ARCHAEOLOGICAL EVALUATION AT HENWICK MILL, MARTLEY ROAD, BROADHEATH, WORCESTERSHIRE

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Archaeological evaluation at Henwick Mill, Martley Road, Broadheath, Worcestershire

Richard Bradley

With contributions by Dennis Williams

Summary

An archaeological evaluation was undertaken at the location of Henwick Mill on the north side of the B4204 Martley Road, Broadheath, Worcestershire (NGR SO 8310 5617). It was commissioned by Selbourne Homes Limited (the Client) who intends to redevelop the site with residential properties, for which an outline planning application has been submitted to Malvern Hills District Council.

The proposed development site includes the extant remains of part of Henwick Mill and as a result is considered to include a heritage asset with archaeological interest, the significance of which may be affected by the application (WSM 07889). The potential for further buried and deeply stratified deposits associated with these remains was also recognised. Henwick Mill is a 19th century (and probably much earlier) water mill and possible iron works recorded on Ordnance Survey mapping from the 1st edition (1887) until 1954, before demolition in the 1960s.

Two trenches were excavated on the site, targeted on the area of the mill complex. It was clear from the post-medieval structural remains revealed that the mill buildings in this area have survived in an excellent condition and across an extensive area, with multiple phases of building in evidence. This demonstrates the preservation of much of Henwick Mill as buried remains alongside the known upstanding structures previously observed during a walk over of the site to survive immediately adjacent to the Laughern Brook. A number of different types of worn millstone were found and these suggested that, at least in the later post-medieval period if not earlier, the mill was being used for processing cereal foodstuffs. This corresponds with the description of the mill on the historic maps from 1887 to 1940 as 'Henwick Mill (Corn)'. There were no primary deposits found that indicated iron working on this site, although coal slag, probably from an industrial boiler, was recovered from the made ground material backfilling the mill buildings.

Many of the structures revealed were encountered in close proximity to the surface of the site, which is currently in use as a light industrial estate, and had survived to a substantial depth.

There remains the potential for earlier structures and deposits to exist beneath the post-medieval mill complex buildings, although none were revealed in the trenches. This was primarily a result of the depth at which complex structural deposits were encountered, thus preventing deeper excavation, but also due to the limitations caused by hydrocarbon contamination discovered on the site, which restricted more thorough exploration of parts of the mill at this stage.

Report

1 Background

1.1 Reasons for the project

An archaeological evaluation was undertaken at the location of Henwick Mill on the north side of the B4204 Martley Road, Broadheath, Worcestershire (NGR SO 8310 5617). It was commissioned by Selbourne Homes Limited (the Client) who intends to redevelop the site with residential properties, for which an outline planning application has been submitted to Malvern Hills District Council (reference 13/00725/OUT).

The proposed development site includes the extant remains of part of Henwick Mill and as a result is considered to include a heritage asset with archaeological interest, the significance of which may be affected by the application (WSM 07889). The potential for further buried and deeply stratified deposits associated with these remains was also recognised. Henwick Mill is a 19th century (and probably much earlier) water mill and possible iron works recorded on Ordnance Survey mapping from the 1st edition (1887) until 1954, before demolition in the 1960s.

The project conforms to the Brief prepared in response to the planning application (WCC 2013), and for which a project proposal (including detailed specification) was produced (WA 2013b).

The project also conforms to the *Standard and guidance for archaeological field evaluation* (IfA 2009) and the *Standards and guidelines for archaeological projects in Worcestershire* (WCC 2010).

The event reference for this project, provided by the Worcestershire Historic Environment Record is WSM 49765.

2 Aims

The overall aims of this evaluation are:

- to describe and assess the significance of the heritage asset with archaeological interest;
- to establish the nature, importance and extent of the archaeological site;
- to assess the impact of the application on the archaeological site.

More specifically, the Brief identified a series of particular aims for this project. These included assessment of:

- The state and preservation of the post-medieval mill structures above and below ground;
- The presence of any earlier structures and their nature and date;
- The depth and preservation of alluvial deposits;
- The depth and make-up of any made ground;
- The nature and extent of the iron working industry on the site.

3 Methods

3.1 Personnel

The project was undertaken by Richard Bradley (BA (hons); MA; AIfA), who joined Worcestershire Archaeology in 2008 and has been practicing archaeology since 2005, and Andy Walsh (BSc; MSc; AIfA; FSA Scot), who joined Worcestershire Archaeology in 2013 and has been practicing archaeology since 2004. Fieldwork assistance was provided by Ruth Humphreys (BSc; MA) and Peter Lovett (BSc (hons)) The project manager responsible for the quality of the project was Tom Vaughan (BA (hons); MA; AIfA). Illustrations were prepared by Carolyn Hunt (MIfA; BSc (hons)) and Dennis Williams (MInstP; CPhys; BSc; MA; PhD) contributed the finds analysis.

3.2 Documentary research

Prior to fieldwork commencing a short desk-based assessment (DBA) was undertaken as part of the Written Scheme of Investigation (WSI) prepared by Worcestershire Archaeology on behalf of the Client (WA 2013a). This presents the archaeological background to the site and is briefly summarised in Section 4.2 below. The DBA consulted the historic mapping for the site area and completed map regression analysis, as well as carrying out a site visit to assess the current use of the site and the preservation of the upstanding mill remains. A search was also made of Worcestershire and Worcester City Historic Environment Records (HER) with a 250m radius of the site in order to further understand the landscape context and heritage assets in the surrounding area.

3.3 Fieldwork strategy

Fieldwork was undertaken between 9 August and 15 August following a detailed specification prepared by Worcestershire Archaeology (WA 2013a).

Two trenches of varying size, covering just over 147m², were excavated over the site area of 1.32ha, representing a sample of 1%. These were targeted on the area of the mill complex, as specified in the Brief. The location of the trenches is indicated in Figure 2. Both trenches were originally intended to be of comparable size but due to the presence of hydrocarbons, the second trench was not fully excavated. The size of the area remaining was instead incorporated within an extension to Trench 1 and this became a much larger evaluation trench.

Deposits considered not to be significant were removed using a JCB 3CX wheeled machine, employing a toothless bucket and under constant archaeological supervision. Subsequent excavation was undertaken by hand. Clean surfaces were inspected and selected deposits were excavated to retrieve artefactual material, as well as to determine their nature and resolve stratigraphic relationships. Deposits were recorded according to standard Worcestershire Archaeology practice (WA 2012) and the trenches were located using a differential GPS with an accuracy limit set at 0.04m. On completion of excavation, trenches were reinstated by replacing the excavated material.

3.4 Structural analysis

All fieldwork records were checked and cross-referenced. Analysis was effected through a combination of structural and artefactual evidence, allied to the information derived from other sources.

3.5 Artefact methodology, by Dennis Williams

3.5.1 Recovery policy

The artefact recovery policy conformed to standard WA practice (WA 2012; appendix 2).

3.5.2 Method of analysis

All hand-retrieved finds were examined. They were identified, quantified and dated to period. A *terminus post quem* date range was produced for each stratified context. These date ranges were used for determining the broad phases defined for the site. All information was recorded on *pro forma* sheets.

The pottery and ceramic building material was examined under x20 magnification and referenced as appropriate by fabric type and form according to the fabric reference series maintained by the WA (Hurst and Rees 1992 and www.worcestershireceramics.org).

3.5.3 Discard policy

The following categories/types of material will be discarded after a period of six months following the submission of this report, unless there is a specific request to retain them (and subject to the collection policy of the relevant depository):

- where unstratified;
- post-medieval pottery and other finds and;
- generally where material has been assessed as having no obvious grounds for retention.

3.6 Environmental archaeology methodology

3.6.1 Sampling policy

Due to the nature of the site, no deposits were excavated that were considered to be suitable for sampling for environmental evidence.

3.7 Statement of confidence in the methods and results

The methods adopted allow a high degree of confidence that the aims of the project have been achieved. It is considered that the levels, nature and complexity of the archaeology on this site has been characterised as far as is reasonably possible.

4 The application site

4.1 Topography, geology and current land-use

The proposed development site is currently in use as a light industrial estate containing a variety of commercial premises, located just over 2km north-west of Worcester city centre, just off the B4204 Martley Road. There are a number of garages, sheds and buildings alongside concrete and tarmac car park areas in the eastern half of the site and a large area of rough grass with patches of dumped rubble and construction material in the western half. The total area covers 1.32ha and is bounded by the Laughern Brook to the east, Martley Road to the south, Laughern Bank to the west and a paddock to the north. The land, although levelled in part and heavily landscaped, broadly slopes from around 30m AOD in the west to 23m AOD in the east along the Laughern Brook.

Geologically, it is mapped as having underlying deposits of the Sidmouth Mudstone Formation, part of the Mercia Mudstone group dated to the Triassic period, and superficial deposits of alluvium along the Laughern Brook. Sands and gravels of the Holt Heath Member are recorded and mapped to the west of the site (BGS 1993). Although little of the soils on the site are visible due to development, they have previously been mapped as the loamy brown earth soils of the Salwick Association (Ragg *et al.* 1984, 290-94).

4.2 Archaeological context

As discussed in the DBA (WA 2013a), there is no recorded evidence for definite prehistoric, Romano-British or Anglo-Saxon activity in the immediate area around this site, although only limited archaeological investigations have been undertaken previously. The presence of bloomery slag, found close to the mill site in 1969, remains an isolated example of possible Iron Age or Romano-British period activity (WCM 100681).

It is thought that the mill site has medieval origins, although this is not definitive as Henwick is not recorded in the Domesday Book. It was probably part of the manor of Hallow which is recorded as having two mills worth 10 shillings in 1086 of which Henwick may be one (Thorn and Thorn 1982). By the 12th century Henwick was a separate manor and two mills, one a corn mill and one a fulling mill, are recorded as existing at Hallow and Henwick in the 13th century (VCH III). Further possible medieval features, such as ditches, an old stream course and ridge and furrow, have been

identified from cropmark evidence south-west of the site (WSM 07893) and ridge and furrow also previously existed to the north-east on the east bank of the Laughern Brook (WSM 15147).

Henwick Mill is marked as a corn mill on Ordnance Survey mapping from the 1st edition (1887) onwards, so is clearly at least post-medieval in date even if it has not been proven to be medieval in origin (WSM 07889). As is often the case, it is probable that the later mill will have been built upon an earlier mill site and continued with previous functions, utilising pre-existing water supply systems (Watts 2006, 29). The complex is mapped as a group of irregular buildings with a mill pond to the north-east, and a weir and sluice adjacent to the buildings on their eastern side. There are also three distinct areas mapped as Osier beds north of the mill which are probably contemporary with its use (WSM 48870; WSM 48887; WSM 49077). HER records indicate that extensive deposits of iron slag have been observed close to the mill, which has led to suggestions that the site may have been converted into an early iron works or served multiple uses during its lifetime. Apart from the extant mill remains known to exist on the site, which include walls and an in situ iron sluice gate, a further associated structure dated to the late 19th or early 20th century - Henwick Mill House (WSM 49287) - still survives on the boundary of the proposed development area.

The DBA (WA 2013a) details the limited archaeological work that has taken place on the site more recently. This includes observation during the excavation of test pits in 1998, which recorded a sandstone wall and some brick and tile (WSM 31566), and a small trench 0.60m by 3m in size excavated in 2002 that did not uncover any archaeological remains. Neither of these interventions was accurately located and only the first has been recorded on the HER database. Alluvial deposits close to the Laughern Brook were identified between 0.85m and 1.95m below the current ground surface during geotechnical work undertaken in early 2013 (Sladen Associates 2013).

5 Structural analysis

The trenches and features recorded are shown in Figures 2-5. The results of the structural analysis are presented in Appendix 1.

5.1.1 Phase 1: Natural deposits

A small sondage was excavated by machine in the northern part of Trench 1, located where it was heavily disturbed by modern intrusions. This revealed that beneath the remains of the later phase mill structures described below, a light greyish blue alluvial deposit existed around 0.80m deeper than concrete slab (103), approximately 1.22m below the current ground surface. This is considered likely to be the same alluvial material encountered during the geotechnical work on the site and the depth that it was observed at correlates well (Sladen Associates 2013).

5.1.2 Phase 2: Post-medieval deposits

The substantial and extensive structural remains of the post-medieval Henwick Mill were revealed across Trench 1 (Plate 1) and demonstrated a series of building phases.

A small area of light pinkish red stoney sand (143) in the northern section of the trench appeared to be a surface layer representing a yard space or working area associated with the mill and was the earliest structural element observed. This had been partly truncated by the construction cut for, and the damaged remains of, a well-used red brick pathway (108). The pathway was slightly banked and curved, suggesting that it had been built to a particular specification, perhaps for a cart run or for rolling material down a repeatedly used route (Plate 3). The path itself had been truncated by an old metal service pipe (146) supplying the later phases of the mill, as well as being covered over by make-up layer (141) which was built up before more recent mill features were constructed in this area.

The main surviving mill structures consisted of a series of walls and surfaces that were exceptionally well-preserved and probably date from the early to mid 19th century. Found just beneath the current car park surface at the eastern edge of Trench 1 two of these walls, (109) and

(110), linked by threshold (144) which marked the doorway, undoubtedly represent a projection on the west side of the main mill building and probably the main entrance into this structure (Plate 5). Interestingly, an iron boot scrape, although out of shape, had survived just outside the door space. At least nine courses of both walls were visible and survived to a minimum of 0.70m in height, being constructed of red bricks in a slightly irregular stretcher and header bond form. Despite being heavily damaged by a geotechnical trial pit intrusion [128], the floor surface (114) within this building remained and appeared worn and well-used, comprising a single course of blue vitrified and red bricks bedded onto soft orange sand. Found deposited on this floor, but not attached to it, were the remnants of the mill workings in the form of three mill stones. One of these, (111), was a standard monolithic fine-grained limestone 1.12m in diameter and 0.20m deep, incised with a regular pattern of *furrows* and *lands* surrounding a central square socket with iron fitting (Plate 7). The other two, (112) and (113), appeared to be *French burrstones,* mill stones made from stone imported from quarries in the Paris basin and known for their fine-grinding qualities in the production of white flour (Watts 2008, 31). Only (112) was fully visible in the trench and was 1.14m in diameter and 0.23m deep, but both were constructed from sections of quartz-like stone bonded with mortar and plaster and held together with an iron band around the outside. The mill stones and floor of the mill had been covered by a rubble-rich demolition deposit (130) that contained pottery of later 19th century date.

Further walls observed in the southern part of the trench probably represent an outbuilding associated with the main mill building (Plate 6). The western side of this structure, defined by wall (115), was constructed of red bricks in an English Bond with a sandstone quoin stressed finish and survived to a visible height of 0.41m. Wall (116), marking the northern side and also forming a doorway threshold 1.2m wide, was again constructed in an English Bond with a sandstone quoin finish. Within the upper backfill (117) of this structure were two further mill stones, similar to those found on the floor of the mill itself. One of these, (118), was a traditional monolithic fine-grained limestone 1.12m in diameter, very analogous with (111) but without the *furrow* incisions visible and unfortunately damaged on one edge. The other, (119), was another *French burrstone* 1.20m in diameter (Plate 8).

Abutting both the outbuilding and the main mill was wall (120), probably a slightly later addition but aligned with and thus probably related to the use of the buildings alongside it, which was observed to be at least three courses high and likely to be much deeper. It is possible that this wall marked the remains of a building with a lower basement as no floor level was seen. It may be an inspection pit or a space where mill mechanisms operated. However due to the presence of hydrocarbons in this area it was not excavated.

All of the structural features of this phase of the mill described above were abutted by a series of associated surfaces representing the outside yard area linking the buildings together (Plate 4). A large part of this was made up of brick surface (123) 5.90m by 2.40m in size, constructed of blue engineering bricks positioned on edge, and joined to a similar brick surface (124) which formed a pathway 3.30m long heading towards the doorway of the mill building. Two cobbled areas, (125) and (126), also made up the yard space and are likely to be of the same phase of use as the brick surfaces and the brick mill building, although a series of patches and repairs make this uncertain.

Embedded into surface (123) was a small square metal-grated drain just outside the northern wall of the outbuilding (116) and probably fed either from an out pipe running down the structure or through the void observed in the wall itself. A small raised area of engineering bricks (121) was also found at the eastern edge of surface (123), abutting wall (120) and potentially leading into it. It is possible that this marks a step up into a higher part of the structure defined by wall (120) that has since been lost.

Other structural remains recorded in Trench 1 may also represent elements of this phase of the use of the mill, but these were all isolated from other features by later concrete slab (103) so this is unclear. A small brick wall (107), possibly a buttress for a larger wall existing outside the limits of the trench, was observed in the north-east corner that ran parallel to the main mill building.

Additionally, in the north-west corner of the trench, a possible brick wall 0.74m long (139) was found beneath later levelling deposit (137) that may have been contemporary with a small patch of cobbled stone surface (105). However, disturbance from the concrete slab (103) made exact relationships difficult to discern in the small area that was visible.

5.1.3 Phase 3: Modern deposits

A number of structural features found in both Trench 1 and Trench 2 probably represent the latest phase of activity at Henwick Mill and are likely to date to the late 19th or early 20th century. The largest visible constituent of this was in Trench 1, a thin concrete slab (103) 7m by 3.25m in size, edged with bricks that had probably acted as shuttering when the concrete was put in. This concrete covered a brick layer (106) two courses high that was made from red bricks and blue engineering bricks and abutted the western side of the walls of the mill building described above. The construction cut for this also truncated the cobbled and brick surfaces associated with the mill. Observed in the floor defined by the concrete slab were a series of slots formed within the overall layer created by bricks (106) and the concrete that appeared to be the remains of internal mechanisms. There was a clear post socket [131] and beam slot [134] that both contained decayed wood, as well as three small square holes that may have once held posts. A concave grooved feature [136] was also located nearby that could potentially have held a rotating wheel. Within the fill of this was a small glass bottle dated to the later 19th century.

In Trench 2, a concrete slab (203) and quarry tile surface (202) were found abutting a brick and concrete wall (204) in the southern part of the trench, the only part that did not contain hydrocarbons (Plate 2). A sample of the tiles was removed and determined to be machine-made and of later 19th or early 20th century origin. It is considered that these are probably surviving elements of the latest phase, probably early 20th century, of a number of buildings marked on Ordnance Survey maps as part of the wider mill complex.

Hydrocarbons were also noted in the main deposit (102) that marked the final infilling of the demolished mill building and surrounding area in Trench 1. This made ground material was a thick dumped layer of dark silty sand containing frequent brick rubble and metal debris, as well as a few noticeable concentrations of coal slag. It is probable that this slag has come from nearby, perhaps from some of the buildings in the wider mill complex. This may lend support to the idea that industrial working occurred somewhere on the site itself.

5.2 Artefactual analysis, by Dennis Williams

The artefactual assemblage, from seven stratified contexts, consisted of pottery, bone, clay pipe, glass, metal, slag and tile, as shown in Table 1. The pottery was generally in good condition, with low levels of abrasion and a mean sherd weight that was above average (ie >10g).

period	material class	material subtype	object specific type	count	weight (g)
post-medieval	ceramic	-	clay pipe	1	12
late post-medieval/ modern	ceramic	-	floor tile	2	302
late post-medieval/ modern	ceramic	-	pot	14	234
late post-medieval/ modern	glass	-	vessel	6	262
late post-medieval/ modern	metal	iron	-	8	476
late post-medieval/ modern	slag	-	-	8	1248

undated	bone	animal bone	-	36	498
totals:				75	3032

Table 1: Quantification of the assemblage

The pottery comprised late post-medieval or modern sherds, as summarised in Table 2.

period	fabric code	fabric common name	count	weight (g)
late post-medieval/ modern	81	Stonewares	4	28
late post-medieval/ modern	83	Porcelain	1	22
late post-medieval/ modern	85	China	9	184
totals:			14	234

Table 2: Quantification of the pottery by fabric/ware type

Summary of artefactual evidence by period

The context finds summary, with *terminus post quem* date ranges, is shown in Table 3.

Pottery

Mass-produced china and stonewares (fabrics 81 and 85) were all likely to be of 19th-20th century date. The only notable pottery find (from deposit 138) was a porcelain (fabric 83) waster, in the form of a biscuit-fired base from a pedestal egg cup, and dating from the late 18 h century onwards.

Other finds

Tile

Samples of machine-made ceramic tile recovered from floor surface 202 were late 19th or early 20th century in date.

Clay pipe

The bowl of a clay pipe produced during the date range 1680–1730 (Oswald 1975). This was found in layer 130, the infill of the mill building, so is probably residual.

Glass

Green glass (from late 19th – early 20th century bottles) was present, and an intact globular oil bottle, found in wheel-slot fill 135, bore the moulded lettering 'LIEUVAIN'S PATENT: THE NEEDLE LUBRICATOR' (patent granted in 1866; Science Museum Group 2013).

Metal

Corroded iron finds included nails (102) and parts of door or gate hinges (fill 117).

Slag

Some black, vitrified material (102) was probably coal slag removed from an industrial boiler.

Bone

Fragments of animal bone, many of which exhibited butchery marks, were recovered (fill 117).

context	material class	object specific type	fabric code	count	weight (g)	start date	end date	*tpq* date range
102	metal	nail	-	2	48	1800	1950	1800-1950
	ceramic	pot	85	1	4	1800	1950	
	slag	-	-	8	1248	1800	1950	
	metal	-	-	1	42	1800	1900	
	metal	-	-	1	88	1800	1900	
117	bone	-	-	36	498	-	-	1800-1950
	metal	-	-	1	76	1800	1950	
	metal	-	-	1	264	1800	1950	
	metal	-	-	2	28	1800	1950	
	ceramic	pot	85	3	24	1800	1950	
126	ceramic	pot	85	1	54	1800	1950	1800-1950
	ceramic	pot	85	1	14	1800	1950	
	ceramic	pot	85	1	18	1800	1950	
	ceramic	pot	81	4	28	1800	1950	
	glass	vessel	-	1	84	1880	1950	
	glass	vessel	-	1	12	1880	1950	
	glass	vessel	-	3	122	1880	1950	
	metal	-	-	1	18	1800	1950	
130	ceramic	pot	85	2	70	1800	1950	1800-1950
	ceramic	clay pipe	-	1	12	1680	1730	
135	glass	vessel	-	1	44	1866	1950	1866-1950
138	ceramic	pot	83	1	22	1750	1950	1750-1950
202	ceramic	floor tile	-	2	302	1850	1950	1850-1950

Table 3: Summary of context dating based on artefacts

6 Synthesis

The archaeological potential of this site, highlighted by the desk-based assessment prepared for the Written Scheme of Investigation (WA 2013a), has been demonstrated and confirmed by the evaluation trenches excavated in this project. The trenches only sampled a small part of the site, focused upon the area of Henwick Mill, and it is considered that the nature and preservation of the mill structure has been established.

It was clear from the post-medieval structural remains revealed in Trench 1 that the mill complex in this area of the site has survived in an excellent condition and across an extensive area, with

multiple phases of building in evidence. The walls correlate well with parts of the structures mapped on the 1st edition Ordnance Survey and, given the known extant remains of the mill sluice close to the Laughern Brook, could be expected to continue in a similar state of preservation beyond the trench limits. As described in Section 5.1.2. above, the walls found in the eastern part of Trench 1 form the western projection of the mill building marked on the Ordnance Survey map and it is possible that the doorway here may have been the main access point into the ground floor of the mill. As it is mapped on the 1887 1st edition, the building revealed here must have been in existence before this date and the brick sizes suggest an early19th century construction (*pers. comm.* Shona Robson-Glyde). It is not known how many storeys the mill originally contained, but the size and build of the walls seen here could potentially have supported a substantial structure. The discovery of two types of mill stone within this structure may also hint at a large building, with the possibility that a series of mill stone pairs were in operation contemporaneously and run on a gear system to accommodate this (see Watts 2002, 133-137 for examples).

It is highly probable that the outbuilding walls seen in the southern part of Trench 1 are part of a contemporary structure associated with the main mill workings. Other buildings found on mill sites often include animal or cart sheds, a miller's house and sawmills or machinery housing (Watts 2006, 33-37), although the use of this particular building was not established in the evaluation. Again, this is mapped on the Ordnance Survey 1st edition so is known to be pre-1887 in date and is constructed from bricks that appear to be early 19th century (*pers. comm.* Shona Robson-Glyde). The wall of a further structure that linked the outbuilding to the main mill building may have been in use at the same time but as a slightly later extension or addition; a building is mapped here on the 1st edition but not quite in the correct position for the wall, which is more readily identifiable on the 1904 Ordnance Survey map. It is likely that the building represented here was slightly modified in size and that a later 19th century rebuild is what has survived.

The outside yard surfaces adjoining these buildings are undoubtedly part of the same complex and were built against the mill building, most likely representing the same construction phase as the structures. As the brick areas were built from blue engineering bricks (used from 1838 onwards), this would suggest that perhaps the mill building is post-1838 in date, or that this part of the surface is a later addition. The smoothed bricks and worn out parts of the cobbled surfaces suggested, rather unsurprisingly, that the yard had been subjected to heavy and prolonged use. An earlier phase of the mill, indicated by the stone surface and the curved and banked pathway found in the north-east of the Trench 1, was also heavily worn and may demonstrate a site that was in operation for a considerable period. How much earlier this path dated from was not readily identifiable during this stage of work however, with a noticeable absence of artefactual evidence across the trench.

The later concrete slab addition in the northern part of Trench 1 also demonstrated a continuation of use on the site, with the brick platform it was built upon evidently truncating the earlier surfaces and the concrete itself abutting and partly covering a number of deposits. The slots for wooden mechanism features within the concrete suggest a shift, or perhaps an extension, from the original mill workings in the main building, probably in the earlier 20th century. Whether this is a change in the entire processes on site or representative of a technological upgrade or expansion of the mill machinery was not identified in the limited area observed. However, there was no definitive reason to suppose that the higher platform defined by the concrete was not used concurrently with the main mill building well into the 20th century, only that it belonged to a later building phase on the site.

Similar later structural elements were observed in Trench 2 and although the surface and concrete found here probably dates to the early 20th century, there are buildings mapped in this part of the complex from the 1887 1st edition mapping onwards. These features probably represent the latest phase of use here, and there is the potential for earlier parts of structures to exist in the area below these or around Trench 2. The series of buildings mapped to the north of the mill are large and extensive and are positioned directly adjacent to a former Osier bed and the mill pond.

Although the potential still exists, there were no archaeological features that could clearly be attributed to a period other than post-medieval or modern in either trench. However, this is primarily a result of the depth at which complex structural deposits were encountered, thus preventing deeper excavation, rather than a definitive evidence of absence of earlier features. A further limiting factor throughout this project was the extent of hydrocarbons, which restricted more thorough exploration of parts of the mill site and the features observed. As mentioned above, it is known that mill buildings are frequently constructed as a continuous evolution of development on a single site with many modifications and additions, using well-established water supply systems (Watts 2006, 29). This can remove evidence of earlier remains as new technology replaces older elements or structures are rebuilt or refaced in a piecemeal fashion (Watts 2002, 117), although it is still possible to find parts of much older constructions within or below more recent final buildings (see, for example, Mitchell 2007; Haslam 2011). This was very much the case during recent excavation at the site of Droitwich Town Mill, where earlier timber constructions were found beneath a later brick-built structure (*pers. comm.* Andrew Mann). The survival of alluvial remains, seen in the machine sondage excavated in the north of the trench as well as the geotechnical works across the site (Sladen Associates 2013), would suggest that any earlier deposits could be waterlogged and thus well-preserved.

7 Significance

7.1 Nature of the archaeological interest in the site

The evaluation trenches have demonstrated that extensive structural deposits of post-medieval and later date are present on this site. This supports the conclusions of the DBA and indicates the preservation of much of Henwick Mill as buried remains alongside the known upstanding structures previously observed to survive adjacent to the Laughern Brook.

The structural remains were well-defined in the form of walls and surfaces but were also stratigraphically complex and clearly comprised a series of building phases that indicate an extensive period of use as a working site. The post-medieval remains were demonstrably of archaeological significance and there remains the potential for earlier structures and deposits to have survived beneath the visible mill complex buildings. The presence of differing types of worn millstone indicates that, at least in the later post-medieval period if not earlier, the mill was being used for processing cereal foodstuffs. This corresponds with the description of the mill on the historic maps from 1887 to 1940 as 'Henwick Mill (Corn)'. There were no primary deposits that demonstrated evidence for iron working on this site, although coal slag, probably from an industrial boiler, was recovered from the made ground material backfilling the mill buildings.

7.2 Relative importance of the archaeological interest in the site

The extensive survival of both buried deposits and upstanding remains on this mill site is significant and represents an opportunity to explore the post-medieval activity and processes taking place here. Other than cartographic sources there is little documentary evidence providing information about the mill and this is especially the case before the 1887 1st edition map illustrates the complex. As a result, the archaeological remains could offer an important source of knowledge about the later development of the site and the localised economy in this period.

The possibility of earlier medieval structures surviving beneath the later buildings is a particularly important aspect of this site. Documentary sources suggest that a mill of at least 13th century date, and possibly from the 11h century, existed in the parish and that it was either a corn mill or a fulling mill. If this is the case, then the site offers significant archaeological potential to contribute to an understanding of the medieval agricultural economy in this area. A major research agenda for the West Midlands is locating and excavating medieval mill sites, which are relatively unexplored archaeologically (although for an exception see Mitchell 2007). More specifically, there is a focus on researching those used as fulling mills, which are poorly understood in archaeological terms, both regionally and nationally (Hunt 2011, 189-190).

The artefact assemblage is considered to be of limited archaeological significance, especially as all the excavated deposits were related to the disuse of the buildings and so could not be obviously associated with its occupation and use. Though largely domestic in character, there was also some industrial waste (porcelain) suggesting a degree of deliberate infilling/dumping, potentially involving the importation of material from elsewhere, and this would reduce the possibility that the finds from the evaluation can, at present, help characterise activity on the site.

7.3 Physical extent of the archaeological interest in the site

The structural remains of Henwick Mill in various building phases survived across the extent of Trench 1 and were seen to continue beyond the trench limits. Given the correlation of these walls and the surface in Trench 2 with the known buildings identified on cartographic evidence, it is possible to suggest that elements of the entire mill complex may still exist on the site. Many of these features were encountered in relative proximity to the current concrete and tarmac surface, particularly at the eastern edge of Trench 1, and survived for considerable depth. As such, they are vulnerable to any intrusive ground works taking place on the site and have the potential to mask earlier deposits not revealed during this project. It was not possible to explore some areas of the archaeology in both Trench 1 and Trench 2 due to the presence of hydrocarbons.

8 Publication summary

Worcestershire Archaeology has a professional obligation to publish the results of archaeological projects within a reasonable period of time. To this end, Worcestershire Archaeology intends to use this summary as the basis for publication through local or regional journals. The client is requested to consider the content of this section as being acceptable for such publication.

An archaeological evaluation was undertaken at the location of Henwick Mill on the north side of the B4204 Martley Road, Broadheath, Worcestershire (NGR SO 8310 5617, HER reference: WSM 49765).

The proposed development site includes the extant remains of part of Henwick Mill and as a result is considered to include a heritage asset with archaeological interest. The potential for further buried and deeply stratified deposits associated with these remains was also recognised. Henwick Mill is a 19th century (and probably much earlier) water mill and possible iron works recorded on Ordnance Survey mapping from the 1st edition (1887) until 1954, before demolition in the 1960s.

Two trenches were excavated on the site and targeted on the area of the mill complex. It was clear from the post-medieval structural remains revealed that the mill buildings in this area have survived in an excellent condition and across an extensive area, with multiple phases of building in evidence. This demonstrates the preservation of much of Henwick Mill as buried remains alongside the known upstanding structures previously observed to survive adjacent to the Laughern Brook. A number of different types of worn millstone were found and these suggested that, at least in the later post-medieval period if not earlier, the mill was being used for processing cereal foodstuffs. This corresponds with the description of the mill on the historic maps from 1887 to 1940 as 'Henwick Mill (Corn)'. There were no primary deposits found that indicated iron working on this site, although coal slag was recovered from the made ground material backfilling the mill buildings. No earlier deposits or structures were identified, but no excavations were undertaken below the post-medieval structural remains.

9 Acknowledgements

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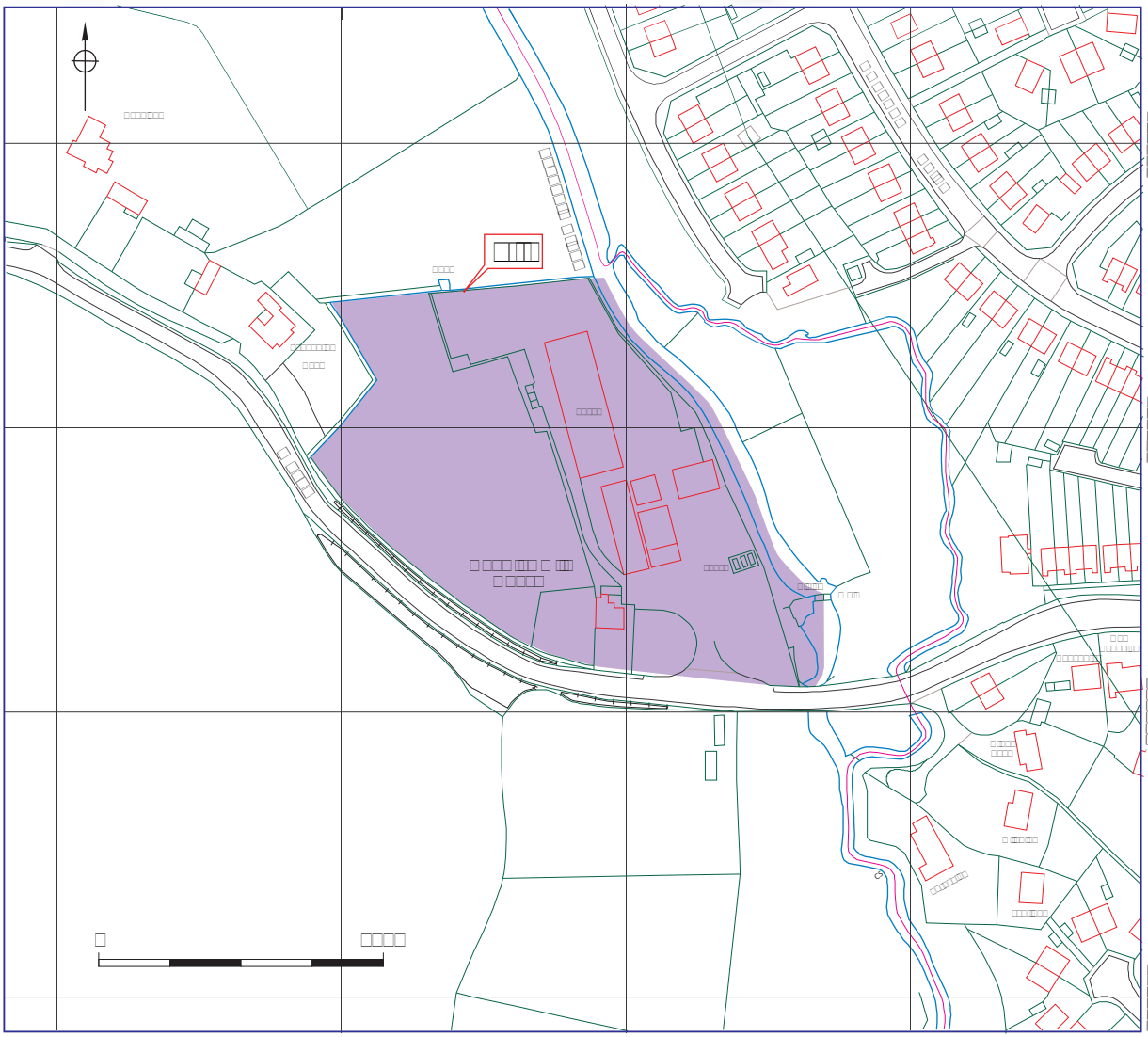
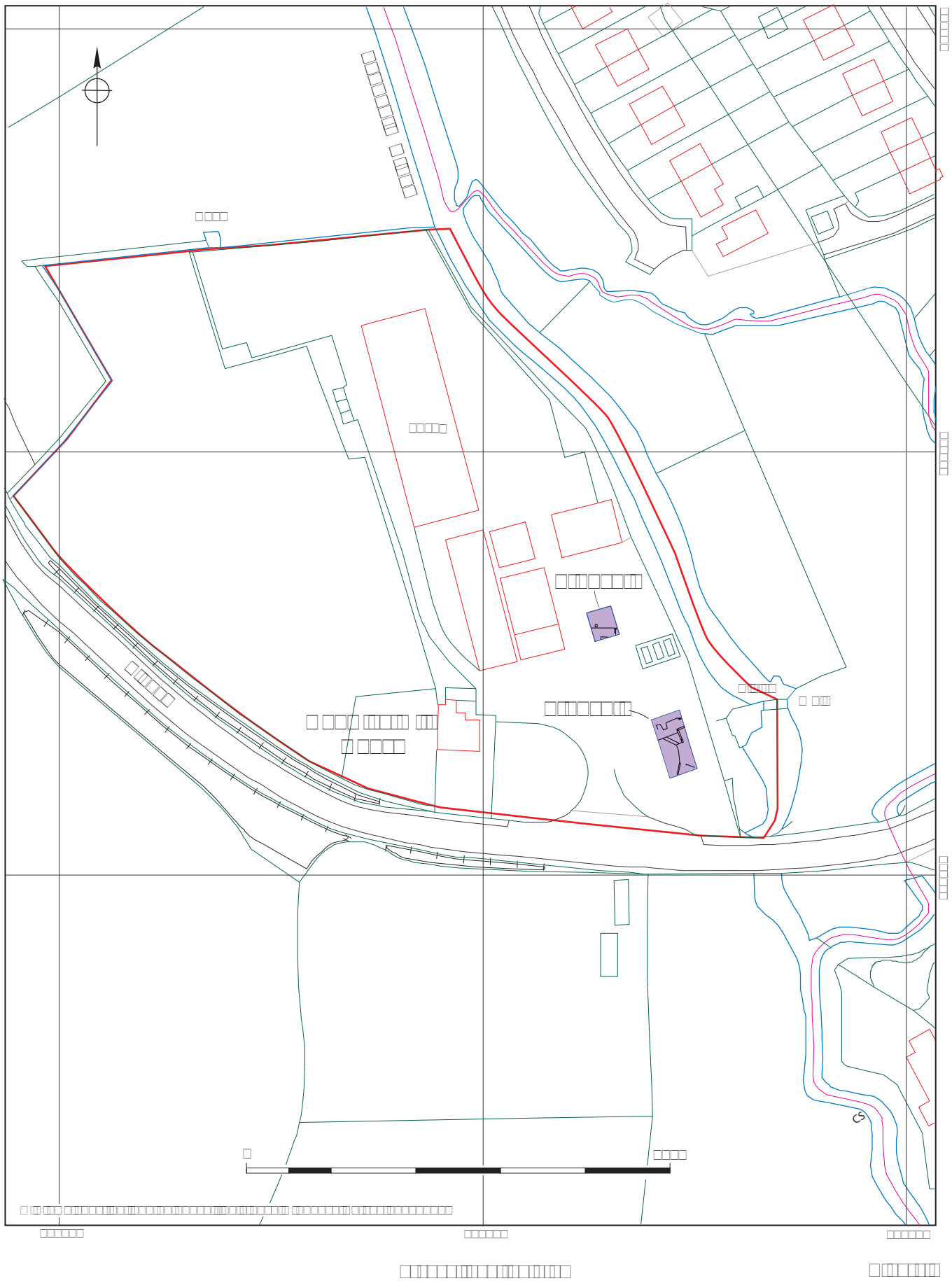
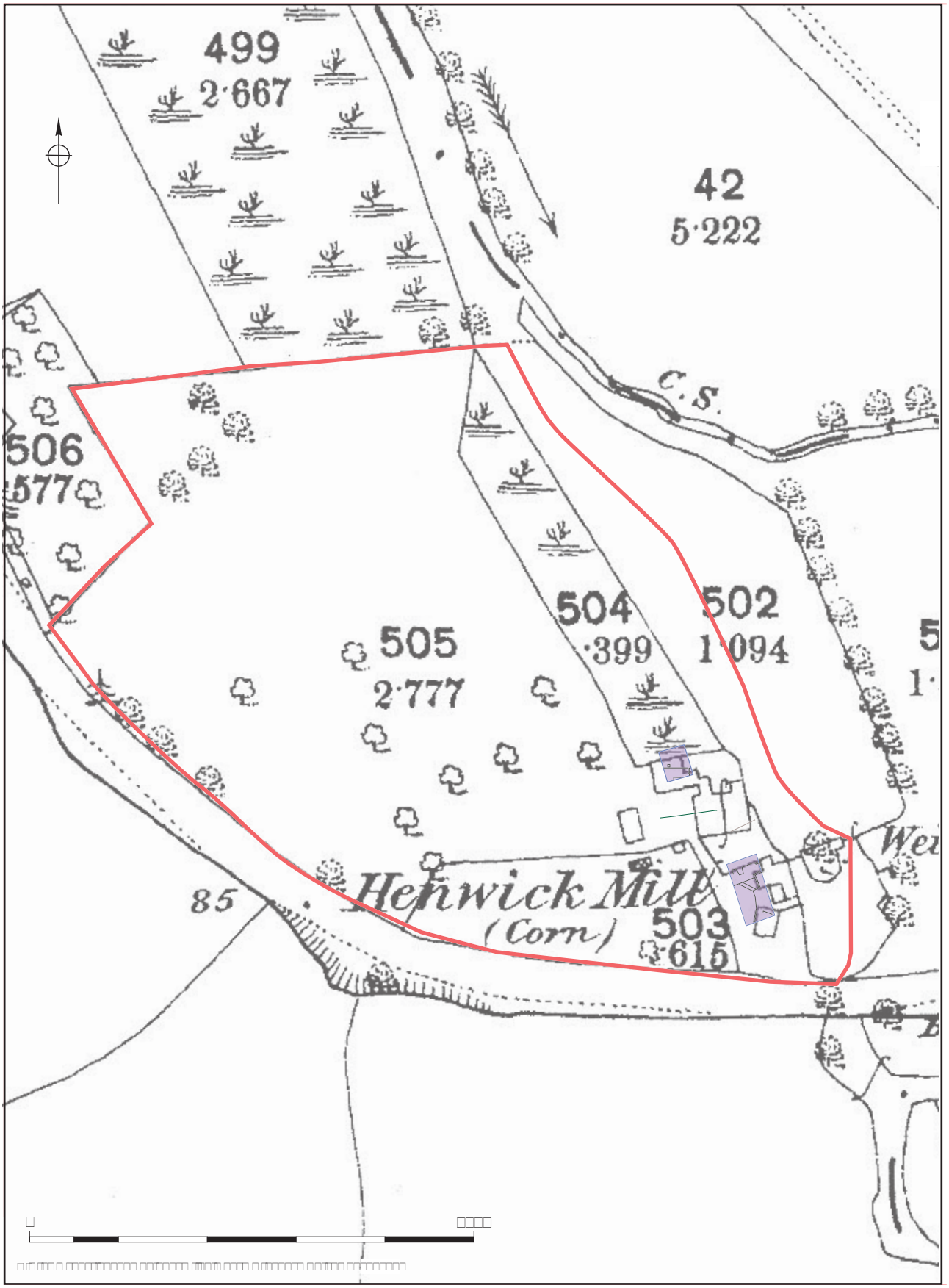
Figures


Worcester






499
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42
5·222
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Hepwick Mill
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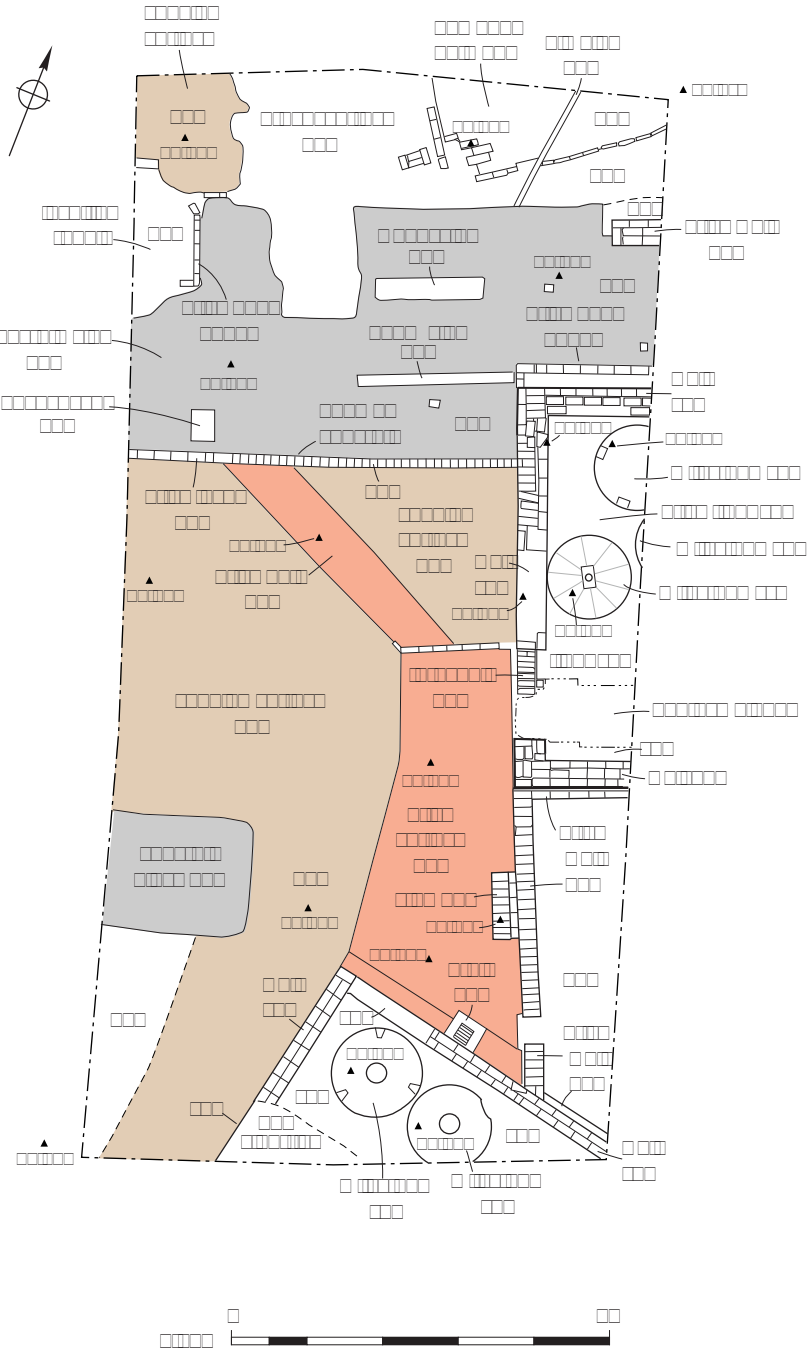

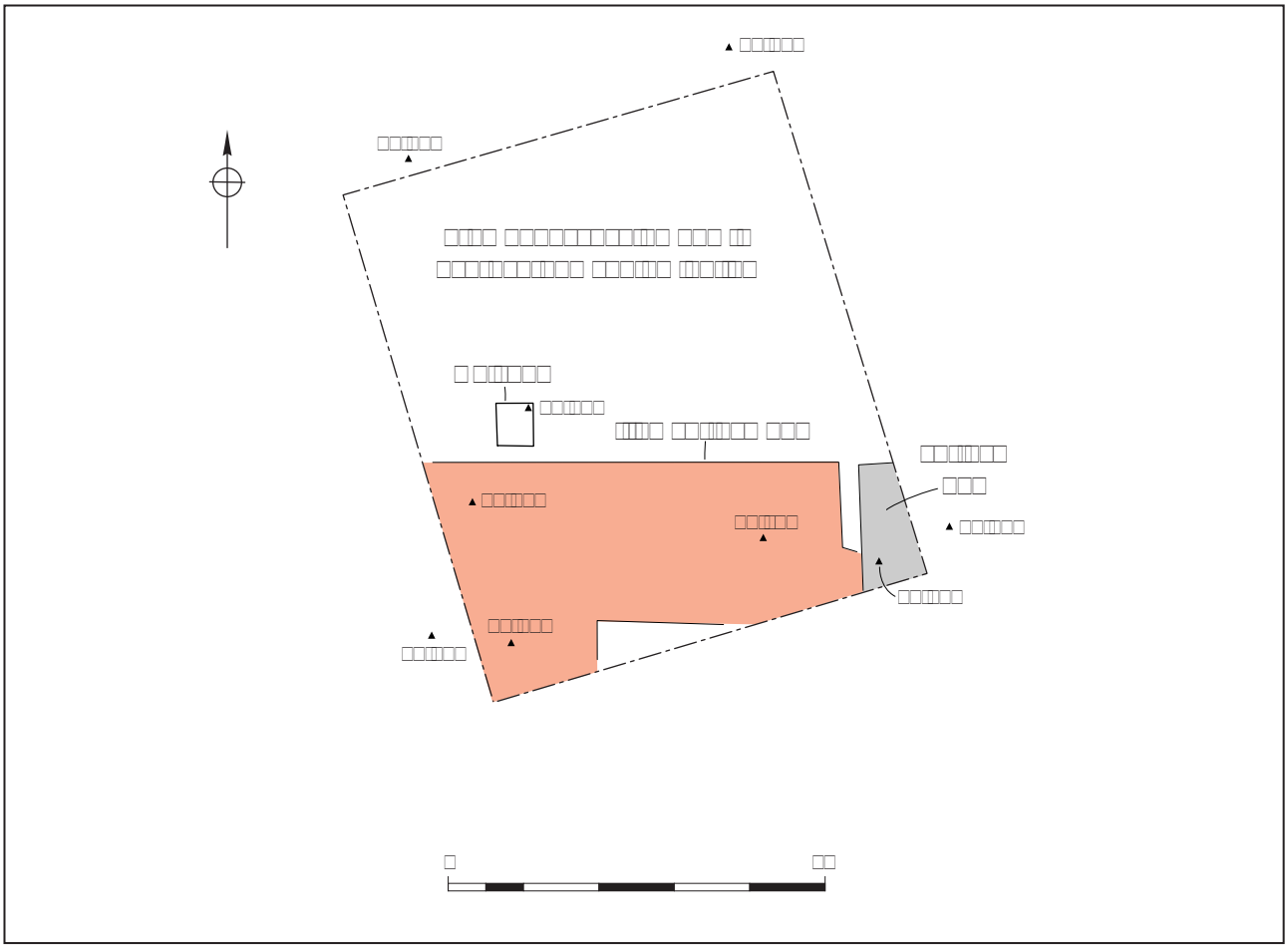

Plates

Plate 1: Trench 1 facing north

Plate 2: Trench 2 facing west

Plate 3: Earlier surface (108) at the northern end of Trench 1

Plate 4: Surface (123) linking buildings in Trench 1

Plate 5: The mill building and yard surfaces in Trench 1

Plate 6: The outbuilding at the southern end of Trench 1

Plate 7: Mill stones on the floor of the main mill building

Plate 8: Mill stone in the backfill of the outbuilding

Appendix 1 Trench descriptions

Trench 1

Maximum dimensions: Length: 14.50m Width: 7.1m Depth: 1.2m

Orientation: N-S

Main deposit description:

Context	Classification	Description	Depth below ground surface (b.g.s) – top and bottom of deposits
100	Layer	Modern surface. Indurated whiteish grey concrete (in NE corner) with black tarmac.	0.00-0.05m
101	Layer	Hardcore for 100. Whiteish grey concrete and hardcore made ground.	0.05-0.18m
102	Layer	Made ground over demolished mill site. Thick dark black silty sand with frequent rubble, bricks, slag etc. Heavily contaminated with hydrocarbons in places, particularly the SW and NW corners. Variable depth in parts; in south of trench this is purely compacted slag material.	0.23-0.63m
103	Structure	Thin concrete slab in N of trench. Overlies 106 but may be contemporary with it. Built to form slots 131, 134 and 136.	0.43m bgs
104	Structure	Large concrete block, a footing for an unknown structure. Not associated with the mill	0.15m bgs
105	Structure	Remnant of cobbled surface in NW corner of trench. May be contemporary with brick structure 139.	0.49m bgs
106	Structure	Brick structure, 2 courses high, with concrete 103 over the top. Probably part of same build as 103, late in the life of the mill. Made of red and blue brick. Red 225mm x 110mm x 80mm. Blues are same but 75mm deep.	0.54m bgs
107	Structure	Possible brick buttress for a wall that is beyond the trench edge. Concrete 103 is formed against its S and W edges. Only seen in plan. Red brick size 225mm x 115mm x unknown.	0.34m bgs
108	Structure	Early part of mill complex. A very worn, slightly banked red brick path. Partially truncated by service pipe 146 and covered by 141. Brick size 240mm x 115mm x unknown.	0.65m bgs
109	Structure	Southern wall of main mill building. Mid C19th? Very close to car park surface. Damaged by geotech pit 1 – 128. Red brick, size 225mm x 100mm x 70mm. Brick bond 2 courses of stretcher with one of header.	0.36m bgs
110	Structure	N-S and E-W walls of main mill building. Mid C19th? Same as 109.	0.00m bgs
111	Deposit	Limestone mill stone. Found on floor of mill building. Not in situ. 1.12m diameter, 0.2m thick	0.48m bgs

Context	Classification	Description	Depth below ground surface (b.g.s) – top and bottom of deposits
112	Deposit	Mill stone made from quartz and mortar and bound in iron. French burrstone. Found on floor of mill building next to 111 and 113. 1.14m diameter, 0.23m thick.	0.47m bgs
113	Deposit	Partly visible mill stone, probably a French burrstone like 112. Found on mill building floor, next to 111 and 112. 0.14m thick.	0.48m bgs
114	Structure	Floor of mill building, made of blue engineering bricks. Brick size 230mm x 115mm x 70mm. Truncated by geotech pit 128. Has mill stones 111, 112 and 113 sat upon it. Bedded on soft orangey sand.	0.72m bgs
115	Structure	Western wall of mill outbuilding. Made of red brick with a red sandstone quoin at door. NE-SW. Brick size 240mm x 115mm x 70mm. Quoin size 230mm x 300mm x 240mm, and dressed. English bond. Probably contemporary with main mill building.	0.40m bgs
116	Structure	North wall of mill outbuilding. Red brick with sandstone quoin by door. NW -SE This quoin is badly weathered, and is close to external drain 122. It may be that a pipe came through the wall here. Brick size and bond same as 115.	0.44m bgs
117	Fill	Loose mixed browny grey and brownish yellow silty sand and sandy mortar. Frequent brick rubble and stones. Rubble backfill within mill outbuilding. Contained millstones 118 and 119.	0.44m bgs
118	Deposit	Limestone millstone. In backfill of mill outbuilding. 1.12m diameter.	0.44m bgs
119	Deposit	French burrstone millstone within backfill of mill outbuilding. 1.2m diameter.	0.25m bgs
120	Structure	Brick ?tank between mill building and outbuilding. Backfill unexcavated so depth not known. Step 121 leads up to it, and sits higher than brick surface, suggesting floorboards. Mixed brick type, including red, blue and frogged, size 225mm x 105mm x 50mm.	0.78m bgs
121	Structure	Small step up to structure 120. Made of engineering bricks and built on path 123. Brick size 220mm x 105mm x 50mm.	0.77m bgs
122	Structure	Drain, a metal grate set into brick surface 123. Sits beneath damaged quoin in wall 116, which may have been converted to a drainage way, hence the damage. Flows into ceramic pipe. Unexcavated.	0.88m bgs
123	Structure	Blue brick external surface. Forms pathway between main mill building and outbuilding. Butted by similarly constructed path 124. Butts up against both buildings and 120. Cobbled surfaces 125 and 126 butt it. Brick size 220mm x 105mm x 80mm. Bricks stretchers on edge.	0.88m bgs
124	Structure	Blue brick path butting 123, but effectively one construction. This is a narrower path leading off at a different angle from 123. Truncated at NW end by 145, the	0.64m bgs

Context	Classification	Description	Depth below ground surface (b.g.s) – top and bottom of deposits
		construction cut for 106.	
125	Structure	Cobbled surface to mill yard. Made initially with rounded pebbles and cobbles, later repaired with red bricks in places. Abutted by paths 123 and 124, though is probably contemporary with them and fellow cobbled surface 126 on the other side of 124.	0.68m bgs
126	Structure	Cobbled surface on other side of brick path 124 to cobbles 125. Shows various patches of repair.	0.73m bgs
127	Fill	Backfill of geotech pit 128	0.00m-1.20m+
128	Cut	Cut of Geotech pit	0.00m-1.20m+
129	Layer	Very dark deposit below demo rubble 117 within mill outbuilding. Soft dark black grey silty sand.	0.88m bgs
130	Layer	Rubble demo filling mill building. Loose mid pinky orange silty sand with frequent brick rubble.	0.50m-0.72m
131	Structure	Post socket formed by bricks 106 and concrete 103. Filled by 132. Part of a frame for late phase mill mechanism? Associated with 134 and 136.	0.43m bgs
132	Fill	Backfill of post socket 131. Loose dark greyish brown silty sand. Wood remnants suggests wooden post rotted in situ.	0.43m bgs
133	Fill	Backfill of beam slot 134, Loose dark greyish brown silty sand. Wood fragments suggest timber beam rotted in situ.	0.43m bgs
134	Structure	Beam slot formed within concrete slab 103, probably to construct a frame for late phase mechanism of mill. Associated with 131 and 136. Filled by 133.	0.43m bgs
135	Fill	Backfill of concave slot 136. Loose mid greyish brown silty sand.	0.43m bgs
136	Structure	Concave slot formed within concrete slab 103. Looks like it may have held a rotating wheel as part of late phase mill mechanisation. Associated with 131 and 134.	0.43m bgs
137	Fill	Probably backfill associated with the construction of 103, it partly covers wall 139. Firm, mid yellowish grey sandy silt with frequent rounded pebbles.	0.43m bgs
138	Layer	Possibly a remnant of 102, it covers and obscures the relationship between cobbles surface 105 and deposit 140. Loose dark blue black cindery silty sand.	0.42m bgs
139	Structure	Possible red brick wall, predating 103 and potentially contemporary with cobbled surface 105. Only partially revealed. Brick size 230mm x 105mm x unknown	0.47m bgs
140	Layer	Thin strip of a densely packed stoney layer, that predates wall 139 and surface 105, possibly being cut by both. Would represent either an early layer (surface) or a levelling deposit between mill phases. Firm mid yellowish	0.48m bgs

Context	Classification	Description	Depth below ground surface (b.g.s) – top and bottom of deposits
		brown silty clay with frequent sub-rounded pebbles and brick fragments.	
141	Layer	Levelling/make-up layer over obsolete path 108, to allow for later phase activity. Firm mid reddish brown sandy clay with moderate mortar fragments and sub-rounded pebbles.	0.49m-0.65m
142	Cut	Construction cut for path 108. Not excavated, just observed. Cuts stoney layer 143.	0.60m bgs
143	Layer	Stoney layer through which path 108 is cut. Possibly the earliest deposit seen, and likely to have been a working area/yard surface during earlier phases of mill use. Firm light pinkish red silty sand with frequent rounded pebbles.	0.60m bgs
144	Structure	Threshold of mill main building, made of blue engineering bricks on edge. An associated iron boot scrape is located just outside the doorway. Brick size 230mm x unknown x 75mm.	0.78m bgs
145	Cut	Construction cut for structure 106. Cuts earlier surfaces 124, 126 and 127.	0.68m bgs
146	Deposit	Metal service pipe overlying path 108 and heading under concrete 103.	0.61m bgs

Trench 2

Maximum dimensions: Length: 7.2m Width: 6.1m Depth: 0.45m

Orientation: N-S

Main deposit description

Context	Classification	Description	Depth below ground surface (b.g.s) – top and bottom of deposits
200	Layer	Modern surface. Indurated light whiteish grey concrete and black tarmac. Tarmac on N and W sides of trench overlies 201 made ground. Tarmac is 0.05m thick.	0.00-0.36m
201	Layer	Made ground. Mixed light yellow brown and dark brownish black stoney rubble with frequent bricks, CBM and concrete, plus hydrocarbon contamination.	0.05-0.40m+
202	Structure	Quarry tile floor surface with single course brick division. Damaged and worn through use. Probably part of mill complex. Tile size 150mm x 150mm x 15mm. Machine made, C20th.	0.45m
203	Structure	Concrete slab floor abutting tile surface 202. Part of mill building. Probably C20th	0.45m
204	Structure	Brick and concrete mortar structural remains butted by surface 202 edging slate. Not explored due to contamination. Brick size 220mm x 120mm x 70mm. C19th/C20th.	0.20-0.50m

Appendix 2 Technical information

The archive (site code: WSM 49765)

The archive consists of:

43	Context records AS1
5	Field progress reports AS2
3	Photographic records AS3
123	Digital photographs
1	Drawing number catalogues AS4
1	Scale drawings
1	Context number catalogues AS5
2	Trench record sheets AS41
1	Copy of this report (bound hard copy)

The project archive is intended to be placed at:

Worcestershire County Museum
Museums Worcestershire
Hartlebury Castle
Hartlebury
Near Kidderminster
Worcestershire DY11 7XZ
Tel Hartlebury (01299) 250416

Summary of data for Worcestershire HER

WSM 49765 (event HER number)

P4612

Artefacts

period	material class	object specific type	count	weight (g)	start date	end date
late post-medieval/modern	ceramic	floor tile	2	302	1850	1950
late post-medieval/modern	ceramic	pot	3	24	1800	1950
late post-medieval/modern	ceramic	pot	1	4	1800	1950
late post-medieval/modern	ceramic	pot	1	22	1750	1950
late post-medieval/modern	ceramic	pot	1	54	1800	1950
late post-medieval/modern	ceramic	pot	2	70	1800	1950
late post-medieval/modern	ceramic	pot	1	14	1800	1950
late post-medieval/modern	ceramic	pot	1	18	1800	1950
late post-medieval/modern	ceramic	pot	4	28	1800	1950
late post-medieval/modern	slag	-	6	1120	1800	1950
late post-medieval/modern	slag	-	2	128	1800	1950
late post-medieval/modern	glass	vessel	3	122	1880	1950
late post-medieval/modern	glass	vessel	1	44	1800	1950
late post-medieval/modern	glass	vessel	1	12	1880	1950
late post-medieval/modern	glass	vessel	1	84	1880	1950
late post-medieval/modern	metal	-	1	18	1850	1950
late post-medieval/modern	metal	-	1	42	1800	1900
late post-medieval/modern	metal	-	1	88	1800	1900
late post-medieval/modern	metal	-	2	28	1800	1950
late post-medieval/modern	metal	-	1	264	1800	1950
late post-medieval/modern	metal	-	1	76	1800	1950
late post-medieval/modern	metal	nail	2	48	1800	1950
post-medieval	ceramic	clay pipe	1	12	1680	1730
undated	bone	-	36	498	-	-