ARCHAEOLOGICAL SERVICES
DURHAM UNIVERSITY

Howarth Litchfield Partnership
for
Durham University Estates and Buildings

Master's House
Palace Green
Durham

archaeological excavation

report 2955
December 2012

Durham University

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1. Summary

The project

1.1 This report presents the results of an archaeological excavation and monitoring programme conducted in advance of and during works to underpin walls in the semi-basement in the Master's House. Trenches were excavated in accordance with the requirements of the engineer and building contractor. The underpinning pits were excavated to below the depth of the existing foundations. Previous investigative work by Archaeological Services has revealed the survival of archaeological deposits at these locations.

1.2 The works were commissioned by Howarth Litchfield Partnership for Estates and Buildings, and conducted by Archaeological Services Durham University.

Results

1.3 Stratified archaeological deposits were encountered in all of the trenches. These deposits included walls and surfaces of medieval, post-medieval and modern date. The remains of a substantial stone wall found in one of the trenches may be part of the Owen Gate or relate to Castle's medieval inner defences. A significant archaeological resource clearly survives close to the surface in the Master's House, although the small size of the trenches precludes further valuable interpretation.

1.4 The small finds assemblage contained a wide range of material and comprised items dating from the medieval, post-medieval and early modern period. This included medieval and post-medieval pottery, animal bone, a copper alloy pin, a bone tool, lead, iron, glass, ceramic building material, clay tobacco pipe, stone architectural fragments, worked stone objects and palaeoenvironmental evidence.

Recommendations

1.5 It is recommended that any further excavation work at the Master's House or its vicinity are subject to an appropriate scheme of archaeological recording.

2. Project background

Location (Figure 1)

2.1 The Master's House is at the north-east corner of Palace Green, Durham, at grid reference NZ 2742 4231. The house lies between Owengate and the Castle mound. To the west is a level garden and to the east are an attached flat and houses on Owengate.

Development

2.2 As part of the refurbishment of the Master's House, a structural engineer's report had been prepared. This proposed underpinning works to support chimney stacks in the north-east wall and in the centre of the building. Investigative work by Archaeological Services has revealed the survival of archaeological deposits at these locations.

Objective

2.3 The work was intended to ensure that archaeological deposits, features or material that would be affected by the underpinning work were recorded appropriately.

Specification

2.4 The works have been undertaken in accordance with a written scheme of investigation provided by Archaeological Services Durham University (reference RA12.181) at the request of Howarth Litchfield Partnership (HLP) and approved by the Durham County Council Historic Environment Team.

Dates

2.5 Fieldwork was undertaken in July and August 2012. This report was prepared for December 2012.

Personnel

2.6 Fieldwork was conducted by Janice Adams, David Graham, Nathan Thomas, and Johnny Dye. This report was prepared by Janice Adams, with illustrations by David Graham. Specialist reporting was conducted Jennifer Jones (ceramics and other finds), Louisa Gidney (animal bone), and Dr Charlotte O'Brien (palaeoenvironmental). Sample processing was undertaken by Al Rae. The Project Manager was Richard Annis.

Archive/OASIS

2.7 The site code is **DMH12a**, for **D**urham **M**aster's **H**ouse 20**12a**. The archive is currently held by Archaeological Services Durham University and will be transferred to The Fulling Mill Archaeology Museum in due course. Archaeological Services Durham University is registered with the **O**nline **A**cces**S** to the **I**ndex of archaeological investigation**S** project (**OASIS**). The OASIS ID number for this project is **archaeol3-135364**.

Acknowledgements

2.8 Archaeological Services Durham University is grateful for the assistance of personnel from Sendrig Construction in facilitating this scheme of works.

3. Landuse, topography and geology

3.1 The study area is the interior of the Master's House, which was vacant when the work was carried out. The building is a narrow structure running roughly north-west south-east. It is three storeys high over a semi-basement.

3.2 The underlying geology of the site consists of a massive sandstone bed (the Low Main Post Sandstone) that is part of the Westphalian Coal Measures of the Carboniferous Period. This sandstone bed overlies a coal seam (the Low Main Seam) and then a group of shales, with these strata being exposed along the river banks (Holmes 1928).

4. Historical and archaeological background

Previous archaeological works

4.1 There have been many small-scale archaeological interventions on the peninsula. Most recently, archaeological investigations were conducted as part of the replacement of the Durham Heating System, which amongst other things revealed medieval and post-medieval activity adjacent to the Master's House (Archaeological Services 2012a). These were medieval pits, a wall and a 19th-century cellar. Evaluation works were also conducted in advance of this scheme of works (Archaeological Services 2012b) which revealed the presence of archaeological deposits. An archaeological excavation was also conducted on the opposite side of the road in advance of the construction of a visitor's centre, where evidence of medieval and post-medieval structures and deposits was found (Archaeological Services 2012c).

Prehistoric and Roman periods

4.2 There is little firm evidence for prehistoric and Roman activity in Durham, although it is generally assumed that such a naturally strong site must have been occupied (Roberts 2003, 16). Occasional finds of Roman pottery hint at some sort of exploitation of the peninsula.

The medieval period (5th century to 1540)

4.3 The traditional founding of the City of Durham dates to the arrival of the monks of St Cuthbert from Chester-le-Street in 995. The early focus for settlement is believed to have been around the Minster which stood on the site of the cathedral. In the early 12th century, Simeon wrote that the area between the castle and the cathedral was cleared of buildings to prevent a perceived fire-risk and to remove pollution; this is assumed to be the original settlement of the city. Despite numerous small-scale investigations around Palace Green no archaeological evidence of this early settlement has been found. Carver's 1974 excavations at 61-3 Saddler Street claimed to have established the presence of pre-Conquest tenement plots, but a recent re-assessment (Vince and Mould 2008) has raised doubts about this, suggesting that the material found dates to the early post-Conquest period instead.

4.4 The topography of Durham suggests that it is likely that Owengate is one of the oldest routes in the city as, even before the castle walls were constructed in the 11th century, it was an easy route from the neck of the peninsula to the cathedral. Recent monitoring of pipelines on Owengate has been found no evidence of structures, suggesting that the road has always been open (Archaeological Services 2009).

4.5 After the Norman Conquest Owengate was formalised and incorporated into the later medieval townscape, forming the main route from Saddler Street and the Market Place to Palace Green. At its north end was the North Gate, the heavily fortified principal entrance to the castle, which at that time encompassed the whole of the peninsula. Within the castle defences, the land was sub-divided by walls and gates. One of these walls, linking the keep to the east end of the cathedral, cut across the north-east corner of Palace Green. This was the site of the Owen Gate which gave its name to the present street. The Owen Gate was constructed in the early 12th century by Bishop Flambard (Clack 1985, 52). Recent work by Archaeological Services (2012a) has located some remains of the structure close to the garden gate of the Master's House. The site of the house and its garden, as well as the Fellows' Garden west of the present castle entrance, was formerly a dry moat; west of the Castle gate the ditch had been backfilled by the 15th century. Martin Roberts has suggested a similar date for the backfilling of the Owengate section of ditch (2003, 41). However, documentary evidence indicates that there were tenements on the north side of Owengate as early as 1333 (Camsall 1985, 531), and that these extended along the length of both sides of Owengate during the rest of the 14th century. Assuming this formed a contiguous street frontage these structures would make any ditch to the rear redundant at this time. Recent work by Archaeological Services (2012a) suggests that the moat was backfilled by the 12th or 13th century. Radiocarbon dates indicate that there was activity to the rear of 6 Owengate, on the area of the presumed moat, by the middle of the 13th century at the latest.

4.6 Owengate was part of the jurisdiction of the constable of the castle, so its occupants usually owed allegiance to the bishop rather than the priory (Camsall 1985, 485). Tenants included Thomas Grey, knight, and the earl of Westmorland, as well as lower-status residents. Richard Whitby was a spicer who leased a tenement in Owengate, although it is not clear whether he used the premises for his trade. The jettied house at no. 5 Owengate is a survival from the medieval period. Documents refer to the street as *Ouwynsgate*, *Howynsgate*, *Owynsgate* and *Owenygate*; in the 19th century it was called Queen Street.

4.7 The Bishop of Durham's mint was at the north-east corner of Palace Green and is frequently mentioned in 15th-century documents. It was formerly thought that the mint was on the south-east side of the road at the junction of Owengate and Palace Green, while the mint's supervisor lived to the north but it would appear that this is a misreading of the documentary evidence. It appears that the mint was located on the south side of the Gate, on the present Moneyer's Garth, and that the moneyer's house was on the north side of the Gate. This means that at least part of the Master's House site was formerly the location of the moneyer's house.

The post-medieval period (1541 to 1899)

4.8 Roberts indicates that the Owen Gate was probably demolished by 1500, and the structure does not feature on the earliest maps of the city. Forster's 1754 map of Durham is the first reasonably accurate plan of Durham, but it lacks detail. 'Owen Gate or Queen Street' is marked and the house appears as a long building running back from the street to the motte. John Wood's 1820 map, the first to indicate individual properties, shows the north side of Owengate much as it appears today. The significant changes are the removal of two buildings on the street front, one in the garden west of the house and the other between the Master's House and no. 6.

The site of the latter is now occupied by a self-contained extension to the Master's House, an entrance to the yard at the rear of no. 6 and a recently-constructed boiler house. The extension is not shown on the 1860 Ordnance Survey map of the city but was present by 1890. There have been no significant alterations to the Master's House site since that time.

5. The excavation trenches

Introduction

5.1 The underpinning pits were excavated in accordance with the requirements of the engineer and building contractor. They were opened to expose the existing wall foundations and to allow the recording of any archaeological deposits. Excavation was carried out in three trenches before and during underpinning works. Trench A was in a fireplace recess in the north basement, a stone-floored store room; the trench measured 2.35m by 0.52m. To the north and west of this room are windowless cellars. Trench B was in the south basement, which had been in use as a utility room. This was a U-shaped trench that measured 3.3m by 4m overall. Trench C was in a small room between the north and south basements; it measured 3m by 1.2m. Evaluation trenches had been opened in parts of each of these excavations.

Trench A (Figures 3-7)

5.2 This trench was excavated to a maximum depth of 0.92m, north-west of the previous evaluation trench. The excavation appeared to be entirely within the original construction trench for the wall of the house. No cut for the foundations was seen in the trench and the natural subsoil was not reached during the excavation.

5.3 An unmortared curving stone wall [F11: 0.8m by 0.15m by 0.5 deep] constructed of rectangular masonry of variable size was partly exposed in the trench (Figure 5). Abutting this wall was a layer of orange sandy clay [13] that contained six sherds of 12th-13th century pottery, a horseshoe nail, animal and fish bone, and a fragment of lead. Behind the back wall of the recess, a substantial mortared stone wall was seen to be standing on this layer. This wall [F10] was built of roughly rectangular stones of variable sizes (Figure 7). It is possible that it is a continuation of the stone wall visible in the stairwell. Abutting this and overlying the sandy clay layer [13] was a fragmented stone surface [F12: 30mm thick]. This was overlain by a layer of firm grey-brown silt clay [16: 50mm-80mm thick]. This material contained 12 sherds of 14th-15th century pottery, animal and fish bone and three iron objects. Overlying this was a 0.2m-thick layer of mottled orange and grey-brown loam [9] that contained two large sandstone blocks [F15: approx. 0.6 by 0.4m by 0.12m thick], 22 sherds of 13th -15th century pottery, fish and animal bone, oyster shell and a small piece of post-medieval glass. Directly over this was a stone floor [F14: 0.45m by 0.65m by 0.18m thick] set in a brown silt clay matrix (Figure 6). Above this at the south end of the trench was a layer of laminated deposits [8: 0.2m thick] containing 14th-15th century pottery, animal bone and oyster shell. These layers were below a flagstone surface [F5] on which the brick foundation [F6] to the recess had been built.

5.4 At the north end of the trench, the stone floor [F14] was covered by a layer of crushed mortar [17], probably laid as a levelling deposit; three fragments of animal bone were recovered from this layer. A compact very dark brown sandy silt [3:

0.18m thick] over the mortar layer contained animal bone, coal, slag and cinder. The stone foundation of the north-west corner of the fireplace recess [F7] was constructed upon this layer.

5.5 At a later date the stone and brick foundations [F6 & F7] and were cut to accommodate the fireplace [F18]. A brick support for a hearth, stove or range [F4: 0.95m by 0.55m by 0.26m deep] was filled with rubble [2: 0.25m thick]. The rubble was overlain by the present flagstone floor [F1: 80mm thick].

Trench B (Figures 3-4, 8-12)

5.6 Trench B was at the southern side of the large southern chimney stack, in the semi-basement kitchen. It was excavated to a maximum depth of 0.75m. The natural subsoil was not reached during the excavation.

5.7 At the south-west edge of the excavated area a substantial section of well-made stone wall was partly exposed [F115: 2.26m long]. The wall runs north-east south-west and its upper surface is approximately 0.16m below the concrete floor of the kitchen. Four courses of mortar-bonded faced sandstone blocks were exposed (Figure 8). This wall is similar to another isolated section seen in a service trench just outside the gate to the garden of the Master's House (Archaeological Services 2012a, 12; Area 11, F231). These may form part of the structure of the Owen Gate (4.5, above). Abutting this wall was a layer of dark grey-brown sandy silt [121: unexcavated]. Stone and mortar inclusions in this deposit suggest that this layer might be contemporary with layer [207] in a recess in Area C, a short distance to the north-east. At the west side of the trench this layer was overlain by grey-brown sandy clay [117: 0.14m thick] that contained occasional angular stone, brick fragments, two sherds of medieval pottery and a fragment of medieval window glass. Overlying this was dark brown clay [114: 0.24m thick] that contained two fragments of stone floor tile, 13th-15th century pottery, animal and fish bone, a large sharpening / whetstone, a nail fragment and clay tobacco pipe fragments. Above this layer was a dark grey silt [109: 70mm thick] that contained a single sherd of 12th-13th century pottery. This deposit was below a thin layer of coarse yellow sand and crushed stone [108: 70mm thick]; three sherds of medieval pottery were recovered from this layer. Above this was a soft sandy clay [107: 50mm thick] which formed the bedding for a flagstone surface [F111: 50mm thick]. A U-profile foundation trench cut this layer [F116: 2.64m by 0.32m by 0.25m deep] (Figure 10). Within this was a mortared wall [F124] of medium-sized irregular sandstone blocks. The backfill of the trench [118] contained stone, brick, tile and mortar, as well as late medieval pottery, animal bone and clay pipe fragments. Brick foundations [F105] had been inserted later on the east and west sides of the stone wall. These were built from hand-made bricks (230 mm by 70mm by 100mm), probably of 19th-century date.

5.8 At the base of the north-east end of the trench a layer of mottled yellow sandy clay [112: unexcavated] was found. This underlay the remains of a stone floor [F122: unexcavated (Figure 12)]. This was found at a depth of 0.35m below the present floor and consisted of roughly cut flags measuring 60-80mm thick. This stone floor was covered with a deposit of brown silty clay [106: 0.15m thick] that contained stone and coal fragments, a sherd of 13th-14th century pottery and a clay pipe fragment. This layer was directly under the brick foundation of the chimney stack

[F105]. A part-exposed layer of black silt [110: unexcavated] containing a lot of cinder was also found under layer [106] at the centre of the trench.

5.9 Additional support for the foundations of the brick chimney foundations was provided by blocks of thin stone slabs at two points, one at the west end [F120], where the slabs were set on edge, and the other below the brick hearth [F104]. Above the former there was a layer of grey silt and rubble [102: 0.08 thick]. The western support was overlain by a layer of grey silt [113] with mortar inclusions. This silt layer carried brick sleeper walls [F119] for the floor of the utility room. The stair cupboard on the east side of the stack had a brick floor [F123]; elsewhere, the sleeper walls were overlain by the modern concrete floor [101, 100].

Trench C (Figures 3, 4, 13 & 14)

5.10 This trench was in a small store north of the utility room, in a recess on the north-west side of the chimney stack. Excavation extended to a depth of 0.52m.

5.11 A layer of fine compacted black silt [214] was the lowest deposit that was reached. This was sealed by a very fine layer of mortar [215] overlain by sandy loam [207] containing stone, mortar and brick fragments. An architectural fragment was also recovered from this layer. Above this layer, a layer of dark brown silt [216: 100mm thick] was visible in section. Directly over this was gritty brown silty clay [209: 0.15m thick] that contained flecks of mortar, cinder and stone fragments. A stone wall foundation [F217], visible in the recess, had been constructed on this layer. It is probable that this wall is part of the same phase of construction as the stone wall on the south side of the chimney stack [F124].

5.12 Two reused architectural fragments [F206] abutted the stone foundation (Figure 13). One was a thick slab, roughly square, with a shallow circular depression at its centre; one edge was chamfered. The second was rectangular in shape and measured 0.62m by 0.24m by 70mm thick. The bonding mortar included brick fragments. A layer of black silt [210: 80mm thick] containing post-medieval pottery, animal bone, glass and clay pipe overlay these stones. A bone object, possibly used in manuscript preparation or printing, was also recovered from this layer. The deposit was overlain by bedding [204] for a flagstone floor [F213 (Figure 14)]. This floor resembles the surface in the wine cellar at the rear of the building, north of Area A. A repair to this floor [203] was cut by the foundation trench [F201: 1.4m by 1.1m by 0.35m deep] for the brick chimney; this was irregularly shaped in plan and profile. The chimney stack's foundation [F212] was five courses of hand-made bricks bonded with cement. A stone block [F205] abutting this foundation was overlain by a backfill deposit of dark brown friable silt [208] that contained frequent inclusions of stone, mortar, cinder and coal fragments. Finds recovered from this deposit included two sherds of post-medieval pottery, post-17th-century window glass, animal bone and clay pipe fragments. A thin layer of fine brown silt [200] overlay the backfill; this may derive from the overlying crushed brick and stone sub-base [202: 0.1m thick] for the concrete floor [211: 0.1m thick].

6. The finds

Pottery

Results

6.1 A total of 106 sherds, weighing 1298g, were recovered from the excavation and the environmental samples. These derive from 13 contexts and unstratified material (Table 1.2). The majority (96) are medieval, with a date range of around the 12th–15th centuries. Pottery includes examples of buff/pink gritty ware (12th-13th centuries), buff sandy ware (12th-13th centuries), Scarborough ware (13th-14th centuries), oxidised sandy ware (13th-14th centuries) and reduced greenware (14th-15th centuries). Two unusual sherds came from context [118], a backfill layer for the cut for the chimney foundation [F105]. These are from an open vessel made in a hard red earthenware with the inside surface glazed in a bright apple green over a white slip. Current research suggests that this material is 15th-century or later, but exactly comparable material could not be found.

6.2 The post-medieval material (12 sherds) includes examples of slipware (17th-18th centuries), tin glazed earthenware (TGEW) (17th-18th centuries) and 19th-century examples of glazed earthenware and cane coloured ware.

Recommendation

6.3 In the context of further works in the Master's House or the vicinity, further study of the assemblage is recommended to confirm identifications and provide closer context dating.

Animal bone

6.4 A small assemblage of animal bones was recovered, mostly from unstratified deposits. Trench A, in the fireplace recess of the rear basement kitchen, produced the bulk of the stratified hand-recovered finds, from six contexts. Several of the contexts in Trench A which contained bones were not fully excavated, hence the low numbers of identifiable fragments from individual contexts. Three contexts in Trench B, associated with the south chimney stack, produced faunal remains. Two contexts in Trench C, a recess in a separate small room, contained animal bone.

6.5 The bones are well-preserved. Fragments of cattle and sheep/goat bones were noted as identifiable if they encompassed a 'zone', or discrete diagnostic feature. This approach reduces multiple recording of fragments potentially from the same bone. Unidentifiable fragments were not counted. Ribs and vertebrae were assigned to cattle or sheep size. All identifiable fragments of the remaining species were counted.

6.6 It can be seen from Table 1.3 (Appendix 1) that the majority of the identifiable fragments derive from sheep/goat. The presence of an unstratified cranium from a polled sheep indicates that the sheep/goat category may be considered as sheep. The limited evidence from epiphysial fusion suggests the consumption of mutton rather than lamb.

6.7 Dog gnawing marks are present and butchery chop marks indicate splitting of the sheep carcase into sides and joints. The assemblage represents disposal of kitchen and table refuse, reflecting the location within the basement kitchen of the Master's House. The presence of heat-scorched bones among the unstratified finds indicates that some of the faunal refuse was disposed of in the kitchen fireplace.

6.8 The species represented in this very small group reflect the size of fragment acceptable to be deposited on this site, rather than the availability of marrow bones and meat on the bone from large carcases. The cattle bones include examples from veal calves, roughly equivalent in size to the sheep bones. Fragments of pig's head, poultry bones, fish and shellfish appear to have been sufficiently small and odour free for deposition on site. Tentative spatial and temporal differences between the refuse deposited in the three trenches examined may be indicated by the goose and cat bones found only in trench B and the domestic fowl and turkey bones found only in Trench C. The turkey is a post-medieval introduction and has been found in 16th-century deposits at Bearpark (Gidney 1995), suggesting that the elite consumers associated with the cathedral were innovative in adopting the species for the table. While no dog bones were found, the presence of gnawing marks on bones from all three trenches attest to the presence of this companion animal. The cat bone from trench B suggests either utilisation of 'roof hare' or the remains of a household pet dumped with the kitchen waste.

6.9 Unidentifiable scraps of mammal bone were present in all the samples but are only noted in Table 1.4 if all fragments present were unidentifiable. It is clear from Table 1.4 that bones from small species of fish were commonplace in all three trenches excavated. Small scraps of bone, splinters from the chopping up of marrow bones and dogs gnawing bones, were also widespread. Such small fragments can fly off at impact and be further spread by footwear, aided by dogs depositing faeces. Sheep is also the predominant species identified in the samples but the domestic fowl bone from context 13 suggests that bird bones may be under-represented in the hand - recovered finds. Small fragments of calcined bone suggest that the kitchen fire was used to dispose of larger bone fragments.

Recommendation

6.10 No further work is recommended at the present time, though the bones should be retained for any future synthesis of the interventions around Palace Green and Owengate. The present collection of bones should be retained to inform such synthesis and excavation strategy if further works are planned in the vicinity.

Bone object

Results

6.11 A complete bone artefact was recovered from context [210]. It is 98mm long and the edge of its wider end (30mm) is unevenly curved, probably through wear. The sides taper gradually to 25mm width and the other end has a fairly sharp rounded point. It is 10mm thick and has been made from the long bone of a fairly large mammal. There are traces of trabecular tissue on the back, and the shape of the object in section follows the natural contours of the bone used.

6.12 Both faces of the curved top edge have become angled through wear, the back more sharply so, and have developed a natural polish. Along the front top edge are a series of short roughly incised vertical lines, about 8mm long and placed at irregular intervals; some have been almost worn away. The front also has six sharply incised horizontal lines. There is a single line about 9.5mm from the point; two lines, 3.25mm apart, 27mm above this; another pair of lines, again 3.25mm apart, 30mm above these; and a single line, 13.5mm above this, some 14mm below the (unworn) part of the top edge. Non-metric conversion of these measurements does not show any significant spacing between the lines.

6.13 When viewed under X16 microscopy there appear to be traces of dark and also possibly red staining in the pores of the bone's structure on the worn and polished edge. The bone surface is smooth but not polished, except for the top edge and the sides of the point, to a lesser extent, which show a natural gloss from wear or use.

Discussion

6.14 The object came from a black silt layer which contained post-medieval pottery, glass and tobacco pipe. The bone is in good condition with no signs of deterioration. This, together with the associated finds, suggests a post-medieval date.

6.15 The object has not been positively identified, but it may be a paper folder or a burnishing tool (information from Professor Richard Gameson, Department of History, Durham University). The latter identification would fit well with the glossy areas of wear seen around its wider end. Tools of this kind were, and are still, used in the preparation of manuscripts and in hand-printing.

Recommendation

6.16 The object may be more closely identified if further study reveals more parallels.

Clay pipe

Results

6.17 Twenty-six fragments of clay tobacco pipe came from seven contexts and unstratified material (Table 1.5). The majority are plain stem fragments with no decoration or maker's stamp. Only context [210], a black silt layer in the small room to the rear of the chimney stack, produced any bowl fragments. This context has a complete bowl with a flat, unstamped heel and traces of rilling around the rim; a broken fragment from a similarly shaped bowl; and a stem fragment with part of a flat heel. This latter heel does have part of a maker's stamp, but it is indecipherable. The bowl fragments are of late 17th- or 18th-century date; the stem fragments are all post-medieval.

Recommendation

6.18 No further work is recommended.

Glass

Results

6.19 The site produced 14 pieces of glass from five contexts and unstratified. Four of these are small pieces of post-medieval green bottle glass, from contexts [9], [200], [210] and unstratified.

6.20 Context [117] contained a single badly weathered piece of medieval window glass, 28mm x 16mm x 3mm thick, with parts of two original edges. The glass is fragile and completely opaque. There is no evidence of decoration or its original colour.

6.21 Eight of the pieces from context [208] are similar window glass fragments of varying size up to 75mm x 55mm and 2mm thick. All pieces are clear green/blue, and most have a thin layer of calcium-rich deposit on one or both surfaces, probably acquired during burial. Traces of linear decoration can be seen on five of the pieces, though no colour remains in this and the decoration appears to be held in the thin surface deposit. The unweathered appearance of this glass suggests that it dates to the 17th century or later, when glass makers began to use a more stable mix of raw materials.

One fragment from [208] is a thicker (2.5mm-3.5mm), green, weathered piece of undecorated medieval window glass, with part of its original thickened curved edge.

Recommendation

6.22 No further study is recommended; the medieval window glass has been conserved for stable deposition in the site archive.

Ceramic and stone building materials

Results

6.23 Two complete bricks were retained. One, from the brick wall foundation [F6], is mould-made and of near modern dimensions at 220 112 x 49mm, suggesting a 19th-century or later date. The other is also mould-made and formed part of a sleeper wall [F103]. At 235 x 116 x 52mm, this is rather large for a modern brick and it may be 18th-century. Part of a mould-made brick came from context [2]. Its intact width and thickness (115 x 50mm) suggest a 19th-century or later date.

6.24 Unidentifiable and undateable hard fired clay fragments (16g weight) came from environmental samples from contexts [9] and [114]. These may be brick or tile fragments. Undateable mortar fragments (84g weight) came from environmental samples from contexts [9], [13], [16] and [114].

6.25 Two unstratified fragments of stone roof tile were found, one with evidence of perforation for hanging. Both are made from light coloured moderately hard sandstone. The perforated example is 162mm long and 153mm wide at the top and 14-24mm thick. Part of the top edge is original, with a worn circular perforation 10mm in diameter. The other unstratified fragment is 115mm x 120mm x 20mm thick, with no perforation.

6.26 A decorative architectural fragment was found in Trench C, context [207]. This is a piece of hard, pale sandstone that measures 114mm x 120mm x 101mm and has evidence of weathering on one face. It may be a fragment of medieval trefoil or quatrefoil window tracery, possibly from an ecclesiastical building.

6.27 A piece of worked, partly banded hard sandstone was found re-used in context [F206], possibly as floor levelling material. The large, sub-rectangular stone is 610mm x 598mm max dimensions, and 75mm-125mm thick. It has two original and two broken edges. All original surfaces have been roughly dressed, and the underside is fairly flat. The top has the remains of a broken lip, 60mm wide and surviving to a depth of about 20mm, running along one edge. The edge at right angles to this is slightly chamfered. In the centre of the top is a circular depression, 50mm deep and 200mm in diameter, with a vestigial channel 90mm long by about 5mm deep leading from it. The channel is truncated by a broken edge in the stone. Though broken, the stone has an unfinished appearance. Its date and function are unknown.

6.28 A single small (10 x 11 x7mm thick) fragment of painted wall plaster was found in an environmental sample from context [13]. It is made of a single layer of cream/buff plaster with sub-angular quartz temper, the surface painted in a pale blue/grey. Half the surface has then been over painted in off-white. This is probably post-medieval.

Recommendation

6.29 It is recommended that the finds are retained; future study of the re-used stone from [F206] could help to assign function and possible dating.

Stone object

Results

6.30 Part of a rectangular stone block, 188mm x 154mm x 39mm thick, was recovered from context [114] in Trench B. It is of a fairly even thickness and is made from hard sandstone, with three of its edges probably original, though irregular. Both faces have been used for sharpening. One face is generally worn, with traces of at least two shallow grooves, about 10mm wide, running part-way across its surface. The other side has three well-defined grooves, about 10, 14 & 16mm wide. The smallest of these has further narrower divisions within it, presumably for sharpening smaller tools. There is also another, wider groove (28mm) with a squared-off end, which may have been used for sharpening chisels. The groove widths are intact, but their lengths are truncated by the broken edge of the block. The range and shape of the grooves suggest that this block was used for sharpening metal tools. Its weight (2117g) means that it was probably used in a workshop rather than as part of a portable tool kit.

6.31 Both faces of the stone are unusually smooth, either from use as a general sharpening/smoothing surface or from handling. There is no visible staining of the stone from contact with metal. Informally modified objects such as this are not easily dated.

Recommendation

6.32 Further study is not recommended.

Lead objects

6.33 A bent piece of offcut lead strip, 34mm x 10mm x 2-3mm thick, came from sample <4> from [13]. This piece is of unknown use and date.

Iron objects

6.34 Eight iron objects were recovered (Table 1.6). Part of a small factory-made coat hook of early modern to recent date was found unstratified. Many of the rest of the pieces, where identifiable, are fragments of nail or nail shank. All are highly corroded with few dateable features, even following X-radiography. A fiddle key nail of a type used for horseshoes was found in an environmental sample from context [13]. Nails of this type were in use up to the 13th–14th centuries.

Copper alloy objects

6.35 A complete pin came from [208]. It is 30mm long and has a 1mm diameter shank with traces of white metal plating. The globular head is 2mm in diameter and wound around the shank. This type of pin is found from the 15th–18th centuries, but the condition of this example suggests it dates to the later part of this span.

Industrial residues

Results

6.36 35g of magnetic material, including small quantities of hammerscale, came from three environmental samples: sample 5 from context [16], sample 1 from context [114] and sample 2 from context [117]. The quantities are not significant.

Recommendation

6.37 No further work is recommended for the lead, iron and copper alloy objects or the industrial residues.

7. Palaeoenvironmental assessment

Summary of results

7.1 The samples comprise fuel waste and other general refuse including pottery, bone, nails, mortar and hammerscale. The small charred plant macrofossil assemblages in [13] and [16] are typical of medieval deposits from northern England, and provide evidence for the use of bread wheat, oats and wild food sources, and the importation of dried grapes.

Methods

7.2 A palaeoenvironmental assessment was carried out on five bulk samples of layers of medieval and post medieval origin. The samples were manually floated and sieved through a 500μm mesh. The residues were examined for shells, fruit stones, nutshells, charcoal, small bones, pottery, glass and industrial residues, and were scanned using a magnet for ferrous fragments. The flots were examined at up to x60 magnification using a Leica MZ7.5 stereomicroscope for waterlogged and charred botanical remains. Identification of these was undertaken by comparison with modern reference material held in the Environmental Laboratory at Archaeological Services Durham University. Plant nomenclature follows Stace (1997). Habitat classifications follow Preston *et al.* (2002).

Results

7.3 Clinker/cinder and coal were abundant in the samples and varying quantities of charcoal were present in the flots. The frequency of coal reflects the local geology of the area, and pre-Quaternary megasporangia deriving from coal deposits were noted in layer [16]. Finds from the residues comprised mortar, nails, hammerscale, bone (including fish) and pottery fragments. A small assemblage of charred plant remains was present in layer [13], comprising oat and wheat grains, a bread wheat rachis fragment, two hazel nutshell fragments, and a few weed seeds of grasses, spike-rushes and docks. A charred hazel nutshell fragment and a grass caryopsis were recorded in layer [9], and three wheat grains, a grass caryopsis and two grape pips were present in layer [16]. Charred plant remains were absent from layers [114] and [117]. A few uncharred seeds were noted in [9] and [16], but the well-drained nature of the site suggests that these are modern intrusions. The results are presented in Table 1.7 (Appendix 1). Material suitable for radiocarbon dating is present in all of the contexts except [114].

Discussion

7.4 The samples predominantly comprise fuel waste and other domestic refuse. The wheat grains in [13] and [16] had the characteristic shape of *Triticum aestivo-compactum* (bread wheat) and a bread wheat rachis fragment in [13] confirms the presence of this crop on the site. Oats were an additional cereal recorded and charred hazel nutshell fragments indicate the use of wild gathered foods. The grape pips in context [16] point to trade links abroad, as Greig (1996) suggests that most archaeological finds of grape pips probably derive from imported dried fruits. Charred grape pips were also recorded from a layer sampled during the evaluation (Archaeological Services 2012b). This assemblage of charred food plants is typical of

medieval sites in northern England and throughout Britain (Hall & Huntley 2007; Greig 1991).

7.5 Spike-rush is a plant which favours wetland habitats, and the presence of a charred spike-rush nutlet in [13] with a few charred rhizome/tubers, dock nutlets and grass caryopses may be representative of burnt turves, used either as a source of fuel or as structural material for roofs or walls.

Recommendations

7.6 No further plant macrofossil work is recommended for the samples due to the low numbers of charred palaeoenvironmental remains. If additional work is undertaken at the site, the results of this assessment should be added to any further environmental data produced. The charred plant remains will be retained at Archaeological Services Durham University. The flots and residues have been scanned in their entirety with all material of palaeoenvironmental or dating value removed; the remainder of this material has been discarded.

8. The archaeological resource

8.1 Stratified archaeological deposits were encountered in all of the trenches. These deposits included walls and surfaces of medieval, post-medieval and modern date. The remains of a substantial stone wall found in one of the trenches may be part of the Owen Gate or relate to Castle's medieval inner defences. A significant archaeological resource clearly survives close to the surface in the Master's House, although the small size of the trenches precludes further valuable interpretation.

8.2 The small finds assemblage contained a wide range of material and comprised items dating from the medieval, post-medieval and early modern period. This included medieval and post-medieval pottery, animal bone, a copper alloy pin, lead, iron, glass, ceramic building material, clay tobacco pipe, stone architectural fragments and worked stone objects. A bone tool was also recovered. The medieval finds together with the palaeoenvironmental assessment provide information on diet and consumption that is significant for our understanding of the economy and the environment of Durham City during this time.

9. Recommendations

9.1 It is recommended that any further excavation work at the Master's House should be accompanied by a scheme of archaeological works.

9.2 No further work is recommended for the animal bone, plant macrofossils, lead, iron, copper alloy objects or the industrial residues. It is recommended that the assemblage of animal bones should be retained for any future synthesis and excavation strategies around Palace Green and Owengate.

9.3 Full analysis is recommended for the small assemblages of fish bone (see paragraph 7.6, above). Further study is recommended for the pottery assemblage, the bone tool, the stone block and the re-used architectural fragment; this work should aim to confirm identifications and provide closer dating.

9.4 It is recommended that the medieval glass should be conserved to maintain its stability before it is deposited in the archive.

10. Sources

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Appendix 1: Data tables

Table 1.1: Context data

The • symbols in the columns at the right indicate the presence of finds of the following types: P pottery, B bone, M metals, G glass, C ceramic building material, CP clay tobacco pipe, O other finds.

No	Area	Description	P	B	M	G	C	CP	O
F1	A	Flagstone floor							
2	A	Rubble layer					•		
3	A	Layer		•					
F4	A	Hearth support							
F5	A	Flagstone							
F6	A	Brick wall foundation					•		
F7	A	Stone foundation							
8	A	Laminate layers	•	•					
9	A	Layer	•	•		•	•		•
F10	A	Stone wall foundation							
F11	A	Curving wall foundation							
F12	A	Fragmented surface							
13	A	Layer	•	•	•				•
F14	A	Stone floor or wall		•					
F15	A	Stone floor or wall							
16	A	Layer	•	•	•				•
17	A	Layer							
F18	A	Cut for hearth							
100	B	Concrete							
101	B	Aggregate							
102	B	Rubble		•					
F103	B	Floor support					•		
F104	B	Support							
F105	B	Chimney foundation							
106	B	Layer	•					•	
107	B	Layer							
108	B	Layer	•						
109	B	Layer	•						
110	B	Layer							
F111	B	Flagstone floor							
112	B	Layer							
113	B	Layer							
114	B	Layer	•	•	•		•	•	•
F115	B	Stone wall foundation							
F116	B	Cut for chimney foundation							
117	B	Layer	•	•		•	•		•
118	B	Backfill of F116	•	•				•	
F119	B	Floor support							
F120	B	Short support in [118]							
121	B	Layer							
F122	B	Stone floor							
F123	B	Brick floor							
F124	B	Stone foundation = F217							
200	C	Layer	•			•		•	
F201	C	Cut for chimney foundation							
202	C	Aggregate							
203	C	Layer							

No	Area	Description	P	B	M	G	C	CP	O
204	C	Layer							
F205	C	Concrete block							
F206	C	Mortared stone fragments							•
207	C	Layer							•
208	C	Layer	•	•	•	•		•	
209	C	Layer							
210	C	Black silt layer	•	•		•		•	
211	C	Concrete							
F212	C	Brick & stone chimney foundation							
F213	C	Stone flag floor							
214	C	Layer = 110							
215	C	Layer							
216	C	Layer							
217	C	Stone wall foundation = F124							
F218	C	Cut for alteration							
u/s		Unstratified	•	•	•			•	•

Table 1.2: Sherd count by context

Context	Med-late med	Including	Post-med	Including
u/s	23		4	Slipware; bone china
8	2	Reduced greenware		
9	13	Scarborough ware		
9 <3>	9	Reduced greenware		
13	2	Splash-glazed		
13 <4>	4	Buff-pink gritty ware		
16	12	Reduced greenware		
16 <5>	12			
106	1	Oxidised sandy ware		
108	3	Buff sandy ware		
109	1	Buff sandy ware		
114	1	Oxidised sandy ware		
114 <1>	6	Reduced greenware		
117	1			
117 <1>	1			
118	2	Bright green glazed earthenware		
200	1		3	Glazed earthenware
208			2	Slipware
210			3	TGEW; cane coloured ware
Totals	**94**		**12**	

Table 1.3: Fragment counts for the species present, by context

Species	U/S	3	8	9	13	F14	16	102	114	118	208	210
Cattle					1		1	1				
Cattle size	1									1		
Sheep/goat	8	1	1	4	3	3	1		1	1		1
Sheep	1											
Sheep size	3		1						2		1	1
Pig	1			1								
Cat									1			
Domestic fowl	1											1
Goose									1	1		
Turkey											1	

Species	U/S	3	8	9	13	F14	16	102	114	118	208	210
Fish sp.	3						1					
Oyster	4		1	5								
Cockle	3											
Limpet	1											
Mussel	1											

Table 1.4: Species present in the samples

Species	9	13	16	114	117
Sheep/goat	1	1			
Domestic fowl		1			
Fish sp.	present	present	present	present	
Unidentifiable					present

Table 1.5: Clay pipe fragments by context

Context	Stem	Bowl
u/s	4	
106	1	
114	5	
118	4	
200	1	
208	4	
210	4	3
Totals	**24**	**3**

Table 1.6: Iron objects by context

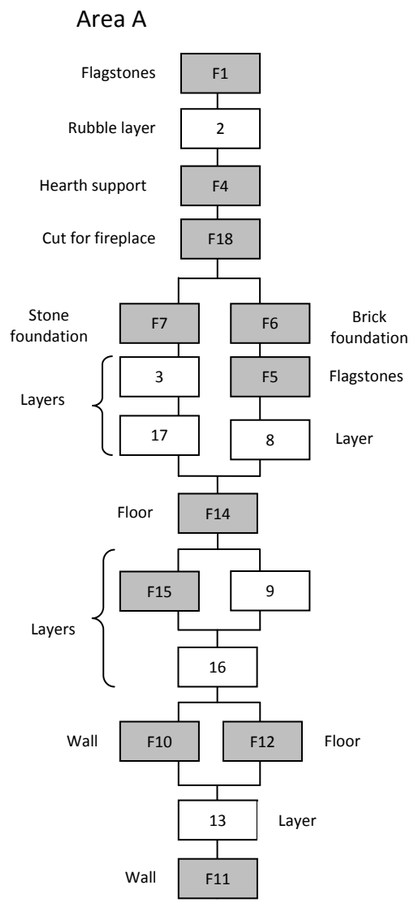
Context	No	Identification
u/s	1	Part coat hook
u/s	2	Nail head and shank
13 <4>	1	Fiddle key nail fragment
16	1	Nail shank
16 <5>	2	Rings/washers 8.5 & 12 mm diam.
114 <1>	1	Nail shank
Total	**8**	

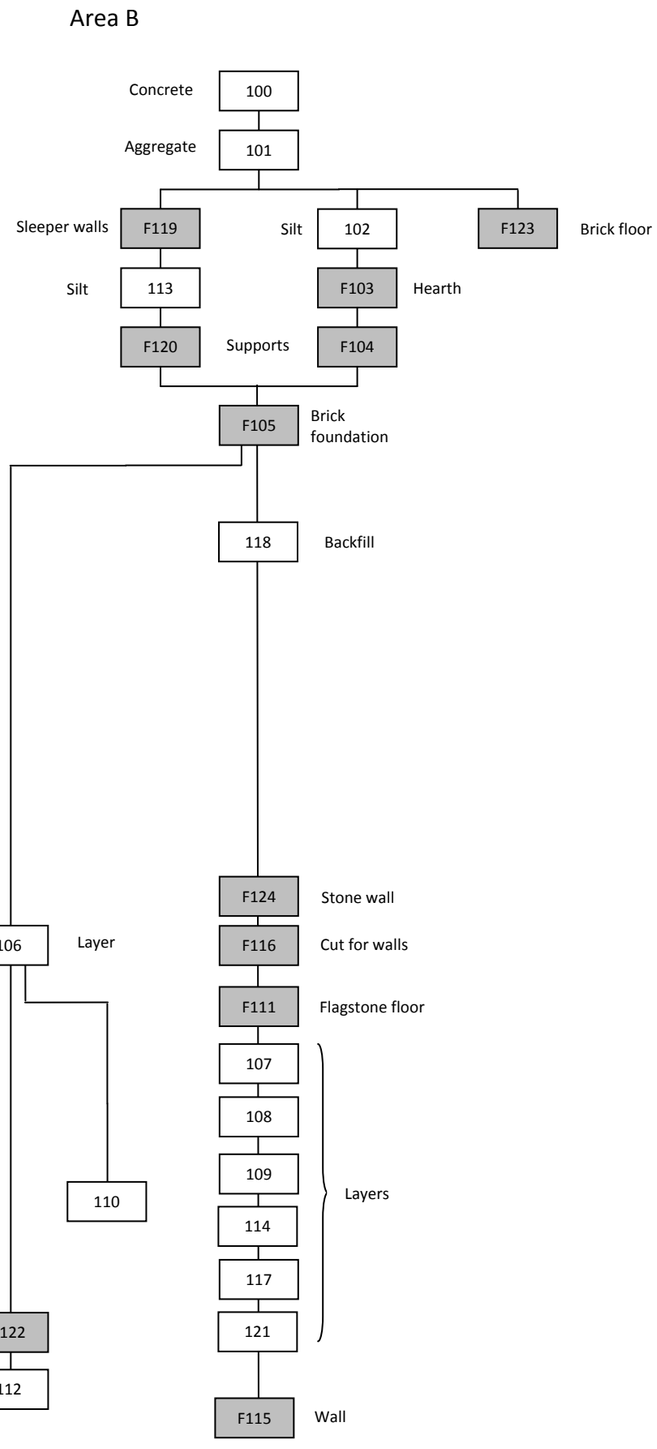
Table 1.7: Data from palaeoenvironmental assessment

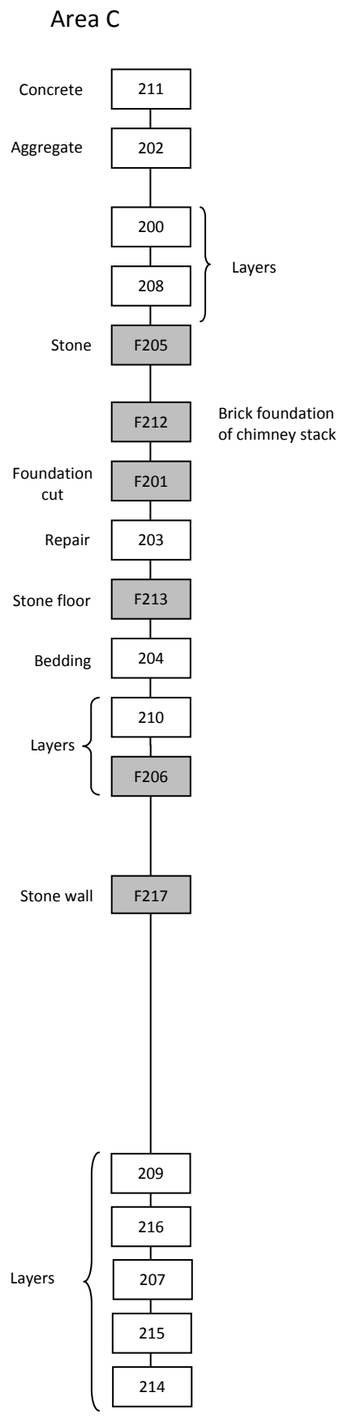
Sample		**1**	**2**	**3**	**4**	**5**
Context		**114**	**117**	**9**	**13**	**16**
Feature		**Layer**	**Layer**	**Layer**	**Layer**	**Layer**
Material available for radiocarbon dating		-	✓	✓	✓	✓
Volume processed (l)		9	8	11	15	19
Volume of flot (ml)		800	120	450	60	1200
Residue contents						
Bone (calcined)	indet. frags	(+)	(+)	-	(+)	-
Bone (unburnt)	indet. frags	-	-	+	+	+
Bone (unburnt)	fish	+	-	+	+	+
Clinker / cinder		+	+	-	+	++
Coal		+	+	+	+	+++
Fired clay		+	-	+	-	-
Hammerscale		+++	+	(+)	-	+++
Metal object (number of fragments)		-	-	-	2	2
Mortar		+	-	++	+	+
Nail (number of fragments)		1	-	-	-	-
Pottery (number of fragments)		6	1	10	8	12
Flot matrix						
Bone (unburnt)	fish	-	-	+	-	-
Charcoal		++	++	+	+	++
Clinker / cinder		+++	++	+++	+	++++
Coal		+++	++	++	+	++++
Pre-Quaternary trilete megasporangium		-	-	-	-	+
Tuber / rhizome (charred)		-	-	-	(+)	-
Uncharred seeds		-	-	+	-	+
Charred remains (total count)						
(c) *Avena* sp (Oat species)	grain	-	-	-	7	-
(c) *Triticum aestivum* (Bread Wheat)	rachis frag	-	-	-	1	-
(c) *Triticum* cf. *aestivum* (cf. Bread Wheat)	grain	-	-	-	1	3
(c) *Vitis vinifera* (Grape)	Seed	-	-	-	-	2
(t) *Corylus avellana* (Hazel)	nutshell frag	-	-	1	2	-
(w) *Eleocharis* sp (Spike-rushes)	nutlet	-	-	-	1	-
(x) Poaceae undiff. <2mm (Grass family)	caryopsis	-	-	-	1	-
(x) Poaceae undiff. >2mm (Grass family)	caryopsis	-	-	1	4	1
(x) *Rumex* sp (Docks)	nutlet	-	-	-	12	-

[c-cultivated; t-tree/shrub; w-wet/damp ground; x-wide niche
(+): trace; +: rare; ++: occasional; +++: common; ++++: abundant]

Appendix 2: Stratigraphic matrices







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DURHAM UNIVERSITY

on behalf of
Howarth Litchfield Partnership
for
Durham University Estates and Buildings

Master's House
Palace Green
Durham

archaeological excavation
report 2955

Figure 1: Site location

site location

0 1km
scale 1:25 000 for A4 plot

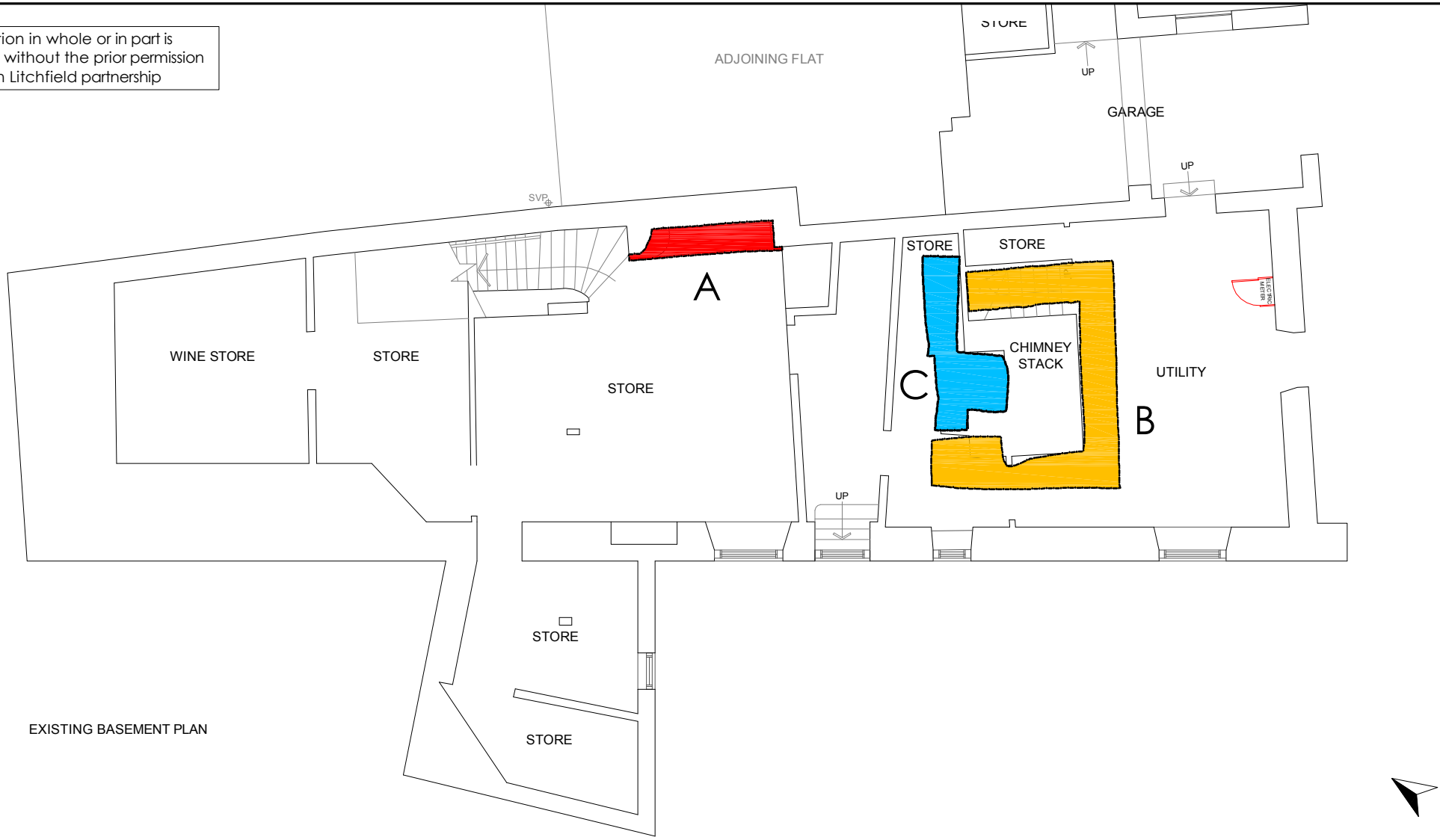

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Figure 2: Trench location

Trench A
Trench B
Trench C

0 5m
scale 1:100 for A4 plot

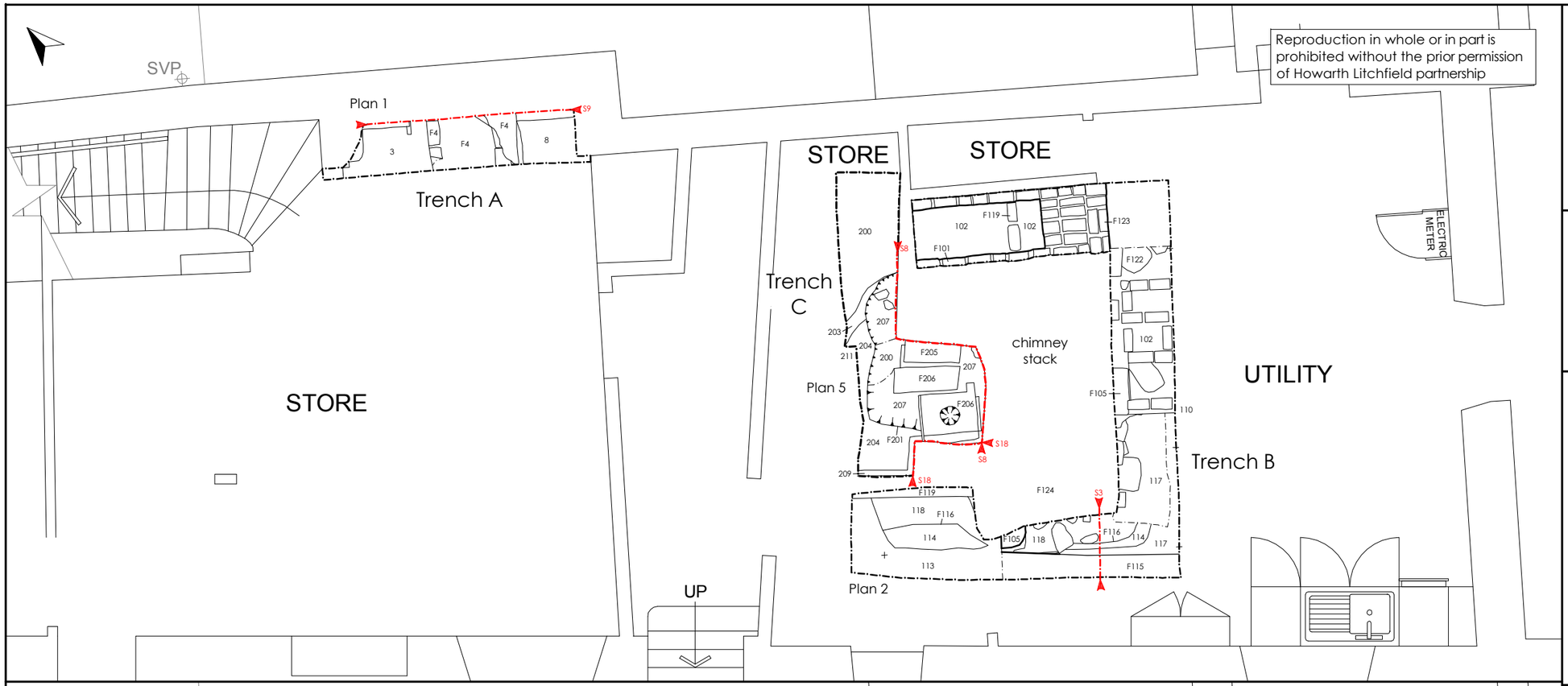

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Figure 3: Plans of trenches A, B and C

0 2m
scale for plans 1:50 for A3 plot

extent of excavation

3 section

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extent of excavation

2 section

0 2m
scale for plans 1:50 for A3 plot

0 2m
scale for sections 1:40 for A3 plot

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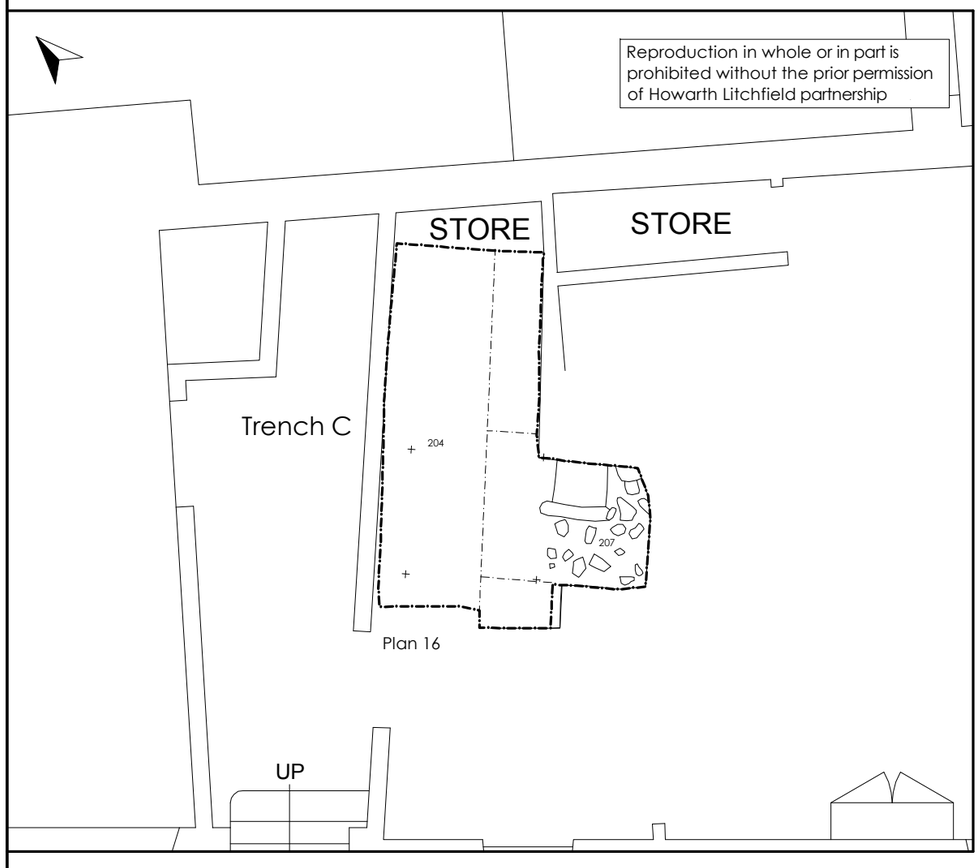
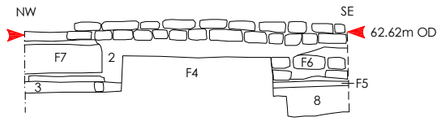
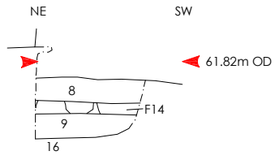
Figure 4: Trench C plan; trenches A, B & C sections



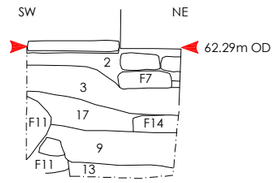
Trench A, Section 9



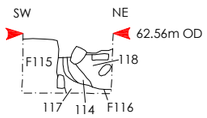
Trench A, Section 11



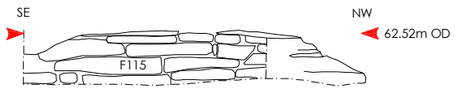
Trench A, Section 14



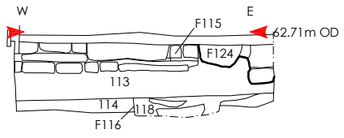
Trench B, Section 3



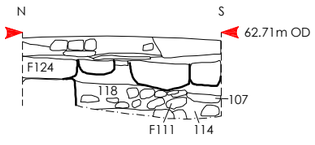
Trench B, Section 6



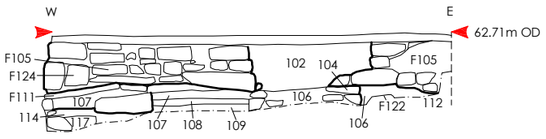
Trench B, Section 7a



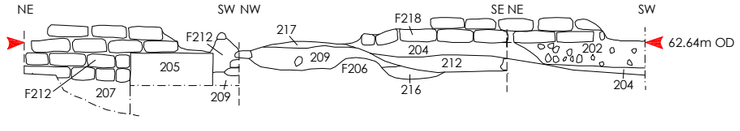
Trench B, Section 7b



Trench B, Section 7c



Trench C, Section 8



Trench C, Section 18

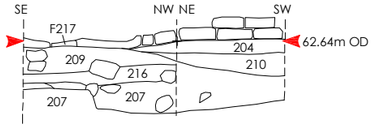


Figure 5: The north-west end of Trench A showing curving wall [F11] & floor [F12], looking west

Figure 6: Stone floor [F14] in the south-west part of Trench A, looking east

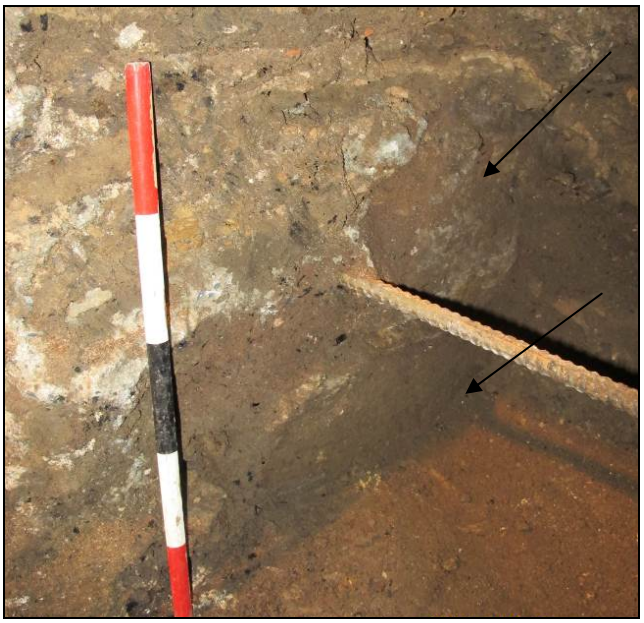


Figure 7: Stone wall [F10] in Trench A, looking north

Figure 8: Stone Wall [F115] in Trench B, looking west

Figure 9: Trench B, north-east facing section, looking south-west

Figure 10: Trench B, section 3, showing wall foundation cut [F116], looking north-west

Figure 11: South facing section in Trench B, looking north

Figure 12: East end of Trench B showing stone floor [F122], looking east

Figure 13: Reused architectural fragments [F206] in Trench C, looking south-east

Figure 14: Floor [F213] in Trench C, looking north-east