

HELMSHORE MILLS TEXTILE MUSEUM, HELMSHORE, LANCASHIRE

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SUMMARY

Lancashire County Museums Service has recently secured a grant from the Heritage Lottery Fund to facilitate improvements to the interpretation and access at the site of Helmshore Mills Textile Museum, Helmshore, Lancashire (SD 77821 21541). The site incorporates two multi-storey textile mills, the earliest of which (Higher Mill) was built in 1789 as a water-powered fulling mill, and the second was erected in c1828 as a woollen weaving mill (Whitaker's Mill). Both mills and associated structures are collectively designated a Scheduled Monument (LA143).

Amongst a suite of minor modifications and improvements to the mills, it has been proposed that an element of the grant funding be used to create an accessible space between Higher Mill and Whitaker's Mill. It is envisaged that this new structure would form an accessible space in the centre of the site linking the two mill buildings, whilst highlighting their detached nature. It is proposed that the new building will be erected on the footprint of a former boiler house that was demolished during the 1970s, and will necessitate the demolition of a small modern building that links Higher Mill with Whitaker's Mill.

In order for the proposed development to proceed, Lancashire County Museums Service need to obtain Scheduled Monument Consent. Following discussions with English Heritage, it was recommended that a two-stage process was implemented; the first stage comprised an application for Scheduled Monument Consent to undertake an archaeological evaluation, the results of which could be used to support and inform a second application for Scheduled Monument Consent to proceed with the proposed development.

In May 2006, Lancashire County Museums Service commissioned Oxford Archaeology North (OA North) to devise a project design for an archaeological evaluation, which comprised the close archaeological monitoring and supervision of the excavation of geo-technical test pits within the area of the former boiler house. The project design was submitted to English Heritage for formal approval, and Scheduled Monument Consent to undertake the evaluation was obtained. The evaluation was completed during July 2006, and revealed considerable *in situ* remains of the former boiler house. These included the original north wall of the building, the internal floor, a boiler-seating wall, and *in situ* boiler mounting blocks. Elsewhere, a test pit excavated to the north of the boiler house exposed the remains of a culvert that appeared to breach the roof of a tailrace, whilst a further test pit confirmed that the area to the east of the boiler house did not contain any buried remains.

The results obtained from the evaluation indicate a probability that other buried remains pertaining to the boiler house will survive. In particular, it seems likely that elements of the flue will remain intact, and could be disturbed by ground-works associated with the proposed development. It is therefore recommended that a programme of archaeological recording is activated in conjunction with the proposed development, which will allow for a detailed record to be made of any structures exposed.

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Oxford Archaeology North would like to thank the staff of Helmshore Mills Textile Museum and Lancashire County Museums Service, particularly Ian Gibson, for sharing his extensive knowledge of the site, and to Anthony Pilling and John Bellwood of Lancashire County Council Property Group, for their advice and guidance throughout the course of the project. Thanks are also expressed to Jennie Stopford of English Heritage for providing considerable support and advice, and to Doug Moir of Lancashire County Archaeology Service for his support and advice. Thanks are also due to Lucy Dean of Turner and Townsend Project Management Limited for logistical support, and to the staff at Conlon Construction Ltd.

The evaluation was undertaken by Sean McPhillips, who also compiled the report. The illustrations were produced by Mark Tidmarsh, and the report was edited by Ian Miller, who was also responsible for project management.

1. INTRODUCTION

1.1 CIRCUMSTANCES OF PROJECT

- 1.1.1 In January 2005, Lancashire County Museums Service submitted an application to the Heritage Lottery Fund to obtain a grant to facilitate improvements to the access and interpretation of Helmshore Mills Textile Museum (centred on SD 77821 21541; Fig 1), which is a designated Scheduled Monument (LA 143). Amongst a suite of minor modifications and improvements to the mills, it was proposed that an element of the grant funding be used to create an accessible space between Higher Mill and Whitaker's Mill. It is envisaged that this new structure would form an accessible space in the centre of the site linking the two mill buildings, whilst highlighting their detached nature. The new building would also be used to introduce the visitor to the fundamentals of cloth manufacture, highlighting the differences between wool and cotton.
- 1.1.2 It is proposed that the new building is erected on the footprint of a former boiler house, which generated the steam used for the heating of the mills. The boiler house was demolished during the 1970s, and the depth and extent of buried remains was uncertain, although it was anticipated that the foundations of the exterior walls would survive at depth. A small, single-storey building was built partially across the site of the former boiler house in the 1980s, and it is envisaged that this building will be demolished as part of the proposed development.
- 1.1.3 The area of the former boiler house lies within the Scheduled Monument, and therefore Scheduled Monument Consent is required prior to the commencement of the development. Following negotiations with English Heritage, it was recommended that the application for Scheduled Monument Consent took a two-stage process. In the first instance, it was recommended that Scheduled Monument Consent was obtained to undertake a limited programme of archaeological investigation, primarily to establish the depth and nature of any buried remains that may be affected by the development proposals. The results obtained from this evaluation could then be used to inform and support a later application for Scheduled Monument Consent.
- 1.1.4 In May 2006, Lancashire County Museums Service commissioned Oxford Archaeology North (OA North) to devise a project design for an archaeological evaluation, which comprised the close archaeological monitoring and supervision of the excavation of geo-technical test pits within the area of the former boiler house (*Appendix I*). The project design was submitted to English Heritage for formal approval, and Scheduled Monument Consent to undertake the evaluation was obtained. The evaluation was completed during July 2006. All work was consistent with the relevant standards and procedures of the Institute of Field Archaeologists, and generally accepted best practice.

- 1.1.5 This report presents the results of this fieldwork in the form of a short document, followed by a statement of the archaeological potential of the area, the impact of the proposed development on buried remains, and recommendations for archaeological mitigation.

2. METHODOLOGY

2.1 EVALUATION TRENCH AND TEST PITS

- 2.1.1 A programme of machine-excavated geo-technical test pits was implemented to establish the presence or absence of any below-ground archaeological deposits (Fig 2). A single trench (Trench A) measuring 4.4m by 2.20m, and a test pit (TP1) measuring 2.20m by 1.10m, were excavated across the site of the former boiler house. Test Pit 2 measured 0.70m by 0.50m, and was placed within a flagged yard directly west of the former boiler house. Test Pit 3 measured 0.50m² and was located north-east of the former boiler house, adjacent to the access track to Helmshore Cottages.
- 2.1.2 The trench and test pits were excavated in a stratigraphical manner by a mechanical excavator under the supervision of an OA North archaeologist. All structural remains encountered were cleaned manually, and retained *in situ*, and the spoil heaps were scanned for artefacts. The maximum depth of excavation varied, but did not exceed 1.2m.
- 2.2.3 The recording comprised a full description and preliminary classification of the features and materials revealed, on OA North *pro-forma* sheets. A plan was produced showing the location of all the trenches and features, with representative sections being drawn at a scale of 1:10. A photographic record, using monochrome and colour slide formats, was maintained.

2.3 ARCHIVE

- 2.3.1 The results of the fieldwork will form the basis of a full archive to professional standards, in accordance with current English Heritage guidelines (*Management of Archaeological Projects, 2nd edition, 1991*) and the *Guidelines for the Preparation of Excavation Archives for Long Term Storage* (UKIC 1990). The project archive represents the collation and indexing of all the data and material gathered during the course of the project. 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.
- 2.3.2 The archive for the archaeological work undertaken at the site will be deposited with Lancashire County Museums Service. A synthesis (in the form of the index to the archive and a copy of the publication report) will be deposited with the Lancashire Sites and Monuments Record. A copy of the index to the archive will also be available for deposition in the National Archaeological Record in London.

3. BACKGROUND

3.1 SITE LOCATION AND GEOLOGY

3.1.1 Helmshore Mills Textile Museum is located within the township of Haslingden, in Rossendale, Lancashire (centred on SD 77821 21541). It lies to the south-west of Haslingden town centre, and is bounded by Holcombe Road and a railway viaduct to the west and east respectively (Fig 1).

3.1.2 The solid geology of the Haslingden and Ramsbottom region comprises coarse-grained sandstones ('gritstone'), which are generally horizontal and separated by softer mudstone and siltstone beds (Countryside Commission 1998, 107). In broad terms, this has created a terraced landscape of plateaux and interlocking escarpments corresponding to the layers of sandstone and mudstone (*ibid*).

3.2 HISTORICAL BACKGROUND

3.2.1 The following section presents a summary historical and archaeological background of the study area, and has been compiled in order to place the results of the evaluation into a wider archaeological context. Much of the historical background derives from a Conservation Statement compiled by Lancashire County Museums Service, and little recourse to primary sources has been undertaken as part of the present project.

3.2.2 The study area incorporates two former textile mills: Higher Mill and Whitaker's Mill. Higher Mill is the earlier of the two, dating to the late eighteenth century, and was built as a water-powered fulling mill. The fulling of woollen cloth after weaving was the earliest textile process to be mechanised and power driven (Ashmore 1969, 37-8). The fulling process involved beating the woollen cloth in water and treating it with fuller's earth, which cleaned and scoured the cloth and also resulted in thickening and shrinking. Water-powered fulling mills (Plate 1) were active in Burnley, Colne, Manchester and Salford by 1300 (Cossons 1975, 255), and were numerous in all woollen-manufacturing area by the late eighteenth century; Baines' *Directory* of 1825 lists 12 fulling mills in Rossendale alone, although Higher Mill at Helmshore was one of the first.

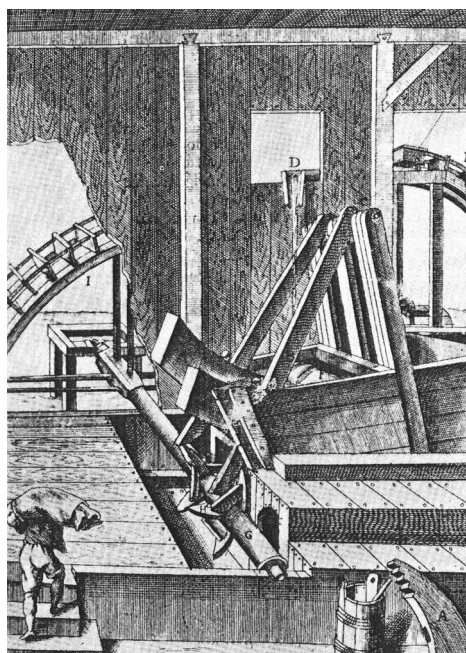


Plate 1: Interior of a fulling mill
(reproduced from Zonca 1607)

- 3.2.3 The importance of the woollen-manufacturing industry to the local area during this period is alluded to by Aikin during his tour of Lancashire in the late eighteenth century: *'Haslingden has been greatly improved within the last twenty years, chiefly from the increase of the woollen manufacture. The town and hamlets of Haslingden are reckoned now to contain about 3000 inhabitants, which is triple the number they contained forty years since'* (Aikin 1795, 276). Despite the regional importance of fulling mills, however, their surviving physical remains are rare, as many were developed into larger spinning factories with the advent of powered spinning and carding machinery. Indeed, Higher Mill at Helmshore has been regarded as the best surviving example in the country (Ashmore 1969, 39), hence its Scheduled Monument designation.
- 3.2.4 **Higher Mill:** the mill was built in 1789 by William Turner, who had two other mills in Helmshore, and was the largest Lancashire woollen manufacturer of his day (Aspin 1995, 119). It comprises a three-storey structure of sandstone rubble construction with timber beams, but without columns. The original mill building appears to have been constructed on a simple rectangular plan along an east/west axis, with a square stone-slatted roof. A long narrow mill pond was constructed to the north of the mill, drawing water from the Ogden brook. A smaller mill pond was also built on the west bank of the river in order to trap land drainage water under the terms of a water right granted in 1792; the pond was later exploited as a source of water for the steam-power plant associated with Whitaker's Mill.
- 3.2.5 Higher Mill is believed to have been water-powered from its inception, and the present pitch-back waterwheel is the third known to have been fitted; the positions of the earlier waterwheels are visible as blocked arched apertures in the wall of the mill. The present wheel was installed in Higher Mill in c1830 (Ashmore 1969, 39), and has an iron axle, iron hubs and rims, wooden spokes and buckets. It has a diameter of 17ft, and could develop an estimated 50hp (UMAU 2005). The power from the waterwheel was transmitted via rim gearing and a shaft that ran along the north side of the fulling stocks on the ground floor of the mill, with drive to the floor above to power raising machines (Ashmore 1982, 206). Despite the conversion of much of the machinery in Higher Mill to electric drive during the twentieth century, the waterwheel continued in operation to drive the fulling stocks.
- 3.2.6 Having passed over the waterwheel, the water was channelled back to Ogden brook via a tailrace. This lies beneath the yard to the east of Whitaker's Mill, crossing the area of the former boiler house that forms the focus of the present study. It links into a earlier tailrace that was associated with the original waterwheel.
- 3.2.7 Relatively little modernisation to the mill was carried out during its working life, although the construction of a railway viaduct at the eastern end of the building during the late 1840s necessitated the demolition of 10m from the eastern end of the mill. As part of the agreement to demolish this element of the mill, the East Lancashire Railway Company paid the mill owners approximately £5000 compensation, and offered two railway arches for storage.

- 3.2.8 It is uncertain precisely when the boiler house that forms the focus of the present investigation was erected, although it was probably contemporary with a single-storey extension linking the two mills (Plate 2). A recent survey concluded that this was possibly constructed sometime during the late nineteenth century, and was further extended in the 1980s, following the demolition of the boiler house (UMAU 2005). During its operational life, the boiler house contained a single Cornish-type boiler, which is thought to have been installed after the end of the First World War (I Gibson pers comm). Boilers of this type typically measured 16ft by 6ft. This boiler, however, was not connected with the mill's steam-power plant, but was intended to generate the steam for heating the working floors in the mill.



Plate 2: The boiler house (on the left) prior to demolition

- 3.2.9 Higher Mill closed as a commercial enterprise in June 1967, and was advertised for sale. However, members of Helmshore Local History Society lobbied the then Secretary of State, which resulted in the mill obtaining Scheduled Monument designation. The Higher Mill Museum Trust was then formed, and bought the mill by private treaty. In November 1975, the Higher Mill Museum Trust leased Higher Mill to Lancashire County Council for a period of 99 years.
- 3.2.10 **Whitaker's Mill:** dating to the 1820s, this mill was similarly built by William Turner as a woollen mill. It comprised a three-storey building of stone construction, and was intended to house the newly-developed power looms, which were rapidly being adopted across Lancashire at this time (Hopwood 1969).
- 3.2.11 A large part of the mill was destroyed by fire in 1858 and, consequently, the eastern end of the present structure is all that survives of the original mill. It was rebuilt on a larger scale in 1860, constructed of random stone and a multi-pitched roof. At the same time a remote, square plan, stone chimney was built along the western side of the Ogden brook and the turnpike road, connected by an underground flue that ran north-west from beneath the two mills, and below Holcombe Road. Whilst it is uncertain precisely what type of steam engine was used in the mill, the steam-raising plant utilised Lancashire boilers fitted with economisers. Internally, clear evidence for the early power for the mill has been preserved; cast-iron wall boxes on each floor denote a vertical shaft up through the mill which in turn powered line shafts on the three floors.
- 3.2.12 In 1922 the mill was taken over by L Whitaker and Son, who installed condenser cotton spinning plant. This included eight pairs of Taylor Lang

three speed condenser cotton mules made in 1903/5, that were situated on two 1000m² floors.

3.2.13 Whitaker's Mill continued in commercial use until December 1978, but was purchased subsequently by Lancashire County Council. The mill today has one carding and spinning floor with operational Tatham carding engines and four Taylor Lang mules (totalling 2856 spindles). The ground floor contains the original hopper and scutcher machines. The mill building and chimney survive virtually unchanged since the 1859/60 rebuild, although most of the mill has been strap-pointed in the 1960s.

3.2.14 Whilst Whitaker's Mill is of less architectural and technological significance than Higher Mill, it was nevertheless added to the Scheduled Area due to its proximity to Higher Mill, and on account of its intact condenser cotton-spinning plant.

3.3 ARCHAEOLOGICAL INTERVENTIONS

3.3.1 The two textile mills were the subject of a recent archaeological building survey, undertaken by the University of Manchester Archaeological Unit (UMAU) between December 2004 and February 2005. This work was commissioned by Lancashire County Museums Service, and was intended to inform the renovation and refurbishment of the mills. The archaeological work comprised a photographic survey of the standing buildings and their setting, the annotation of architect's plans to show the form and location of any structural features of historic significance, and measured cross-sections of both mill buildings. This survey was completed, and whilst an interim statement was released in January 2005 (UMAU 2005), the final report is still in production.

4. RESULTS

4.1 INTRODUCTION

4.1.1 A single trench (Trench A) and a test pit (TP 1) were excavated across the site of the former boiler house (Fig 2). A further two test pits (TP 2 and TP 3) were placed elsewhere across the study area in locations that may be subject to limited ground disturbance as part of the proposed development. All archaeological interventions were intended to establish the presence/absence, nature, depth and extent of any buried remains to inform an application for Scheduled Monument Consent. Significant archaeological remains were encountered within Trench A and TP 1 and TP 2 (Figs 3 and 4). In addition, remains associated with drainage into the tail race were exposed beneath the flagged yard directly to the west of the former boiler house.

4.2 SITE DESCRIPTION

4.2.1 At the time of investigation, the footprint of the former boiler house was overlain with loose gravel, which had been deposited in recent years (Plate 3). This sealed a single-course flagstone surface, which butted the north wall of a single-storey stone-building extension connecting the two mills. A north/south-aligned wall (09) of a comparable date, extended north from a set of steps in front of the building. The part of the site investigated by TP 2 comprised a small yard, surfaced with sandstone flags, which lies some 0.5m below the ground level to the north. This part of the site was occupied by a single-storey structure (Plate 2), which has since been demolished. The site of the boiler house and the small flagstone yard are bounded to the north by an unsurfaced track, which provides an access route to domestic properties (Helmshore Cottages) to the west of the mill complex.



Plate 3: Looking west across site of boiler house

4.2.2 A further test pit (TP 3) was placed close the western edge of the track, and was intended to establish the presence or absence of buried archaeological remains within that part of the site. A summary description of each context revealed in the trenches is presented in *Appendix 2*.

4.3 TRENCH AND TEST PIT DESCRIPTIONS

- 4.3.1 **Trench A:** an east/west-aligned trench, measuring 5m by 3.4m (Plate 4), was placed along the north elevation of the single-storey building linking the two mills (Fig 2). The loose, uppermost deposits within the trench, comprising gravel and rubble mixed with sand, were battered to a safe angle of repose, reducing the investigated area to 4.4m by 2.2m. The trench was excavated to an overall maximum depth of 0.85m.
- 4.3.2 The exposed archaeological remains comprised an *in situ* flagstone surface, representing the floor of the boiler house, and the boiler seating wall (Fig 3), which were exposed at depths of 0.77m and 0.73m respectively below the flagstone surface immediately to the south of the trench. The exposed section of the boiler house floor (**03**) measured at least 1m wide, extending north/south across the trench. It was located along the western edge of the trench, at a height of 49.23m aOD. It comprised irregularly-sized stone flags laid upon compacted dark brown friable soil, and whilst many of the flags were fractured, the floor was otherwise intact. The floor had, however, been cut by the north wall of the single-storey washroom, which was erected during the 1980s, and presumably resulted in the complete loss of the floor **03** beyond the southern edge of the excavated area.
- 4.3.3 Floor **03** was overlaid along the western edge of the trench by a large stone block (**05**), measuring 0.60m x 0.30m x 0.17m thick, which had two courses of unbonded machine-cut bricks attached to its southern edge (Plate 4). Another block of similar width was partially exposed along the same alignment in the north-western part of the trench. It is possible that the blocks represent a low partition within the room, although the limited dimensions of the excavated trench preclude a firm interpretation.
- 4.3.4 The upper surface of the boiler seating wall (**02**) was exposed some 1.3m to the south of floor **03**, at a height of 49.27m aOD (Plate 5). This low wall measured 1m wide, extending north/south across the trench, and was exposed at a depth of 0.73m below the modern ground surface. It comprised a single skin of refractory brick headers (each measuring 220mm x 110mm x 90mm) along the eastern edge, bonded to three strings of hand-made bricks (200mm x 100mm by 80mm) set in lime-based mortar. A row of hard-fired Accrington bricks, set in an ash-rich mortar, lined the western edge of the seating wall. The rationale for the inclusion of Accrington bricks is uncertain; they may have been intended purely for decorative purposes, although they may perhaps denote a later addition to the structure. A single concave boiler mounting block was exposed *in-situ* on top of the wall, representing the sole survivor of what would have been a series of such blocks. However, a line of nine *in situ* boiler mounting blocks (**01**) was exposed 0.9m to the east, representing the position of the second boiler seating wall.
- 4.3.5 The row of boiler mounts (**01**) was orientated north/south along the eastern edge of the trench (Plate 5); the southern edge of the row had seemingly been removed during the construction of the single-storey washroom during the 1980s. Each mount measured 0.30m wide and 0.33m high, and comprised a flat-based refractory block with a chamfered edge along the top sloping, which

will have provided the point of contact with the boiler. The paucity of boiler mounts on the western seating wall suggest that the boiler was dragged rather than lifted away from its original position during removal.

- 4.3.6 The 0.90m-wide space between the boiler mounting blocks (**01**) and seating wall **02** was filled by brick rubble and fuel waste. This presumably overlay a reduced-level floor beneath the boiler, although this was not exposed during the evaluation.
- 4.3.7 Another, discrete, deposit of rubble bordered the eastern edge of floor **03**, which spread over a width of 1.3m across the central part of the trench. It is possible the material represented backfill overlying one of the tailrace culverts running beneath the boiler house, although this was not interpreted with confidence.
- 4.3.8 A layer of concrete infill (**04**), observed butting the southern edge of floor **03** and boiler seating wall **02**, formed part of the north wall of the extension to the washroom, which was built during the 1980s. This appeared to be associated with an area of brick repair, situated below the doorway for a distance of 3.40m and at height of 1m above the concrete infill. It comprised eight courses of glazed bricks married with cement mortar, which was also possibly installed during the extension work to the washroom building in the 1980s (Plate 6).
- 4.3.9 The uppermost deposit in the trench comprised mixed brick rubble and sand, measuring up to 0.80m thick, that represented building demolition during the 1970s. This was sealed below a modern flagged surface in the south-west corner of the trench.
- 4.3.10 **Test Pit 1:** this east/west-aligned test pit measured 2.20m by 1.2m, and was placed across the north-western corner of the former boiler house (Plate 7). It was excavated to a maximum depth of 0.40m onto the top of a stone-flagged floor (**10**), which was exposed at a depth of 49.64m aOD (Fig 4). Other *in situ* remains encountered included the north wall (**06**) of the boiler house, part of the original floor (**10**), and a small brick wall (**08**) of uncertain function that overlay the floor. The structural remains were backfilled with loose soil and debris, including rubble and plastics, indicative of recent deposition.
- 4.3.11 The earliest remains exposed in the test pit comprised a 0.40m-wide stone wall (**06**), exposed immediately below the modern gravel surface at a height of 49.74m aOD, and a floor (**10**), represented by a single flagstone. Wall **06** was aligned north-east/south-west, and was exposed to a depth of 0.40m. It comprised two courses of irregularly-sized stones, varying between square blocks measuring 100mm², and thin slabs measuring 100mm by 50mm, that were bonded with compacted ash-rich grey mortar. The wall undoubtedly represented the north wall of the boiler house.
- 4.3.12 Wall **06** was abutted by a large, worn flagstone (**10**), which appeared to be of the same phase of construction as the wall. It was exposed at the same level as floor **03** in Trench A, and almost certainly represented part of the original floor within the boiler house.

- 4.3.13 Wall **08** was located in the centre of the test pit, aligned north/south, and placed on top of the boiler house floor. The wall comprised three courses of machine-pressed, frogged bricks, which had been crudely laid without the use of any bonding material. The rationale of wall **09** remains uncertain, although it may have formed the foundation for a partition within the boiler house, representing a modification to the original build.
- 4.3.14 **Test Pit 2**: this test pit measured 0.70m by 0.50m, and was placed within the small yard situated to the north of the former boiler house. The surface of the yard comprises large flagstones, one of which was lifted to allow for the excavation of the test pit. This was undertaken primarily to establish the ground conditions in the vicinity of the projected route of the buried tailrace.
- 4.3.15 A north/south-aligned culvert (**II**) was encountered immediately below the flagstone at a depth of 1.20m below the yard surface (Plate 8). The culvert was observed running into a damaged section of the tailrace roof, which was observed at a depth of 0.30m below the base of the culvert. A 90mm-diameter iron pipe had been installed at the entrance into the culvert, which appeared to run in the direction of the new washroom building. However, the pipe was seemingly no longer in use as a drain.
- 4.3.16 **Test Pit 3**: the test pit was placed adjacent to the access track that passes along the eastern edge of the mill complex (Fig 2). It measured 0.50m², and was excavated to a depth of 1m. No *in situ* archaeological features were observed in the pit (Plate 9).
- 4.3.17 The exposed deposits comprised a 0.40m-thick layer of red silty-clay at the base of the test pit, which was sealed by 0.15m-thick layer of loose subsoil. This was overlaid by 0.35m-thick deposit of stone overburden that was associated with levelling for the access track.

5. SIGNIFICANCE OF THE REMAINS

5.1 SIGNIFICANCE

- 5.1.1 There are a number of different methodologies used to assess the archaeological significance of sites, although that commonly used is the 'Secretary of State's criteria for scheduling ancient monuments', which is included as Annex 4 of PPG 16 (DoE 1990). These criteria are most appropriately used in an assessment of an entire site, but can be applied to elements within a single site. The following section attempts to assess the significance of the former boiler house using these criteria.
- 5.1.2 **Period:** the *in situ* archaeological remains exposed within the excavated trench and test pits are all of a late nineteenth- or twentieth-century date. They are of the same broad period as the wider industrial monument.
- 5.1.3 **Rarity:** in general terms, the extant remains of boiler houses associated with textile mills can be considered to be of regional rarity. The boiler house at Helmshore, however, was associated with the mills' heating system, rather than the steam-power plant, which is likely to increase the rarity value of the excavated remains.
- 5.1.4 **Documentation:** the availability of collated, published material relating to Helmshore Textile Mills as a whole is surprisingly scant. This appears to be particularly the case with the boiler house, and no firm date for its construction has been established, although it should be stressed that a comprehensive review of any available primary documentation has not been undertaken as part of the present project. Documentary research may furnish additional evidence, perhaps including more precise dating of the construction of the relevant building, although it should not be assumed that such documentation is available.
- 5.1.5 **Survival/Condition:** the evaluation has demonstrated that there is considerable survival of the former boiler house, and that the buried remains are in good condition. The full extent of the buried remains, however, has not been established, and there is considerable potential for additional buried remains to survive across the site of the former boiler house. In particular, it is considered likely that the buried remains of the flue will survive within the area of the proposed development.
- 5.1.6 **Fragility:** the surviving buried remains of the boiler house may be adversely affected by the proposed development, dependent upon the final design proposals.
- 5.1.7 **Potential:** all sites have the potential to reveal specific information that is not available from other sources. The buried remains of the boiler house certainly have the potential to furnish a better understanding of its original layout.

5.2 ASSESSMENT

- 5.2.1 Using the above criteria, it may be concluded that the buried remains of the boiler house are of regional significance, notwithstanding that they form part of a Scheduled Monument. It is therefore recommended that the proposed development should be designed to ensure that the buried remains are preserved *in situ*. It should, however, be noted that the remains have an educational value, and the possibilities for their *in situ* exposition within the proposed new building should be considered.

6. IMPACT

6.1 IMPACT

- 6.1.1 In broad terms, the archaeological impact of any development of the study area can be assessed as being either direct or indirect.
- 6.1.2 *Direct Impact:* this would involve an alteration to the physical condition of the site, which might be either positive or negative. A positive direct impact might include the removal of possible threats to the site, such as causes of erosion, whilst a negative direct impact would involve damage or destruction to any buried remains. These impacts can be refined by assessing the likely extent of the alteration to the site once a detailed design proposal has been formulated.
- 6.1.3 *Indirect Impact:* this would involve an alteration to the setting of a site, and may again be either positive or negative. Indirect impacts might, for instance, improve or detract from the appearance, understanding or appreciation of a site.

6.2 SUB-SURFACE REMAINS

- 6.2.1 There are several areas of the Scheduled Monument that would be subject to ground disturbance as part of the proposed development. The most significant of these is the area of the former boiler house, which has formed the focus of the present programme of works. Other areas include the edge of the present access track to Helmshore Cottages, and a short section of the original headrace channel on the northern side of Higher Mill.
- 6.2.2 *The former boiler house:* the evaluation has demonstrated that the construction of the washroom extension during the 1980s had a negative impact on the buried structural remains associated with the former boiler house. However, the survival of buried remains beneath the 1980s extension is at present uncertain. In particular, the route of the flue from the boiler house may pass through this area. This will require consideration should the demolition of the washroom extension be implemented as part of the proposed development.
- 6.2.3 The buried remains of the boiler house directly to the north of the washroom extension survive *in situ*, protected by a deposit of rubble in excess of 0.32m thick. The construction of the proposed new link building may have a direct impact on buried remains of the former boiler house. In particular, the original stone wall, exposed at a height of 49.74m aOD within Test Pit 1, may incur a direct negative impact. The levels of the other remains, namely the original floor surface and the boiler seating walls, are such that they may not be affected by the proposed development.

- 6.2.4 **The access track:** the excavation of Test Pit 3 has confirmed an absence of buried structural remains along the western edge of the access track to Helmshore Cottages. The proposed installation of new surface drainage infrastructure will not therefore have a negative impact on the sub-surface archaeological resource. Indeed, improved surface drainage may even be seen as a positive direct impact, as it will remove a potential cause of erosion to the extant remains.
- 6.2.5 **The original headrace:** the point at which the headrace from the millpond to the original waterwheel entered Higher Mill is marked in the northern elevation of the mill by a blocked arched aperture, the crown of which is presently visible above ground level. A path currently exists between the north elevation of the mill and the millpond (Plate 10), which provides visitor access to the extant headrace. An element of the proposed development allows for the improvement of the visitor paths in this area of the site, which may result in a slight lowering of the present path level. Whilst this is unlikely to have a negative impact on any buried remains, it may expose the edges of the original headrace, which would require an accurate archaeological survey.



Plate 10: North elevation of Higher Mill

7. RECOMMENDATIONS FOR ARCHAEOLOGICAL MITIGATION

7.1 INTRODUCTION

- 7.1.1 Current legislation draws a distinction between archaeological remains of national importance and other remains considered to be of lesser significance. Those perceived to be of national importance may require preservation *in situ*, whilst those of lesser significance may undergo preservation by record, where high local or regional significance can be demonstrated.
- 7.1.2 The buried remains at Helmshore Mills form part of the Scheduled Monument, and as such may require preservation *in situ*. The present design proposals for the new link building would have a negative impact on the north wall of the former boiler house, unless the level of the new floor is to be raised slightly to a height in excess of 49.74m aOD. Similarly, the fragile boiler mounting blocks lie *in situ* at a height of 49.68m aOD. Other significant archaeological remains, including the boiler house floor and the boiler seating walls, lie at a level that is unlikely to be disturbed as part of the new development. These remains are sealed beneath a deposit of loose rubble, the removal of which may be considered a desirable option prior to development. Moreover, it should be noted that a detailed plan of the former boiler house and its associated flue system does not currently exist.

7.2 ARCHAEOLOGICAL SURVEY

- 7.2.1 It is recommended that a limited programme of archaeological survey is implemented in conjunction with the proposed development. As a minimum requirement, it is suggested that an archaeological watching brief monitors ground-preparation works across the site of the former boiler house, assuming that the levels of the finished surface are raised sufficiently to allow for the retention of buried structures. This would be targeted in particular at identifying the remains of the flue system associated with the boiler house, and any buried remains that may survive beneath the 1980s extension to the washroom.
- 7.2.2 A preferable option would be to remove the modern demolition rubble within the boiler house and expose the full plan of the building, allowing a detailed archaeological record to be compiled. This would aid the interpretation and current understanding of the former structure, and could be used not just for management purposes, but perhaps as a key educational tool for the use of future visitors to the site. It would also allow informed decisions to be reached concerning the detail of the proposed new building.
- 7.2.3 A archaeological watching brief should also be maintained during the works associated with the installation of a new public access track immediately to the north of Higher Mill. This should be targeted at recording any structures associated with the headrace to the original waterwheel.

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APPENDIX 1: PROJECT DESIGN

**HELMSHORE MILLS
TEXTILE MUSEUM,
HELMSHORE,**
Lancashire

**Archaeological Investigation
Project Design**



Oxford Archaeology North

May 2006

Lancashire County Council

OA North Tender No: t2730

NGR: SD 77821 21541

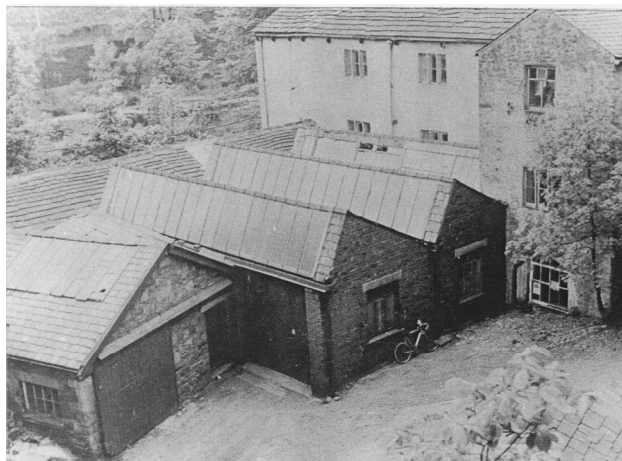
1. INTRODUCTION

1.1 **Project Background:** the Helmshore Mills Textile Museum lies within the township of Haslingden, Lancashire (centred on SD 77821 21541). The site incorporates two textile mills, the earliest of which was built in 1789 as a water-powered fulling mill, and the second was erected in the 1820s. Both buildings are now a designated Scheduled Monument (LA 143), and are occupied by Lancashire County Council, who use the site as a textile museum.

1.2 The two mill buildings incorporate several floors, many with split-levels, making access difficult for ambulant disabled visitors. In addition, it is felt that the current interpretative provision could be improved, notably that the presence of two distinctive mills on the site is not easily distinguishable to the visitor, and that there is no effective introduction to the site. One option for addressing these issues would be to relocate the reception and its associated function to a new build within the mill courtyard.

1.3 In January 2005, Lancashire County Museums Service submitted an application to the Heritage Lottery Fund to obtain a grant to facilitate improvements to interpretation and access to the site. In particular, it was proposed that the grant funding be used to create a new accessible space in the centre of the site linking the two mill buildings, and introducing the visitor to the fundamentals of cloth manufacture, highlighting the differences between wool and cotton. It is envisaged that the history of wool manufacture will be presented in Higher Mill, and that of cotton in Whitaker's Mill.

1.4 The new building will provide a physical link between the two mills, whilst highlighting the detached nature of the mills. The new building is to be erected on the exact footprint of the former boiler house for the mill, for which good documentary evidence survives. In particular, historic photographs show it to have been a single-storey structure, with access from the courtyard via a sliding door.



The former boiler house, shown on the left

1.5 The boiler house was demolished in recent years, and the depth and extent of buried remains is uncertain, although it is anticipated that the foundations of the exterior walls will survive at depth. It is proposed that this is clarified via the excavation of several geo-technical pits across the site of the former boiler house. The area lies within the Scheduled Monument, and therefore Scheduled Monument Consent is needed to enable the excavation of the geo-technical pits, which will be monitored under close archaeological

supervision. The archaeological results obtained from this work will be used to inform a later Scheduled Monument Application for the new build.

- 1.6 **Historical Background:** the study area encompasses two former textile mills: Higher Mill and Whitaker's Mill. Higher Mill was built in 1789 by the Turner family as a water-powered woollen fulling mill, and comprises a three-storey structure of sandstone rubble construction. This was one of the first fulling mills to have been built in Rossendale, and remained in operation until 1967. Relatively little modernisation to the mill was carried out during its working life, although the construction of a railway viaduct at the eastern end of the building during the late 1840s necessitated the demolition of the eastern end of the mill. Whitaker's Mill was built by William Turner in the 1820s, and was also intended as a woollen mill. During the 1920s, the mill was converted for condenser cotton-spinning use.
- 1.7 In November 1975, the Higher Mill Museum Trust leased Higher Mill to Lancashire County Council for a period of 99 years. Whitaker's Mill continued in commercial use until December 1978, but was purchased subsequently by Lancashire County Council.
- 1.8 **Archaeological Background:** the two textile mills were the subject of a recent archaeological building survey, undertaken by the University of Manchester Archaeological Unit (UMAU) between December 2004 and February 2005. This work was commissioned by Lancashire County Council, and was intended to inform the renovation and refurbishment of the mills. The archaeological work comprised a photographic survey of the standing buildings and their setting, the annotation of architect's plans to show the form and location of any structural features of historic significance, and a measured cross-sections of both mill buildings. This survey was completed, although the final report is still in production.
- 1.9 **Oxford Archaeology North:** OA North has considerable experience of the assessment, evaluation and excavation of sites of all periods, having undertaken a great number of small and large-scale projects during the past 20 years. Watching briefs, evaluations and excavations have taken place within the planning process, to fulfil the requirements of clients and planning authorities, to very rigorous timetables.
- 1.10 Of particular relevance are the series of archaeological evaluations, excavations, and building surveys undertaken of former textile mills in recent years in Manchester. In particular, OA North recently completed a three-year programme of research, excavation, building survey at Murrays' Mills in Ancoats, and maintained an archaeological watching brief during remedial repair works.
- 1.11 OA North has the professional expertise and resources to undertake the project detailed below to a high level of quality and efficiency. OA North is an Institute of Field Archaeologists (IFA) registered organisation, registration number 17, and all its members of staff operate subject to the IFA Code of Conduct.

2 OBJECTIVES

- 2.1 The primary objective of the archaeological work will be to provide a detailed record of any archaeological structures or features that are exposed during the course of the proposed construction work. Whilst this will include all parts of the mill complex that are affected by the scheme of refurbishment, the initial phase of works will be focused upon the area of the former boiler house (Fig 1).
- 2.2 Specific objectives of the archaeological work include:
- Identify and record the foundations of the former boiler house;
 - Identify and record any internal features within the former boiler house, including the bench walls for the boiler;
 - Identify and record the boiler charging floor and any changes in its level within the former boiler house;
 - Identify the route of water supply to the boilers, and the route of the steam pipe to the former engine;
 - Identify the location and extent of the culvert that is believed to pass beneath the floor of the former boiler room.
- 2.3 The archaeological work associated with the proposed refurbishment of the mill site will be in two phases:
- *Archaeological Monitoring of Geo-technical Excavations:* these investigations will be conducted under close archaeological supervision. The results obtained from this phase will inform a later application for Scheduled Monument Consent to proceed with the construction of the new link building.
 - *Archaeological Monitoring During Construction Work:* once Scheduled Monument Consent has been obtained to proceed with the erection of the new link building, a further programme of archaeological work will be instigated. This is likely to similarly comprise the close archaeological supervision of any ground-disturbance associated with the proposed development, and will be focused on, but not exclusive to, the site of the former boiler house (Fig 1). However, a detailed methodology for the programme of archaeological works will be devised in the light of the results obtained from the excavation of the geo-technical pits.

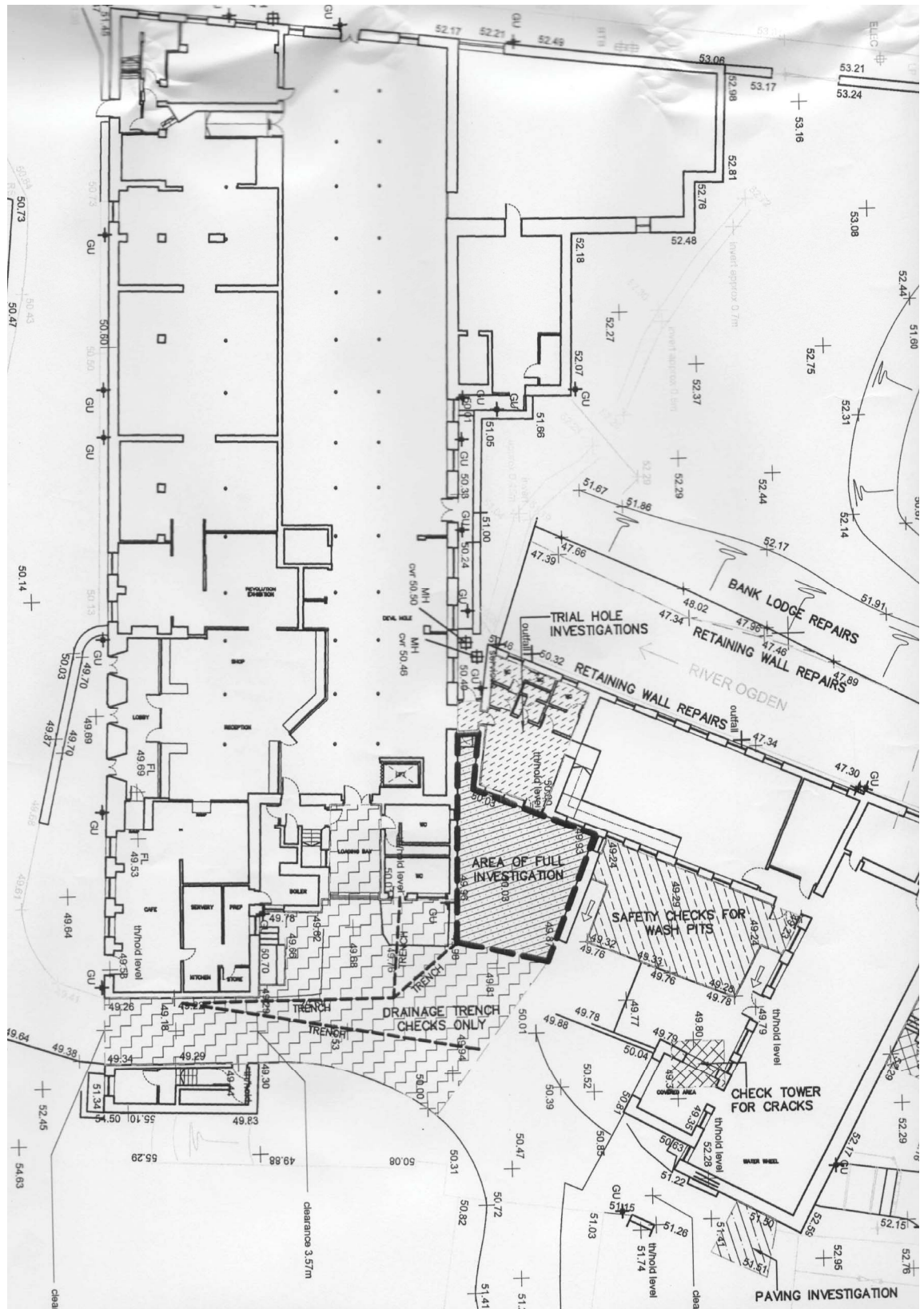


Figure 1: Site location map showing the position of the new link building

3 METHOD STATEMENT

- 3.1 Methodology:** a programme of field observation will accurately record the location, extent, and character of any surviving archaeological structures, features and/or deposits exposed during the construction programme. This work will comprise observation during the excavation for these works, the systematic examination of any subsoil horizons exposed during the course of the groundworks, and the accurate recording of all archaeological structures and features, and any artefacts, identified during observation.
- 3.1.2 Putative archaeological structures, features and/or deposits exposed during construction work, together with the immediate vicinity of any such features, will be cleaned by hand, using either hoes, shovel scraping, and/or trowels depending on the ground conditions, and where appropriate sections will be studied and drawn.
- 3.1.3 During this phase of work, recording will comprise a full description and preliminary classification of features or materials revealed, and their accurate location (either on plan and/or section, and as grid co-ordinates where appropriate). Features will be planned accurately at appropriate scales and annotated on to a large-scale plan. A photographic record will be undertaken simultaneously.
- 3.1.4 A plan will be produced of the areas of groundworks showing the location and extent of the ground disturbance and one or more dimensioned sections will be produced.
- 3.1.5 It is assumed that OA North will have the authority to stop the works for a sufficient time period to enable the recording of important deposits. It may also be necessary to call in additional archaeological support if a find of particular importance is identified or a high density of archaeology is discovered. In normal circumstances, field recording will also include a continual process of analysis, evaluation, and interpretation of the data, in order to establish the necessity for any further more detailed recording that may prove essential.
- 3.1.6 **Contingency plan:** in the event of significant archaeological features being encountered during the watching brief, discussions will take place with the Lancashire County Museums Service, in consultation with English Heritage, as to the extent of further works to be carried out. All further works would be subject to a variation to this project design.
- 3.1.7 **Health and Safety:** OA North provides a Health and Safety Statement for all projects and maintains a Unit Safety policy. All site procedures are in accordance with the guidance set out in the Health and Safety Manual compiled by the Standing Conference of Archaeological Unit Managers (1997). A written risk assessment will be undertaken in advance of project commencement and copies will be made available on request to all interested parties.

3.2 Archive/Report

- 3.2.1 **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) and the *Guidelines for the Preparation of Excavation Archives for Long Term Storage* (UKIC 1990). The project archive represents the collation and indexing of all the data and material gathered during the course of the project. 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.
- 3.2.2 **Report:** one bound and one unbound copy of a written synthetic report will be submitted to the Lancashire County Museums Service, and copies submitted to English Heritage, the County Archaeological Officer, and to the Lancashire SMR as a paper copy and digital copy on CD within eight weeks of completion of fieldwork. The report will include a copy of this project design, and indications of any agreed departure from that design. It will present, summarise, and interpret the results of the programme detailed above
- 3.2.3 **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.

3.5 POST-EXCAVATION AND REPORT PRODUCTION

- 3.5.1 OA North accords with best practice for the analysis of the archaeological results in accordance with the guidelines of *MAP 2*. This would involve an assessment of the data-set generated by the watching brief, followed by a review of the project archive to establish the potential for further analysis. This assessment will take place in close consultation with the Lancashire County Museums Service and the report format will also be agreed at this stage of the work. An appropriate programme of analysis should then be undertaken to prepare a research archive, as detailed in Appendix 6 of *Management of Archaeological Projects*. The Assessment will involve the compilation of a brief archive report, detailing the stratigraphic history of the site, and the outlining the significance of the structural, artefactual and environmental evidence.
- 3.5.2 **Archive:** the site archive will be prepared to the standard specified in *MAP 2 Appendix 3* (EH 1991) and in accordance with the *Guidelines for the preparation of Excavation Archives for Long term Storage* (UKIC 1990). This will include the indexing, ordering, quantification and checking for consistency of all original context records, object records, bulk find records, photographs, drawings and record sheets. A summary account of the context record will be included and written by the supervising archaeologist. The

paper archive will be submitted to the county record office within six months of the end of fieldwork.

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

APPENDIX 2: CONTEXT LIST

Context	Area	Description
01	Trench A	Boiler mounting blocks
02	Trench A	Brick boiler seating wall
03	Trench A	Stone floor of boiler house
04	Trench A	Concrete infill along the edge of floor 02
05	Trench A	Stone block above floor 02
06	Test Pit 1	North-east wall of boiler house
07	Test Pit 1	Brick wall overlying wall 06
08	Test Pit 1	Machine-cut brick stack overlying floor 10
09	Test Pit 1	North/south-aligned wall along the western edge of the test pit
10	Test Pit 1	Floor of boiler house
11	Test Pit 2	Culvert at the base of the test pit

ILLUSTRATIONS

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Figure 3: Plan of Trench A

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LIST OF PLATES

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Plate 3: Looking west across site of boiler house

Plate 4: View of Trench A, looking south

Plate 5: Boiler mounting blocks and seating wall within Trench A

Plate 6: Boiler house floor, Trench A, with east wall of 1980s extension to the rear

Plate 7: View of Test Pit 1, looking north

Plate 8: Culvert in Test Pit 2

Plate 9: View of Test Pit 3

Plate 10: North elevation of Higher Mill

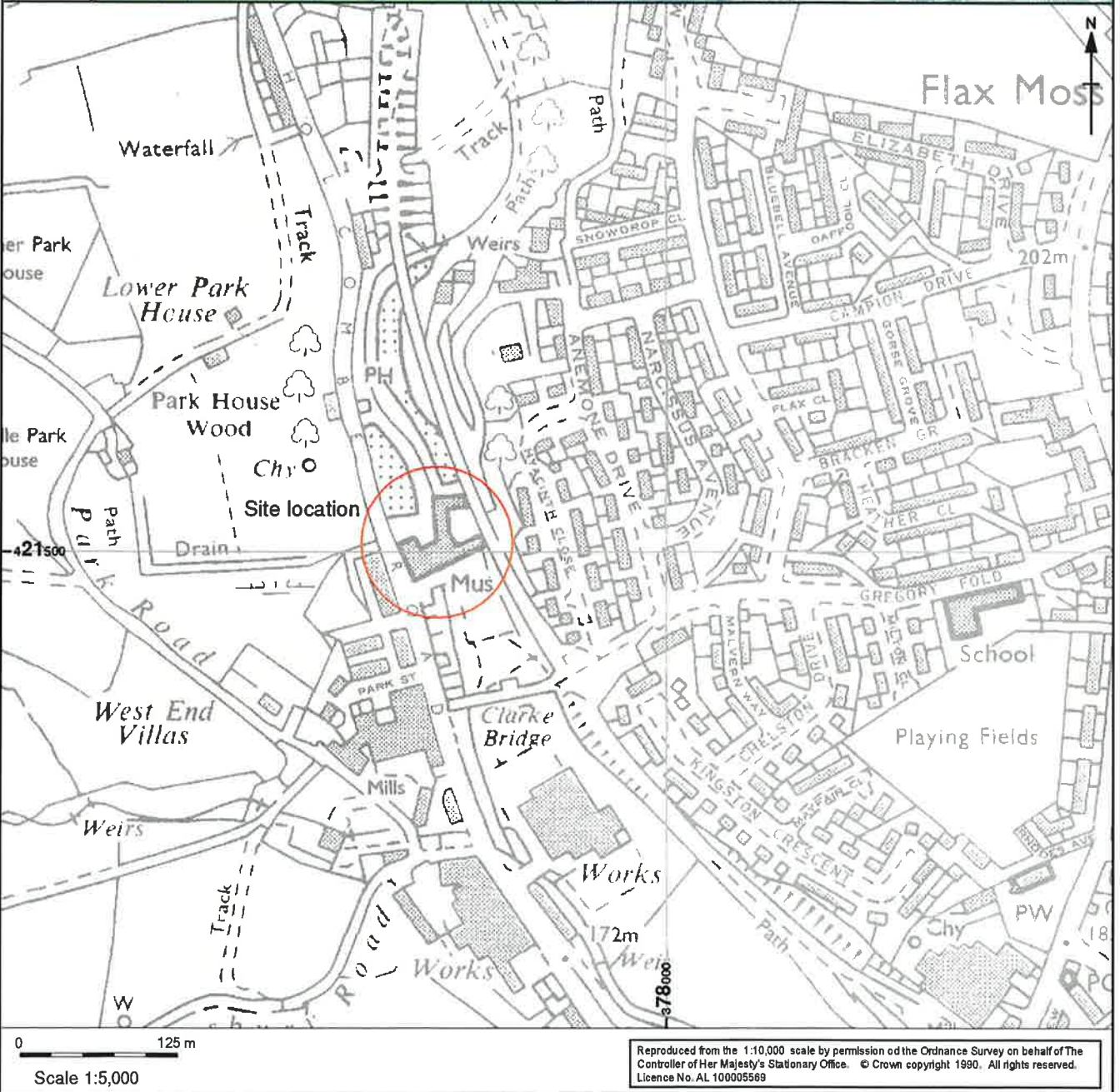
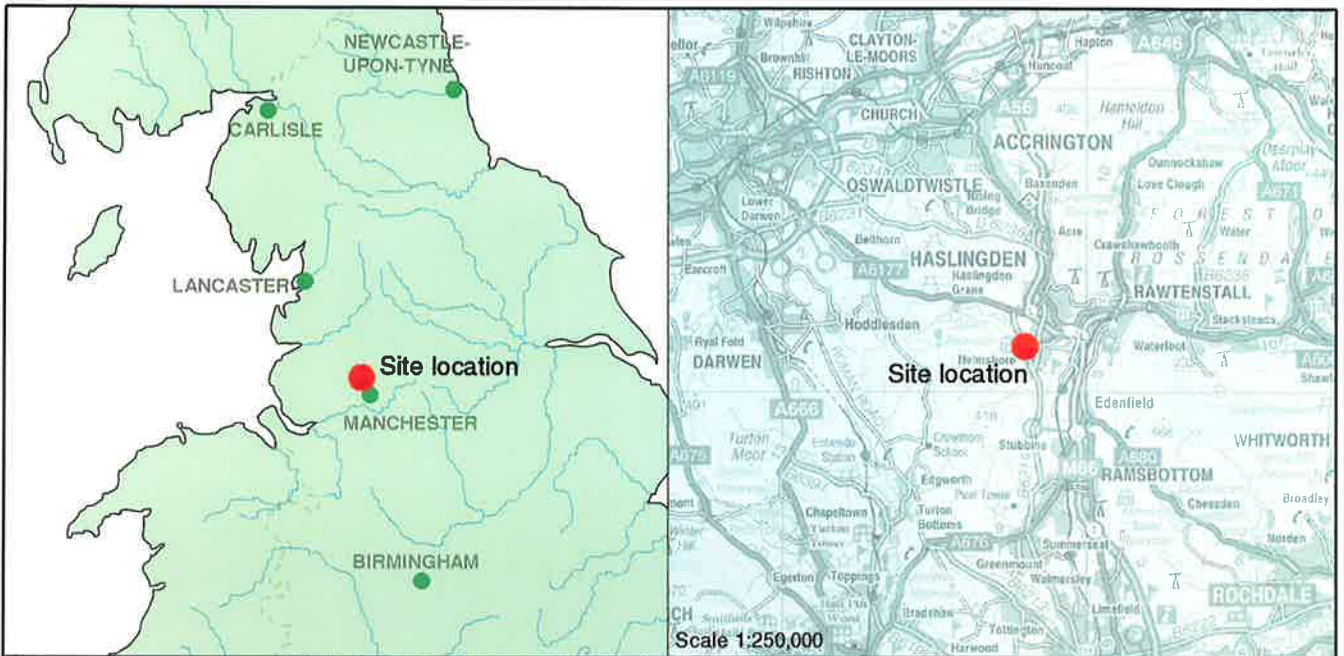


Figure 1: Site Location

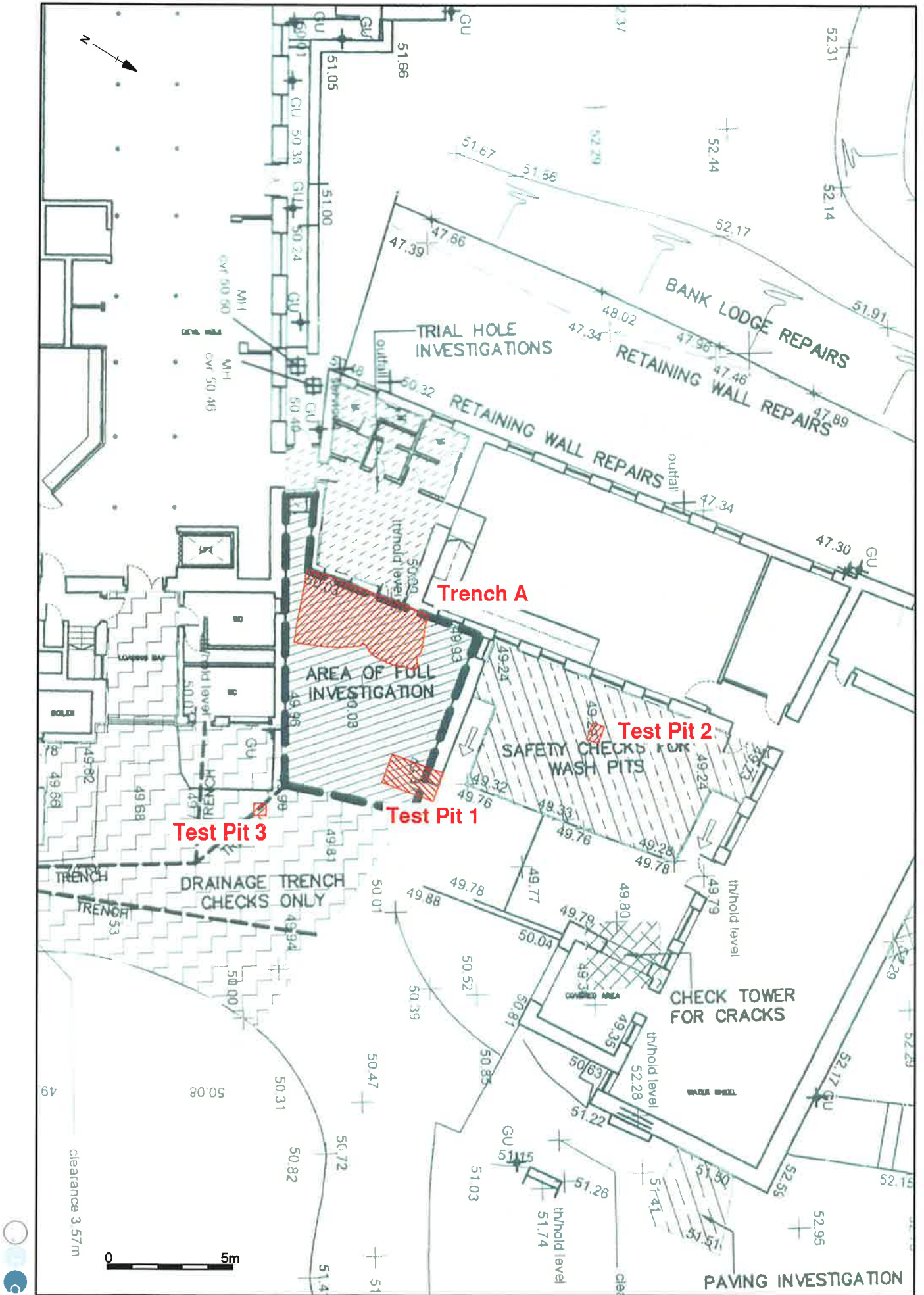


Figure 2: Trench and Test Pit location plan



Key	
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	edge of excavation
	edge of context
	uncertain edge
	context number

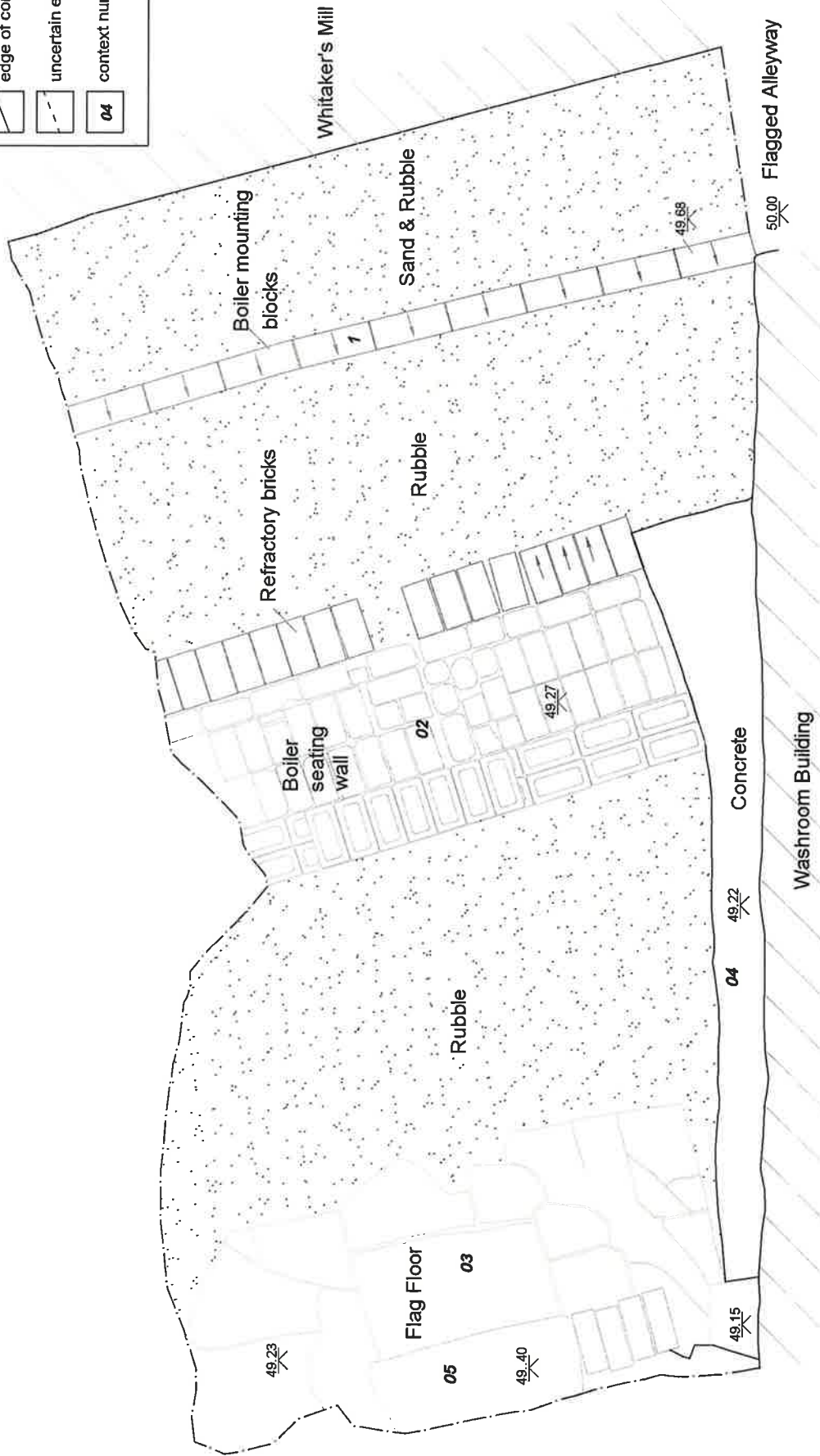


Figure 3: Plan of Trench A



Key	
	truncated
	edge of excavation
	edge of context
	uncertain edge
	context number

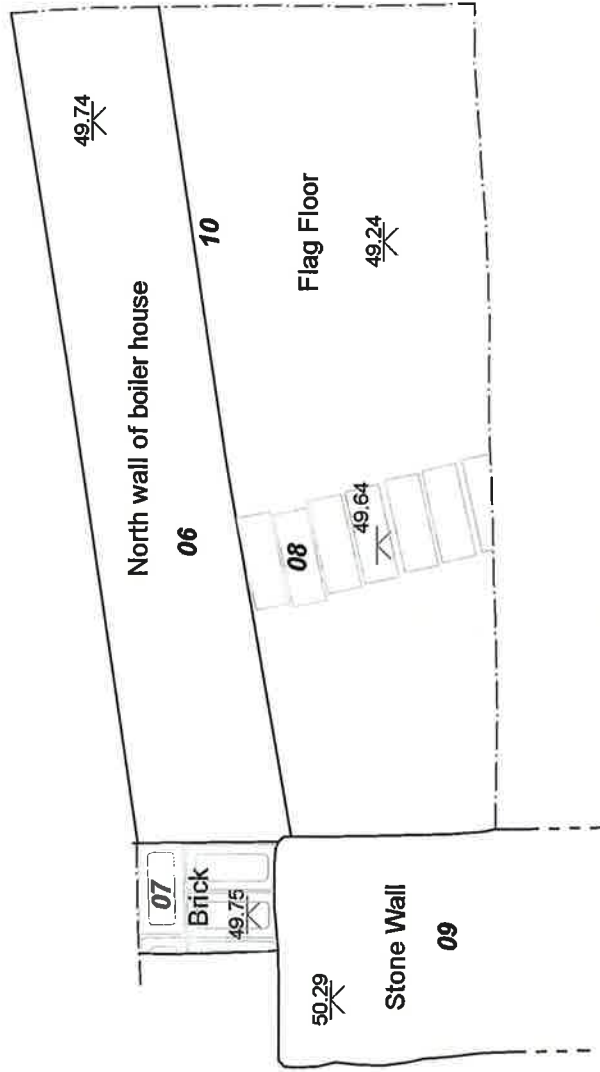


Figure 4: Plan of Test Pit 1



Plate 4: View of Trench A, looking south



Plate 5: Boiler mounting blocks and seating wall within Trench A



Plate 6: Boiler house floor, Trench A, with east wall of 1980s extension to the rear



Plate 7: View of Test Pit 1, looking north



Plate 8: Culvert in Test Pit 2



Plate 9: View of Test Pit 3