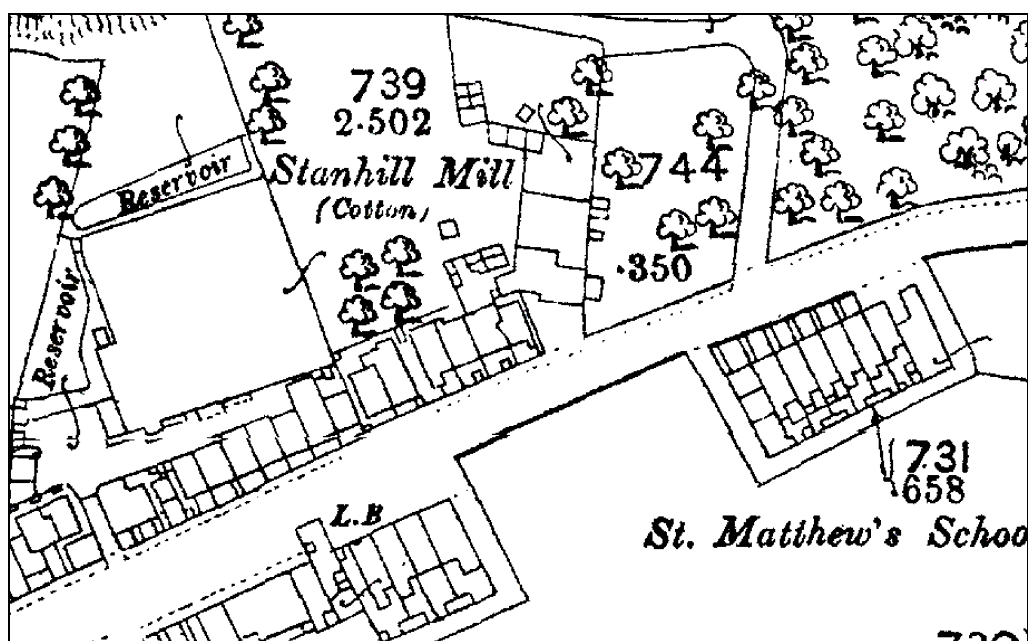


Plate 4: Extract from the Ordnance Survey map of 1893, showing excavation areas

3.3 EDWARDIAN STANHILL

3.3.1 The occupational status of the population in Stanhill had evolved by the end of the Victorian era. Whilst the 1901 Census Returns for the houses in the study area show that some of the residents were weavers, these were largely women, who will almost certainly have been employed in weaving factories (Table 2). The places of employment are not noted, although it would seem likely that at least some of these weavers will have worked at Stanhill Mill.

ADDRESS	NAME	AGE	OCCUPATION
18 Stanhill	Henry Smalley (Head)	71	
	James Smalley	40	Hen farmer
20 Stanhill	David Ainsworth (Head)	37	Paper mill labourer
	Deborah Ainsworth (Wife)	29	
	Annie Ainsworth	7	
	Alice Ainsworth	5	
	Maggie Ainsworth	4	
	Ada Ainsworth	4	
22 Stanhill	Catherine Haworth (Head)	62	Charwoman
23 Stanhill	Joseph Scholes (Head)	29	Cotton weaver
	Mary Scholes	30	Cotton weaver
	James Scholes	1	
24 Stanhill	John Taylor (Head)	42	Brick works engine tender
	Sarah Jane Taylor	43	
	Sarah Ann Taylor	21	Cotton weaver
	Aaron Taylor	19	Paper mill labourer
	Wilfred Taylor	4	
26 Stanhill	Ann Taylor (Head)	67	Widow
	Alice Taylor	35	Cotton weaver
	Mary Taylor	29	Cotton weaver
28 Stanhill	Peter Sefton (Head)	43	Colliery clerk
	Alice Ann Sefton	43	Confectioner
	Edith Sefton	10	
	Martha Sefton	7	

Table 2: Extract from the 1901 Census Returns, providing details of the occupants of the houses in the study area

3.3.2 Stanhill Mill was still owned at this date by James Bradley, who had taken complete occupancy of the mill in 1895, when James Cockshutt moved his business to Sabden (Rothwell 1993, 20). Following Bradley's death in 1905, James Bradley Ltd was formed, which continued weaving at the mill until 1931, when the company was wound up. The mill was advertised for sale, and the plant offered for sale at that date included a horizontal tandem engine (presumably a replacement of the original model), and 312 plain looms (*ibid*).

- 3.3.3 In 1932, the Peel Fold Manufacturing Company was formed to restart the mill, which became known subsequently as Peel Fold Mill. This new firm was a member of Lilford & Amalgamated Weavers Ltd, which principally wove doria strips, lenos, linenettes, piques, rayon fabrics and fancy figured cloth (Rothwell 1993, 20).
- 3.3.4 The Peel Fold Manufacturing Company was responsible for some considerable remodelling of the site, including the erection of a single-storey, brick-built extension that fronted onto Stanhill Road. This necessitated the demolition of the eighteenth-century weavers' cottages. Plans for the new building were designed by Bradshaw, Hope & Gass, a leading firm of architects from Bolton, and approved by Oswaldtwistle Urban District Council in May 1950. The detailed plans indicate that it was intended to retain the rear wall of the existing cottages to a height of c 1.5m, infill the void with 'broken stone and ashes', and lay the floor of the new building level with that in the weaving shed (Plate 5).

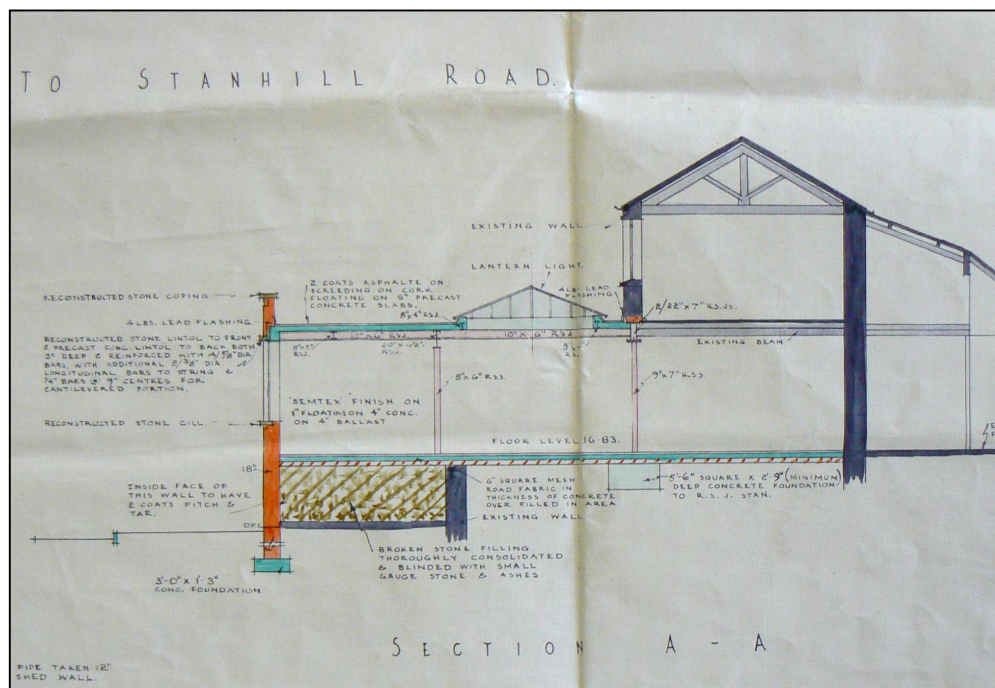


Plate 5: Building Control Plan showing a cross-section through the single-storey extension erected in the early 1950s. The design proposed the construction of a new floor level with that of the weaving shed extending over the infilled remains of the eighteenth-century cottages (LRO UDOS Acc8099/5/Plan 1924)

- 3.3.5 The mill finally wove out in 1963, and the site was occupied subsequently by FB Estcourt Ltd, shippers and manufacturers of food specialities. The original square chimney for the mill was removed in 1993, and the remainder of the site was cleared during the early twenty-first century (Plate 6).



Plate 6: Location of the excavated areas, superimposed on an aerial view of the site prior to the demolition of the mill

4. SUMMARY OF THE FIELDWORK RESULTS

4.1 INTRODUCTION

4.1.1 The archaeological investigation of the site comprised the initial excavation of three evaluation trenches, targeted on features depicted on historical mapping, and specifically the steam-power plant of Peel Fold Mill, and the footprint of a sample of the eighteenth-century cottages (Fig 2). The evaluation demonstrated that the remains of Peel Fold Mill were somewhat fragmentary, and an adequate record was compiled during the trial trenching. The remains of the eighteenth-century cottages revealed in the trial trenches, however, were well-preserved, and merited further investigation. The following narrative provides a summary of the results obtained from both stages of the archaeological work.

4.2 TRIAL TRENCH 1: PEEL FOLD MILL ENGINE AND BOILER HOUSE

4.2.1 Trench 1 measured 18 x 12m, and was placed across the footprint of the former engine and boiler house for Peel Fold Mill (Fig 3). Excavation of the south-western part of the trench revealed the remains of a square-shaped room, which almost certainly represented the original engine house. The southern and eastern walls of the room retained historic fabric in the form of sandstone rubble laid in random coursing (Plate 7). These walls survived to a maximum height of 1.7m, and were built directly onto the natural clay geology.



Plate 7: View across the remains of the engine house, looking south-east

- 4.2.2 The western and northern walls of the room had been rebuilt in machine-pressed brick and concrete, indicative of remodelling in the mid-twentieth century, presumably as part of the remodelling of the buildings carried out by the Peel Fold Manufacturing Company. The western edge of the trench was formed by a concrete structure, which similarly represented twentieth-century remodelling of the original engine house. This included a concrete floor that incorporated a 'T'-shaped channel, which acted as a conduit for electric cables. However, all interior features in the engine house, including the original floor and foundation beds for the steam engine, had been removed and the building was backfilled with rubble in a matrix of clay. The clay was cut by two steel pipes, which had evidently been installed following the removal of the steam engine.
- 4.2.3 Excavation immediately to the east of the engine house exposed the remains of the boiler house. The southern part of this building had been destroyed entirely in the mid-twentieth century, and a concrete surface laid (Plate 8). However, physical remains of the original boiler house survived in the northern part of the trench (Plates 9-11).



Plate 8: View across the southern part of the boiler house, looking north-west

- 4.2.4 The surviving remains of the boiler house comprised a north/south-aligned flue, composed of random sandstone rubble and refractory bricks. The flue terminated at the base of a circular chimney, which was similarly lined with refractory bricks. The remains of a second flue entered the chimney on its western side, seemingly representing a later addition to the steam-power plant (Plate 11). This flue had been blocked by a modern brick-built wall, beyond which all remains had been destroyed entirely.



Plate 9: View across the northern part of the boiler house, looking north



Plate 10: View across the foundations of the mill chimney, looking north-east



Plate 11: View across the foundations of the mill chimney and ancillary flue, looking west

- 4.2.5 At the southern end of the flue were the remains of what is likely to have been the housing for a boiler, although the majority of this had been destroyed. However, a short section of the boiler room floor survived intact, with two narrow flues present along each side. The floor and the flues all displayed evidence of very high levels of heat and were filled with fuel ash deposits associated with boilers.
- 4.2.6 The configuration of the exposed flues was consistent with the layout typical of an egg-ended boiler. This early type of steam boiler was of a cylindrical form with hemispherical, or 'egg-ended' domed ends, which were designed to resist pressure (Watkin 1994, 120). Whilst this form of boiler remained popular at colliery sites, their application to steam-powered textile mills was superseded in the second half of the nineteenth century by Lancashire boilers, which were capable of generating higher steam pressures (Williams and Farnie 1992).

4.3 INVESTIGATION OF THE STANHILL ROAD COTTAGES

- 4.3.1 The remains of the eighteenth-century cottages were investigated initially via the excavation of two trial trenches (Trenches 2 and 3). These were targeted on the footprint of N^{os} 24 (Trench 2) and 18 (Trench 3).
- 4.3.2 **Trench 2:** this trench measured 10 x 1.5m, and was excavated to a maximum depth of *c* 1m (Plates 12-13). Excavation of the southern part of the trench revealed an *in-situ* surface of flagstones, which was exposed at a depth of *c* 1m below the existing ground level. This surface was interpreted initially as the floor of the eighteenth-century cottages. However, further investigation concluded that the flagstones had probably been re-used to form a floor within the 1950s extension to the mill.
- 4.3.3 The stub of a wall composed of small sandstone blocks was revealed in the south-western corner of the trench, surviving to a height of 0.9m (Plate 12). The remains of a second wall, similarly of sandstone-block construction, were exposed in the east-facing section of the trench some 1.6m to the north. The position of this wall corresponded with the rear wall of the cottage as depicted on historical mapping (Fig 2). A square concrete pad situated immediately to the east of this wall (Plate 12) represented a later modification associated with the construction of the single-storey extension to the mill in the 1950s. The position of the concrete pad corresponded broadly with the proposed location of a column base for the 1950s building, as shown on the building control plan (Plate 5).
- 4.3.4 A surface composed of sandstone setts was exposed in the northern part of the trench (Plate 13). This clearly represented a small yard to the rear of the cottages (Fig 2). A third sandstone wall was exposed at the northern end of the trench. This almost certainly represented the southern wall of the former weaving shed, and its location corresponds with the position of the mill wall on the Ordnance Survey map of 1893 (Fig 2). These remains were subject to further investigation subsequently, when a larger excavation area was placed across the footprint of N^{os} 24 and 26 (Fig 4); the results obtained from this stage of the archaeological investigation are presented below (*Section 4.3.6*).
- 4.3.5 **Trench 3:** this trench was placed in the south-eastern corner of the application site, and measured 10 x 1.5m. It was excavated to a much greater depth than Trench 2, with historic *in-situ* flagstone floors being encountered at depths ranging from 2.1m to 2.4m below the modern ground surface. However, the stone walls of the cottages survived to a height of *c* 2m, whilst their upper courses were exposed at a shallow depth beneath the modern concrete surfacing. This indicated clearly that the erection of the street-frontage mill block in the 1950s had not required the complete demolition of the cottages, but rather their reduction in height and infilling with sandstone rubble. The exposed remains could not be examined in detail for safety considerations, as the sides of the excavated trench were very loose.



Plate 12: View across the southern part of Trench 2, looking south-west



Plate 13: View along Trench 2, looking north

- 4.3.6 The remains exposed in Trench 2 were investigated further via the excavation of a larger trench, which measured 15 x 12m and was excavated to a depth of 2m. This was placed across the footprint of N^{os} 24 and 26 Stanhill Road, although part of an interior floor in N^{os} 28 was also exposed. Only the rear portion of the cottages was exposed, however, as the front wall lay beneath the extant wall of the 1950s single-storey block.
- 4.3.7 **N^o 24 Stanhill Road:** the buried remains of this cottage were encountered in the north-eastern part of the excavated trench, and comprised several walls (**101-106**). The faces of all of the component walls were constructed from squared stone blocks that were laid in rubble coursing and bonded with lime-based mortar. They contained a core of stone rubble, which was similarly set in a matrix of lime-based mortar. No remains of the original internal floor survived *in-situ* (Plate 14).
- 4.3.8 The stone-built rear wall of the cottage (**101**) was 530mm wide. It was aligned broadly north-east/south-west, and survived to a height of *c* 500mm (equating to six courses). The vestiges of red and blue painted plaster survived on the internal elevation of the wall.
- 4.3.9 The south-western end of wall **101** was keyed into wall **102**, which formed the western wall of the cottage and formed a partition from the adjacent property. Wall **102** was similarly 530mm wide and survived to a height of *c* 500mm (equating to six courses). Several fragments of pottery dating to the early nineteenth century were recovered from the central cavity of the wall (*Section 4.4.2 below*). The internal elevation of the wall also retained vestiges of red and blue painted plaster.
- 4.3.10 The eastern wall of the cottage (**106**) formed the eastern edge of the excavated area. Aligned parallel to wall **102**, wall **106** had a width of 530mm and survived to a height of 1.6m. It was keyed into walls **101** and **105** at its north-western and south-eastern ends respectively.
- 4.3.11 The southern edge of the excavated areas was formed by stone-built wall **103/105** (Fig 4), which survived to a maximum height of *c* 600mm. The south-western end of this wall was keyed into wall **102**, and was clearly of a contemporary build. It had almost certainly formed an internal partition between the front and back rooms of the cottage. Whilst the full width of this partition was not exposed during the excavation, it was clearly thicker than a single course of masonry, representing a fairly substantial construction.
- 4.3.12 An 820mm-wide gap was evident in wall **103/105**, situated 1.6m from its south-western end. The gap housed a single rectangular slab of gritstone, which was 30mm thick and set upon a bed of sand. This gap almost certainly represented the doorway between the front and back rooms in the cottage, with the granite slab forming the threshold.
- 4.3.13 The room retained no physical evidence for any fixtures or fittings, such as a floor or a fireplace. However, a deposit of ash and degraded lime mortar that had probably formed a levelling layer for a flagstone floor was revealed beneath the demolition rubble infill of the cottage.



Plate 14: View looking west across the remains of N° 24 Stanhill Road



Plate 15: The threshold between the front and back rooms in N° 24 Stanhill Road

- 4.3.14 **N^o 26 Stanhill Road:** the buried remains of this cottage were exposed immediately to the west of N^o 24 Stanhill Road (Fig 4). The surviving structural components were very similar to its neighbour, comprising squared stone blocks that were laid in rubble coursing and bonded with lime-based mortar, with a central core of stone rubble (Plate 16).
- 4.3.15 The north-east/south-west-aligned rear wall of the cottage (**107**) was 530mm wide, and survived to a height of *c* 400mm. The north-eastern end of the wall abutted wall **102** (Fig 4), suggesting that this cottage had been built as a later phase of construction. The vestiges of blue painted plaster survived on the internal elevation of the wall. The south-western end of wall **107** was keyed into wall **108**, which formed the western wall of the cottage and formed a partition from the adjacent property. Wall **108** was similarly 530mm wide, but only a single course of masonry survived *in-situ*.
- 4.3.16 The fragmentary remains of north-east/south-west-aligned partition (**109**) were also exposed. The construction of the partition was similar to the external walls, comprising stone rubble bonded in a lime-based mortar. However, it created a back room somewhat smaller than that revealed at N^o 24.
- 4.3.17 The fragmentary remains of a flagstone floor (**111**) were exposed in the front room of the cottage. The flagstones appear to have been laid upon an 80mm thick bedding of lime mortar (**118**). Further excavation revealed another flagstone floor (**113**) beneath bedding layer **118**. This probably represented an earlier phase of flooring, although it had similarly been set onto a thin bed of lime-based mortar.



Plate 16: View across the excavated remains of N^o 26 Stanhill Road

4.3.18 **N^o 28 Stanhill Road:** the buried remains of a third cottage were revealed immediately to the south-west of N^o 26. The remains of a flagstone floor (**114**) were located at the same height as the second phase of flooring in N^o 26. The elements of masonry exposed were very similar to that recorded in N^{os} 24 and 26, and the rear wall was again seen to abut wall **108**, suggesting it to be later.

4.4 THE FINDS

4.4.1 A small assemblage of 19 fragments was recovered, nine coming from N^o 24 Stanhill Road, and ten from N^o 26 (Table 1). The assemblage as a whole reflects small-scale domestic activity, with the possibility that the small amounts recovered, and the likelihood that many of the black-glazed ware fragments are from a single vessel, might reflect a single act of disposal.

	N ^o 24	N ^o 26	Totals
Black-glazed redwares	6	5	11
Stoneware	-	1	1
Creamware	1	1	2
Transfer-printed white earthenware	1	1	2
Clay tobacco pipe	-	2	2
Glass	1	-	1
Totals	9	10	19

Table 3: Distribution of finds between the two cottages

4.4.2 The majority of the finds were large fragments of unabrased pottery, most being black-glazed redwares which, in the absence of chronologically diagnostic rim sherds, cannot be dated with any precision, beyond assigning them to the nineteenth century. It seems likely that all the sherds N^o 26 are from a single vessel. A single rim fragment from N^o 24 is of little help in dating, but would not be out of place in the first half of the century. The presence of plain Creamwares, also points towards the earlier part of the nineteenth century, when these were still in relatively common use, and the single fragment of brown stoneware, probably from a tankard or similar drinking, vessel dates to the same period. Underglaze transfer-printed refined white earthenwares were in relatively widespread use from the beginning of the nineteenth century onwards, but the presence of a green printed pattern on the fragment from N^o 26 points to a date after the 1820s, when it was introduced (Neale 2004).

4.4.3 The two fragments of clay tobacco pipe from the site are both small stem fragments, and thus as undiagnostic as the pottery. The glass, the base of a small mould-blown bottle, probably dates to the late nineteenth or early twentieth century.

4.4.4 In conclusion, the finds assemblage recovered from the excavation is of little, or no, archaeological interest. It is recommended that the finds are discarded.

5. CONCLUSION

5.1 INTRODUCTION

5.1.1 The archaeological investigation has enabled an appropriate archaeological record to be compiled of the buried remains of Peel Fold Mill and a sample of eighteenth-century weavers' cottages prior to their ultimate loss during the redevelopment of the site. Whilst the physical remains of the mill and the cottages were somewhat fragmentary, the investigation has provided a valuable opportunity to examine a rural industrial site, where cotton goods were produced by both hand-loom weavers and by power looms in a small steam-powered mill.

5.2 PEEL FOLD MILL

5.2.1 The results obtained from the initial evaluation of the site demonstrated that the remains of the steam-power plant for Peel Fold Mill were fragmentary. The former engine house had been almost completely destroyed, although some remains of the associated boiler house and flue system were found to survive *in-situ*. The evidence available suggests that the steam required to power the mill was generated originally in an egg-ended boiler. These relatively inefficient boilers could contain a large volume of water relative to its evaporation, and could steam steadily on the poorest of fuels (Watkin 1994, 120).

5.2.2 Egg-ended boilers could be up to 45ft (13.7m) long, and it seems possible that the one that had been housed in the excavated boiler room may have been of a similar length; the boiler house as shown on the Ordnance Survey map of 1893 was approximately 52ft (15.85m) long. It is perhaps surprising that the boiler house only contained a single boiler, as failure of this unit would have resulted in an immediate halt to production. However, the remains of a second flue that was identified during the excavation suggest that an additional boiler house may have been added to the site. It is unknown whether this was intended as a replacement for the original boiler, or supplemented the supply of steam.

5.3 STANHILL ROAD COTTAGES

5.3.1 The excavation demonstrated that the weavers' cottages had been of relatively substantial construction. It seems possible that the dressed stone used in the walls of the cottages had been sourced from the quarry immediately to the north, as shown on the Ordnance Survey map of 1848 (Plate 3); the cost of the stone did not preclude its use for internal partitions, suggesting that it was not prohibitively expensive. The cottages were probably of two-storeys, but without cellars. The partition walls exposed during the excavation suggest that the upper floor was used as the loom shop.

- 5.3.2 Both of the excavated cottages had a footprint measuring approximately 8 x 4.6m (26 x 15ft), as shown on the Ordnance Survey map of 1893. However, excavation has demonstrated that the cottages had a slightly different layout internally, specifically the position of the partition between the front and back rooms. The back room of N^o 24 had a floor area of 3m x 4.6 (10 x 15ft), whilst that of N^o 26 was only 2.3 x 4.6m (7½ x 15ft). The front rooms of these cottages were similarly of different dimensions, with that in N^o 24 measuring some 5 x 4.6m (16 x 15ft), and N^o 26 being 5.7 x 4.6m (18½ x 15ft). These room sizes compare favourably with cottages of a similar date that have been excavated elsewhere. A row of two-roomed dwellings that were occupied in the early nineteenth century by agricultural labourers and textile workers in Clayton near Manchester, for instance, had rooms that each measured 3.75m x 4.6 x (12 x 15ft), with a small outshut to the rear (OA North 2011). The sizes of these rooms, moreover, were somewhat larger than those in nineteenth-century workers houses in urban areas of Lancashire (Miller and Wild 2007).
- 5.3.3 Whilst the excavation revealed no evidence for hard surfacing in the back rooms of these two cottages, it is nevertheless likely that they originally contained flagstones, as exposed partially in N^o 28. The evidence from the excavation also suggests that the back rooms were not heated, as there was no evidence for any fireplaces.
- 5.3.4 The physical relationships of the exterior walls suggest that the cottages were constructed individually, rather than as a contemporary row. This suggests that the development of Stanhill as a centre for hand-loom weaving may have developed piecemeal, rather than as a planned colony.

BIBLIOGRAPHY

CARTOGRAPHIC SOURCES

W Yates, *Map of the County Palatine of Lancaster*, 1784

Ordnance Survey first edition 25": 1 mile, Lancashire Sheet 63.14, 1893

Ordnance Survey second edition 25": 1 mile, Lancashire Sheet 63.14, 1911

PRIMARY SOURCES

Newspapers

Blackburn Standard, 12 December 1860

Blackburn Standard, 27 September 1865

London Gazette, 9 July 1861

London Gazette, 16 July 1861

London Gazette, 28 October 1864

London Gazette, 9 April 1869

London Gazette, 14 March 1871

London Gazette, 16 August 1889

Trade Directories

Slater, I, 1887 *Royal National Commercial Directory of Lancashire*, **2**, London

Building Control Plans

Lancashire Record Office UDOS Acc8099/5/Plan 1924 *Peel Fold Manufacturing Co Ltd – Stanhill Mill*

SECONDARY SOURCES

Ashmore, O, 1969 *The Industrial Archaeology of Lancashire*, Newton Abbot

Aspin, C, and Chapman, SD, 1964 *James Hargreaves and the Spinning Jenny*, Helmshore

Baines, E, 1825 *History, Directory, and Gazetteer of the County Palatine of Lancaster*, **1**, Liverpool

Countryside Commission, 1998 *Countryside Character Volume 2: North West*, Cheltenham

English Heritage, 1991 *Management of Archaeological Projects*, 2nd edn, London

Farrer, W, and Brownbill, J, 1911 *The Victoria History of the County of Lancaster*, **6**, London

Hall, BR, and Folland, CJ, 1970 *Soils of Lancashire*, Soil Survey of Great Britain Bulletin, **5**, Harpenden

Hogg, D, 1971 *A History of Church and Oswaldtwistle, 1760-1860*, Accrington

Hogg, D, 1973 *A History of Church and Oswaldtwistle, 1860-1914*, Accrington

Lancashire County Council, 2005 *Lancashire Historic Town Survey Programme: Oswaldtwistle and Church*, Preston

Miller, I, and Wild, C, 2007 *A & G Murray and the Cotton Mills of Ancoats*, Lancaster Imprints, **13**, Lancaster

Neale, G, 2005 *Collecting Blue and White Pottery*, London

OA North, 2010 *Lancashire Textile Mills: Rapid Assessment Survey Final Report*, unpubl rep

OA North, 2011 *Openshaw West, Clayton, Manchester: Archaeological Excavation*, unpubl rep

OA North, 2012 *Peel Fold Mill, Stanhill Road, Oswaldtwistle: Archaeological Evaluation Interim Report*, unpubl rep

Rothwell, M, 1993 *Industrial Heritage: A Guide to the Industrial Archaeology of Church and Oswaldtwistle*, Accrington

Watkin, G, 1994 *The Steam Engine in Industry*, Ashbourne

Williams, M, and Farnie, DA, 1992 *Cotton Mills of Greater Manchester*, Preston

APPENDIX 1: WRITTEN SCHEME OF INVESTIGATION

March 2013

**Oxford
Archaeology
North**

**PEEL FOLD,
STANHILL ROAD,
OSWALDTWISTLE,
LANCASHIRE**

**ARCHAEOLOGICAL WRITTEN SCHEME
OF INVESTIGATION**

Planning Application 11/12/0288

Proposals

The following Written Scheme of Investigation is offered in response to a request from Morris Homes Ltd for archaeological investigation in advance of the proposed development at Peel Fold on Stanhill Road, Oswaldtwistle.

1. INTRODUCTION

1.1 PROJECT BACKGROUND

1.1.1 Morris Homes Ltd has secured planning permission (11/12/0288) for the redevelopment of the site of Peel Fold Mill, near Oswaldtwistle in Lancashire (centred on NGR 372704, 427763). The development proposals allow for the erection of 36 residential units, together with associated landscaping and infrastructure, which will necessitate considerable earth-moving works. The site is of some archaeological interest in that it was occupied from the mid-1780s by a row of cottages that fronted onto Stanhill Road. In the mid-nineteenth century, the land to the rear of the cottages was developed as a purpose-built, steam-powered cotton-weaving factory.

1.1.2 In consideration of the planning application for the proposed redevelopment of the site, the Lancashire County Archaeology Service (LCAS), which provides planning advice on archaeological issues to Hyndburn Borough Council, recommended that a programme of archaeological investigation of the site was carried out in advance of development. It was further recommended that the works were secured by means of a condition:

'No works shall take place until the applicant, or their agents or their successors in title, has secured the implementation of a programme of archaeological work. This must be carried out in accordance with a Written Scheme of Investigation, which shall first have been submitted to and agreed in writing by the local planning authority.'

1.1.3 In particular, LCAS highlighted the archaeological interest of any buried remains pertaining to the steam-power plant (engine, boilers and chimney) of the former mill, and any remains of the eighteenth-century cottages. It was recommended that in the first instance a series of trial trenches was excavated across the footprint of structures shown on historical mapping. In November 2012, Oxford Archaeology North (OA North) was commissioned by CgMs Consulting, acting on behalf of Morris Homes Ltd, to carry out the required trial trenching. This demonstrated that some buried remains of the mill's steam-power plant survived *in-situ*, together with considerable elements of the eighteenth-century cottage. Whilst the remains of the former mill were recorded fully during the evaluation, it was recommended following consultation with LCAS that the eighteenth-century cottages merited further excavation, in accordance with a Written Scheme of Investigation.

1.1.4 This document presents the required Written Scheme of Investigation for the approval of the Local Planning Authority. It has been produced by OA North at the request of CgMs Consulting, and is based on a verbal specification discussed between CgMs Consulting and LCAS.

1.2 OXFORD ARCHAEOLOGY NORTH

- 1.2.1 OA North is the largest archaeological contractor in north-west England, with unsurpassed experience of working in the region. OA North has the professional expertise and resource to undertake the project to a high level of quality and efficiency. OA North is **an Institute for Archaeologists (IfA) registered organisation, registration number 17**, and all its members of staff operate subject to the IfA Code of Conduct.
- 1.2.2 All work on the project will be undertaken in accordance with relevant professional standards, including:
- IfA's *Code of Conduct*, (1999); *Code of Approved Practice for the Regulation of Contractual Arrangements in Field Archaeology*, (1999); *Standard and Guidance for Archaeological Evaluations*, (1999); *Standard and Guidance for Archaeological Watching Briefs*, (1999);
 - English Heritage's *Management of Archaeological Projects (MAP2)*, 1991.
 - *The European Association of Archaeologists Principles of Conduct for Archaeologists Involved in Contract Archaeological Work* (1998).

2 AIMS AND OBJECTIVES

- 2.1 The main research aims of the investigation will be to ensure the long-term preservation of the remains of the eighteenth-century cottages by the production and deposition of a report and an ordered project archive.
- 2.2 The required stages to achieve these ends are as follows:
- **Historical Research:** a sufficient level of research will be carried out to place the results obtained from the excavation in an appropriate historical context. The research will be collated from an examination of available cartographic sources and any relevant documents relating to the buildings;
 - **Excavation:** the initial stage of the works will comprise the mechanical removal of modern hard-standing and demolition rubble, followed by manual excavation to expose, clean and record fully the remains of the eighteenth-century cottages;
 - **Post-excavation Assessment and Reporting:** a programme of post-excavation work, leading to the production of a fully illustrated report and project archive will be carried out on completion of the fieldwork. The report will include information about the buildings' age, fabric, form and function. This will be followed by a discussion of the sequence of development, and their relationship with other buildings in the vicinity, in terms of architecture and function.

3. METHOD STATEMENT

3.1 EXCAVATION

- 3.1.1 **General Methodology:** the footprint of two cottages has been targeted for archaeological excavation (Figure 1). Excavation of the uppermost levels of modern overburden/demolition material will be undertaken by a machine fitted with a toothless ditching bucket to the top of the first significant archaeological level. The work will be supervised closely by a suitably experienced archaeologist. Thereafter, all deposits will be cleaned manually to define their extent, nature, form and, where possible, date. Spoil from the excavation will be stored adjacent to the trench, and will be backfilled upon completion of the archaeological works. Once significant archaeological deposits have been exposed, further excavation will be carried out by manual techniques, proceeding in a stratigraphical manner.
- 3.1.2 All information identified in the course of the site works will be recorded stratigraphically, using a system, adapted from that used by the Centre for Archaeology of English Heritage (CfA), with sufficient pictorial record (plans, sections and both black and white and colour photographs) to identify and illustrate individual features. Primary records will be available for inspection at all times.
- 3.1.3 **Context Recording:** the features will be recorded using *pro-forma* sheets which are in accordance with those used by CfA. Similar object record and photographic record *pro-formas* will be used. All written recording of survey data, contexts, photographs, artefacts and ecofacts will be cross referencable from *pro-forma* record sheets using sequential numbering.
- 3.1.4 **Photography:** a full and detailed photographic record of individual contexts will be maintained and similarly general views from standard view points of the overall site at all stages of the excavation will be generated. Photography will be undertaken using high-resolution digital camera, and all frames will include a visible, graduated metric scale. Photographs records will be maintained on special photographic *pro-forma* sheets.
- 3.1.5 **Planning:** archaeological planning will be undertaken using a combination of manually-drafted drawings and instrument survey, and the data will be digitally incorporated into a CAD system. All information will be tied in to Ordnance Datum. The precise location of each excavation trench, and the outline of all archaeological features encountered, will be surveyed by EDM tacheometry using a total station linked to a pen computer data logger. This process will generate scaled plans within AutoCAD software, which will then be subject to manual survey enhancement. The drawings will be generated at an accuracy appropriate for 1:20 scale, but can be output at any scale required.

- 3.1.6 **Finds:** finds recovery and sampling programmes will be in accordance with best practice (current IfA guidelines) and subject to expert advice. OA has close contact with Ancient Monuments Laboratory staff at the University of Durham and, in addition, employs in-house artefact and palaeoecology specialists, with considerable expertise in the investigation, excavation, and finds management of sites of all periods and types, who are readily available for consultation. Finds storage during fieldwork and any site archive preparation will follow professional guidelines (UKIC). Emergency access to conservation facilities is maintained by OA North with the Department of Archaeology, the University of Durham.
- 3.1.7 Neither artefacts nor ecofacts will be collected systematically during the mechanical excavation of the overburden unless significant deposits, for example clay pipe waster dumps, are encountered. In such an eventuality, material will be sampled in such a manner as to provide data to enhance present knowledge of the production and dating of such artefacts, although any ensuing studies will not be regarded as a major element in any post-excavation analysis of the site. Other finds recovered during the removal of overburden will be retained only if of significance to the dating and/or interpretation of the site. It is not anticipated that ecofacts (*eg* unmodified animal bone) will be collected during this procedure.
- 3.1.8 **Human remains:** human remains are not expected to be present, but if they are found they will, if possible, be left *in-situ* covered and protected. If removal is necessary, then the relevant Home Office permission will be sought, and the removal of such remains will be carried out with due care and sensitivity as required by the *Burials Act 1857*.
- 3.1.9 Any gold and silver artefacts recovered during the course of the excavation will be removed to a safe place and reported to the local Coroner according to the procedures relating to the Treasure Act, 1996.

3.2 POST-EXCAVATION

- 3.3.1 **Report:** the content of the fully illustrated and integrated report on the building investigation and the strip, map and record will comprise the following:
- (i) a title page detailing site address, NGR, author/originating body, client's name and address a site location plan related to the national grid;
 - (ii) full content's listing;
 - (iii) a brief account of the results. This will include a description of the buildings' layout, as well as their age, fabric, form and function. This will be followed by a discussion of the sequence of development, process layout and use over time, its relationship with other buildings in the vicinity, in terms of architecture and function;
 - (iv) an explanation to any agreed variations to the brief, including any justification for any analyses not undertaken;
 - (v) a description of the methodology employed, work undertaken and results obtained;

- (vi) a description of the archaeological background, and an account of the historical development of the site;
- (vii) copies of plans, photographs, and other illustrations as appropriate;
- (viii) plans of each of the excavated trench showing the archaeological features exposed;
- (ix) an overall phased plan with sections of the excavated archaeological features;
- (x) a consideration of the importance of the archaeological remains present on the site in local, regional and national terms;
- (xi) a copy of this written scheme of investigation, and indications of any agreed departure from that design;
- (xii) a complete bibliography of sources from which data has been derived.

3.2.2 The report will be in the same basic format as this written scheme of investigation; a copy of the report can be provided on CD, if required. Copies of the report will be supplied to the client as requested, and further digital copies will go to the appropriate repository.

3.2.3 **Archive:** the results of all archaeological work carried out will form the basis for a full archive to professional standards, in accordance with current English Heritage guidelines (*Management of Archaeological Projects*, 2nd edition, 1991). The project archive represents the collation and indexing of all the data and material gathered during the course of the project.

3.2.4 The deposition of a properly ordered and indexed project archive in an appropriate repository is considered an essential and integral element of all archaeological projects by the IfA in that organisation's code of conduct. OA North conforms to best practice in the preparation of project archives for long-term storage. OA North practice is to deposit the original record archive of projects with the appropriate County Record Office.

3.2.5 The Arts and Humanities Data Service (AHDS) online database project *Online Access to index of Archaeological Investigations* (OASIS) will be completed as part of the archiving phase of the project.

3.2.6 **Confidentiality:** all internal reports to the client are designed as documents for the specific use of the Client, for the particular purpose as defined in the project brief and project design, and should be treated as such. They are not suitable for publication as academic documents or otherwise without amendment or revision.

4. OTHER MATTERS

- 4.1 **Health and Safety:** archaeological staff and visitors will respect Health and Safety provisions and site-specific safety regulations. It is the policy of OA North ('the Employer') to conform fully with the requirements of the Health and Safety at Work Act (1974), and all site procedures will be in accordance with the guidance set out in the Health and Safety Manual compiled by the Standing Conference of Archaeological Unit Managers (1997). Attention will also be paid to the requirements of more recent legislation, including the provision and use of Work Equipment Regulations (1992), the Management of Health and Safety at Work Regulations (1992), and the Construction (Design and Management) Regulations (1994).
- 4.2 In furtherance of the duty of care imposed by the Health and Safety at Work Act (1974), the Employer shall make available to his employees whatever reasonable facilities are required by particular circumstances, *eg* appropriate protective clothing, safety equipment, rest breaks for specialised tasks, etc. A written risk assessment will be undertaken in advance of project commencement, and copies will be made available on request.
- 4.3 **Insurance:** evidence of Public Liability Insurance to the minimum value of £5m, and Professional Indemnity Insurance to the minimum of £2m, will be provided prior to the commencement of the archaeological works.
- 4.4 **Project Monitoring:** the aims of monitoring are to ensure that the archaeological works are undertaken within the limits set by the Written Scheme of Investigation, and to the satisfaction of the curatorial archaeologist at the Lancashire County Archaeology Service (LCAS). The curatorial archaeologist will be given at least five days' notice of when work is due to commence, and will be free to visit the site by prior arrangement with the project director. It is anticipated that there will be at least one formal monitoring meeting during the course of the archaeological works, which should also be attended by the Client or his representative.
- 4.5 **Confidentiality:** the report is designed as a document for the specific use of the Client, for the particular purpose as defined in the project design, and should be treated as such; it is not suitable for publication as an academic report, or otherwise, without amendment or revision. Any requirement to revise or reorder the material for submission or presentation to third parties beyond the project design, or for any other explicit purpose can be fulfilled, but will require separate discussion and funding.

5 WORK TIMETABLE

- 5.1.1 **Excavation:** a seven-day period should be allowed to carry out the excavation, which allows for two days mechanical stripping of the modern surfacing, and five days manual excavation and recording.
- 5.1.2 **Report/Archive:** the report and archive will be produced within six weeks of completion of the fieldwork. OA North can execute projects at very short notice once a formal written agreement has been received from the client.

6 STAFFING

- 6.1 The project will be under the overall charge of **Ian Miller BA FSA** (OA North Senior Project Manager) to whom all correspondence should be addressed. Ian has considerable experience and particular research interests in Lancashire's industrial heritage.
- 6.2 The archaeological excavation is likely to be directed by **Graham Mottershead BSc** (OA North Project Officer). Graham is an highly experienced field archaeologist, who has a particular interest in Industrial Archaeology, and has carried out numerous surveys and excavations of former eighteenth- and nineteenth-century houses.

ILLUSTRATIONS

FIGURES

- Figure 1: Site location
- Figure 2: Location of the evaluation trenches 1-3 and the excavation area, superimposed on the Ordnance Survey first edition 25": 1 mile map, 1893
- Figure 3: Plan of evaluation trenches 1, superimposed on the Ordnance Survey first edition 25": 1 mile map, 1893
- Figure 4: Plan of the excavated remains of the eighteenth-century cottages

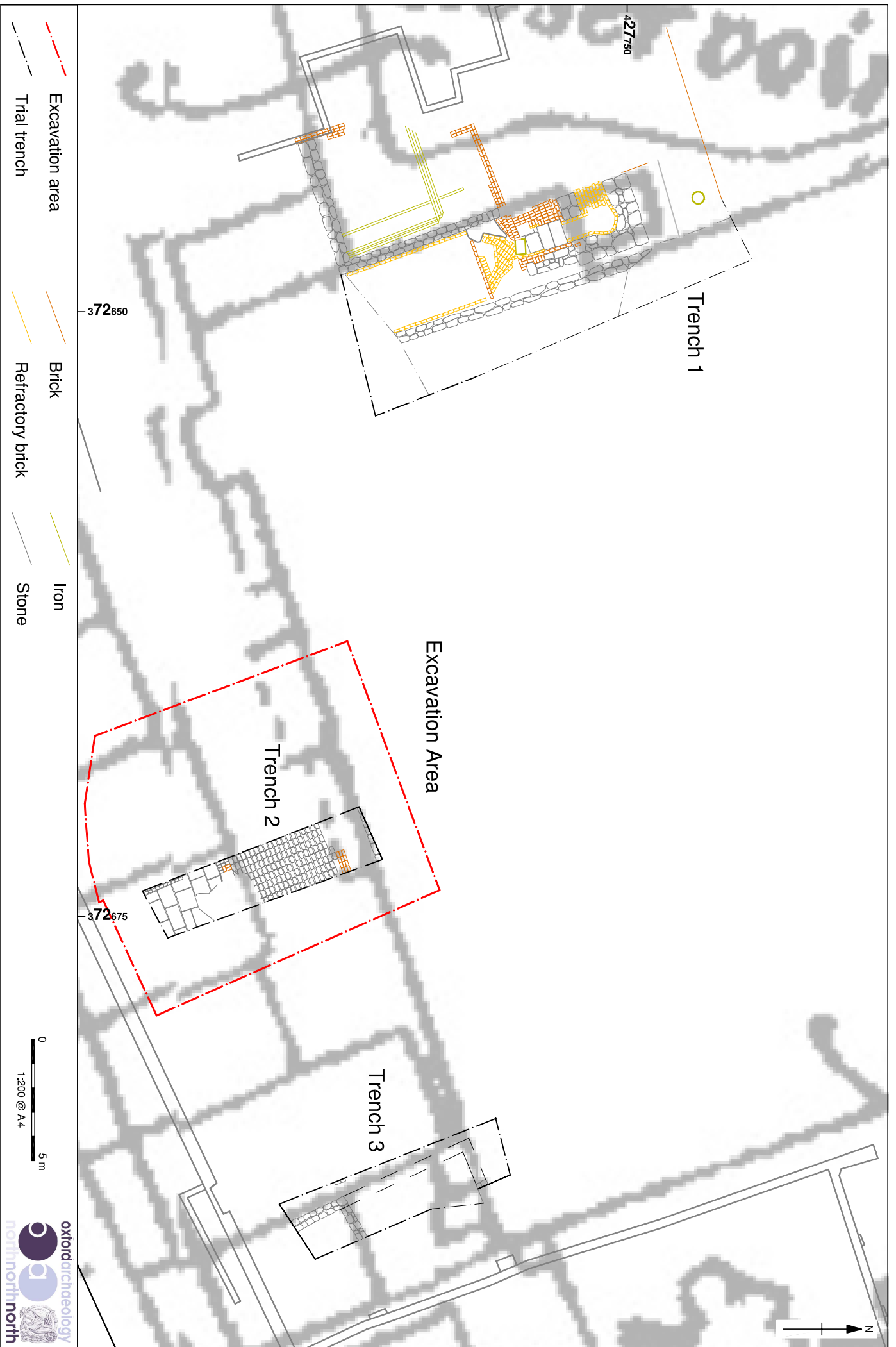


Figure 2: Location of evaluation trenches 1-3 and the excavation area, superimposed on the Ordnance Survey first edition 25":1 mile map, 1893

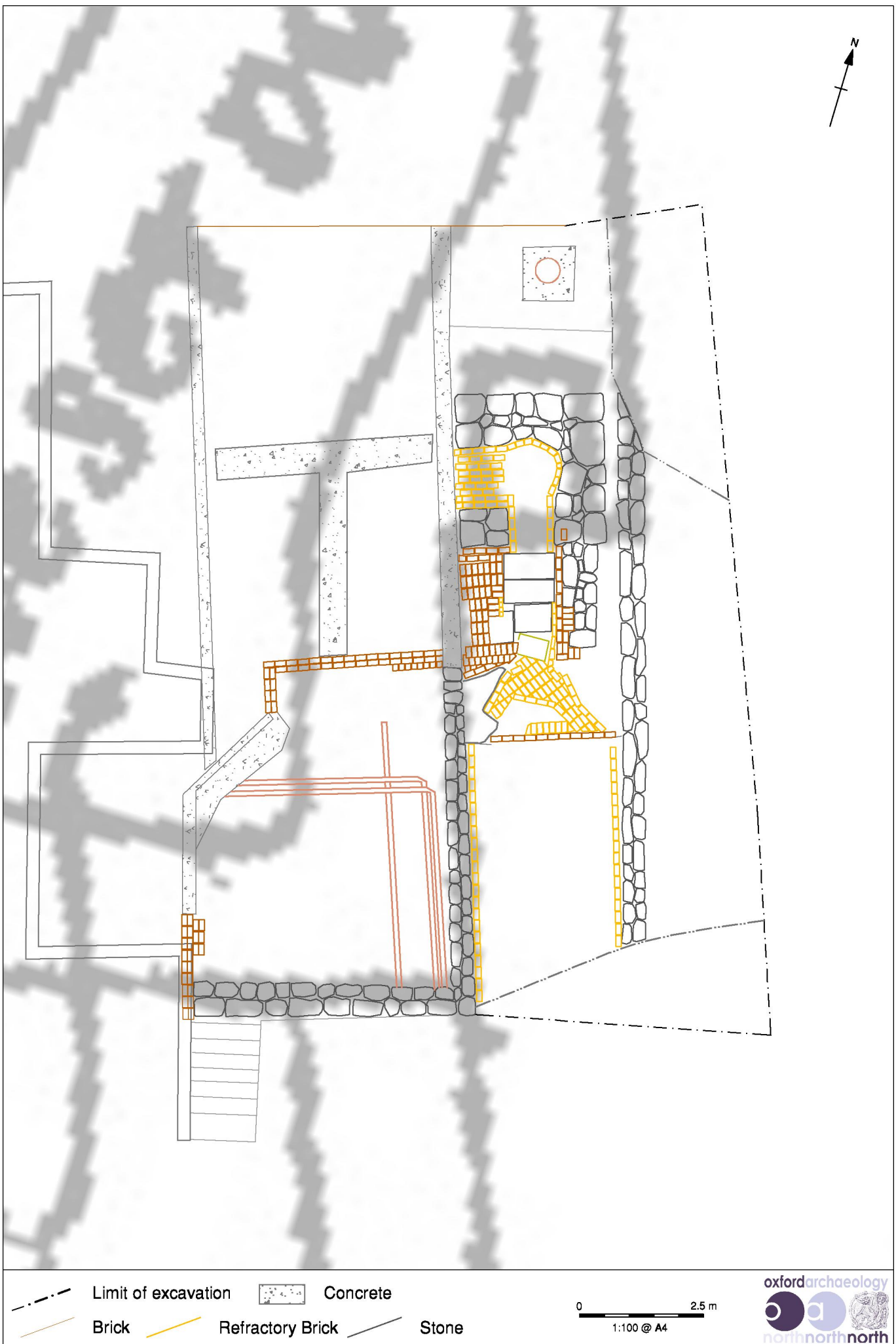


Figure 3: Evaluation trench 1, superimposed on the Ordnance Survey first edition 25":1 mile map, 1893

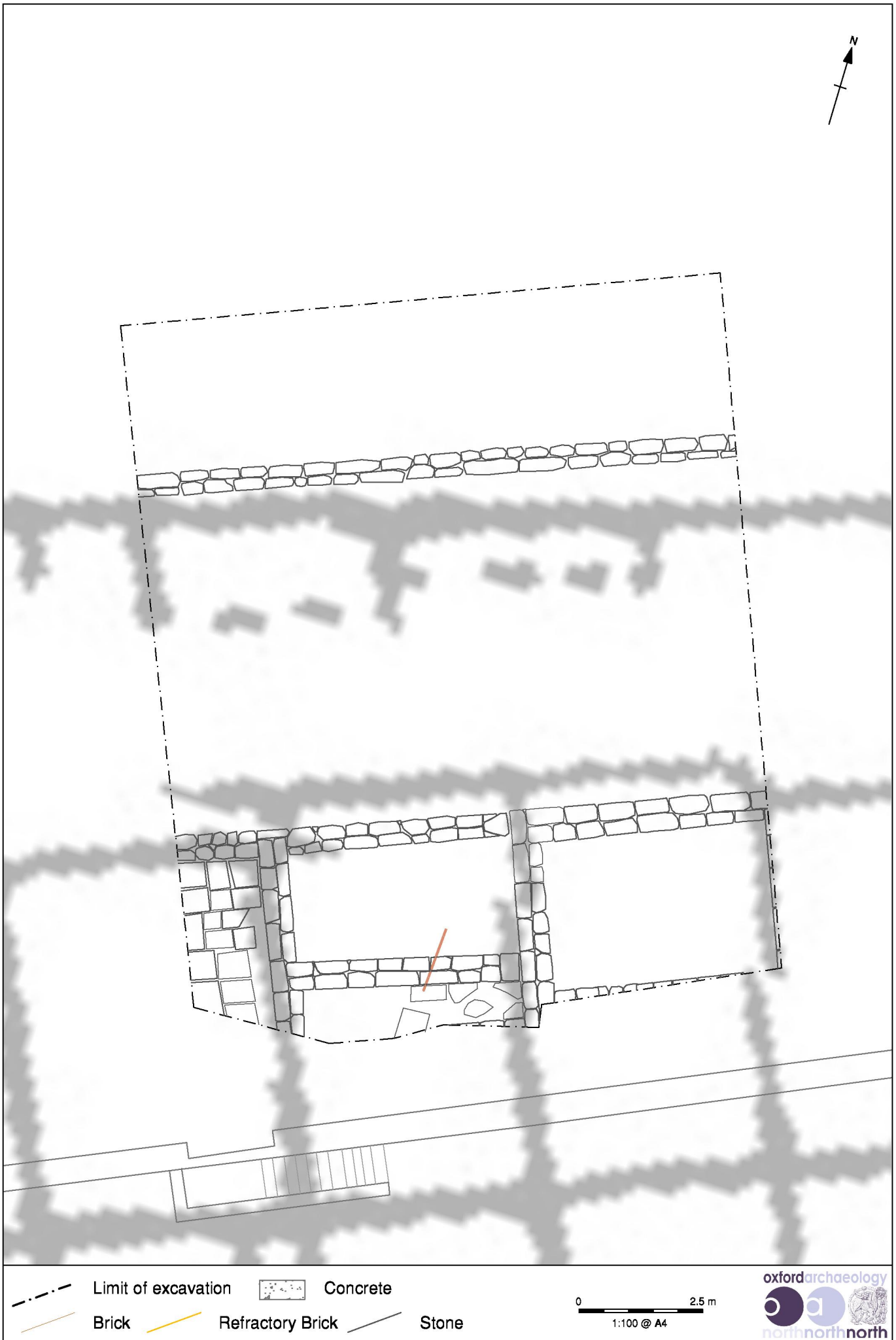


Figure 4: Excavation area superimposed on the Ordnance Survey first edition 25":1 mile map, 1893