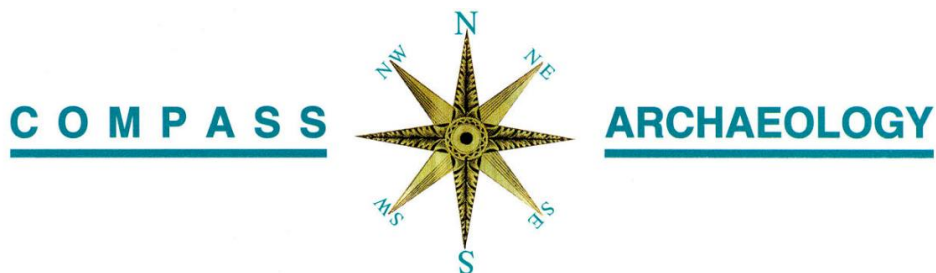


# **A SERIES OF ARCHAEOLOGICAL WATCHING BRIEFS AT ELTHAM PALACE**

**LONDON BOROUGH OF GREENWICH, SE9 5QE**



**NOVEMBER 2015**



A SERIES OF  
ARCHAEOLOGICAL WATCHING BRIEFS AT  
ELTHAM PALACE  
  
LONDON BOROUGH OF GREENWICH, SE9 5QE

NGR: TQ 4255 7309 (approx. centre)

SITE CODE: ELT13

Scheduled Ancient Monument List entry Number: 1014833

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## ***Abstract***

*Between April 2014 and March 2015 a series of archaeological watching briefs took place within the grounds of Eltham Palace, London Borough of Greenwich, both within and outside the area of the Scheduled Monument. A variety of groundworks were monitored, including the development of the new Visitor Centre and new access paths, trenching for I.T and gas mains connections, and excavation of trial pits to locate a mains water leak.*

*There were a number of positive results, principally in the areas of the I.T and gas trenches. Several brick wall bases were recorded, including one of potential Tudor date just to the northeast of the main gate and two further structures – one brick, one stone, and also of possible 16<sup>th</sup>/17<sup>th</sup> century date – that may have terraced the outer bank of the moat.*

*A number of finds and artefacts were recovered, including 16<sup>th</sup> to 19<sup>th</sup> century pottery, one probable mid-18<sup>th</sup> century shoe buckle and (on the new Visitor Centre site) a pre-1930s pit containing partially articulated and butchered cattle remains.*

*Elsewhere excavation revealed no significant deposits, although for differing reasons. Groundworks alongside the moat indicated fairly recent and deep made ground, potentially dating to the landscaping works of the 1930s and probably consolidating/ partly infilling an originally wider feature.*

*Groundworks on the new Visitor Centre site showed that the area had been comprehensively truncated by previous development, most likely that of the mid 1990s rather than the original 1930s construction. Recent made ground often directly overlay clean natural clay, with a vestige of weathered natural or truncated subsoil. Nevertheless, observations here did provide some original information relating to the 1930s development – an access slide to the cellar below the gardeners bothy, a sloping buried floor slab in the south-facing glasshouse range, and a possible brick planter box on the western side of the Hardy House.*

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## 1 INTRODUCTION

- 1.1 Between April 2014 and March 2015 a series of archaeological watching briefs were conducted within the grounds of Eltham Palace, London Borough of Greenwich, SE9 5QE, both within and outside the area of the Scheduled Monument.

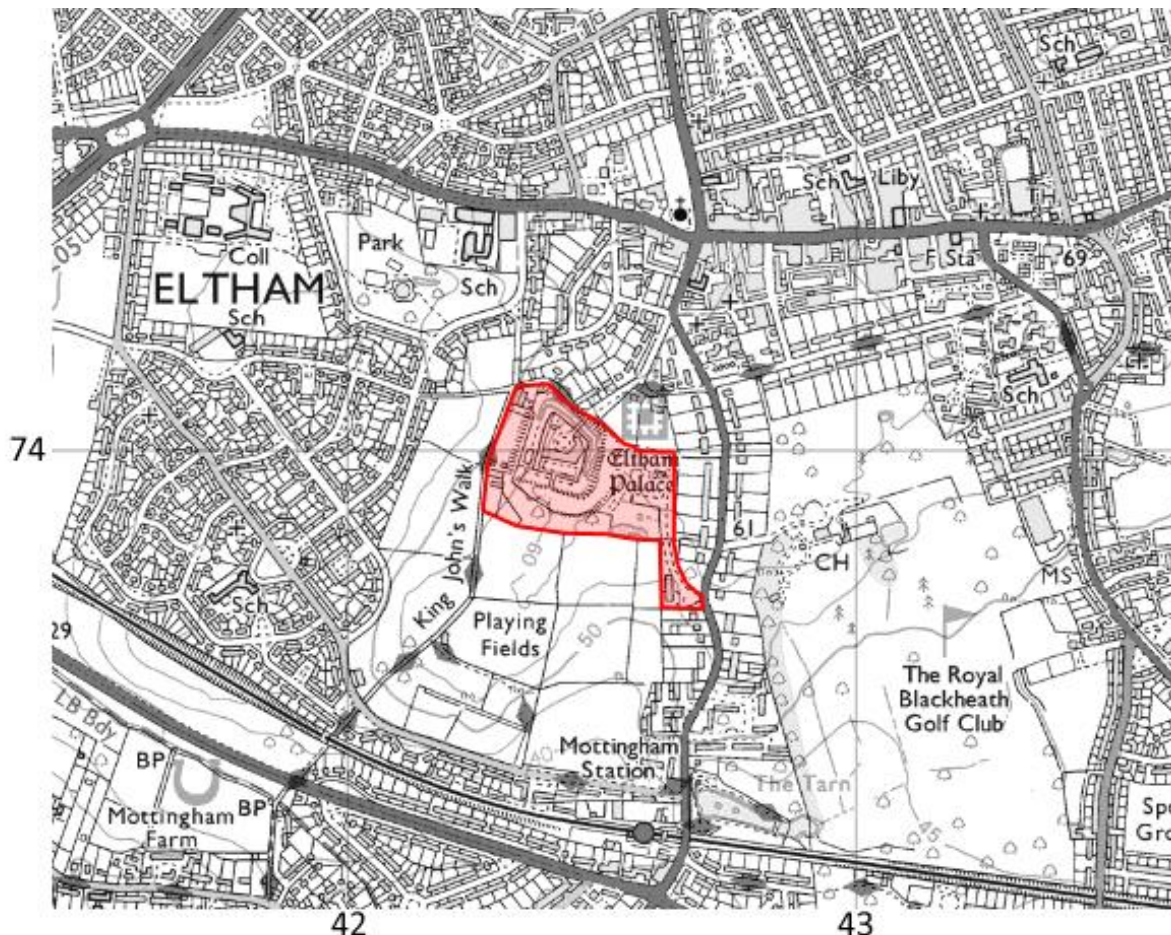


Fig.1: *Location plan of Eltham Palace*

- 1.2 The watching briefs were commissioned due to archaeological and historic significance of the site, much of the work falling within the Scheduled Ancient Monument of Eltham Palace, (SAM 1014833). The site is also located within the 'Royal Eltham' Area of High Archaeological Importance and Eltham Palace Conservation Area as designated by Greenwich Borough Council.
- 1.3 The watching briefs covered a variety of groundworks including: stripping of a large area for the new Visitor Centre and additional trenches for associated foundations, services and new paths; monitoring trenching for a new gas mains connection; excavation of a trench for new I.T cable connection between an existing point in the Palace and the new Visitor Centre, and monitoring test pits to locate a mains water leak.



## 2 SITE LOCATION, GEOLOGY AND TOPOGRAPHY

- 2.1 The watching brief sites covered the area of the Scheduled Ancient Monument of Eltham Palace, and extended further east beyond the boundary of the SAM in the case of the new Visitor Centre and eastern end of the I.T cable trench. The on-site work included monitoring in the area of the new Visitors Centre, on the northern side of the Palace moat and up the bank at its northeastern corner, along a long, thin, corridor of ground from the moat to the western side of the Visitor Centre, and in an area just outside and on the northeast side of the main North Gate.

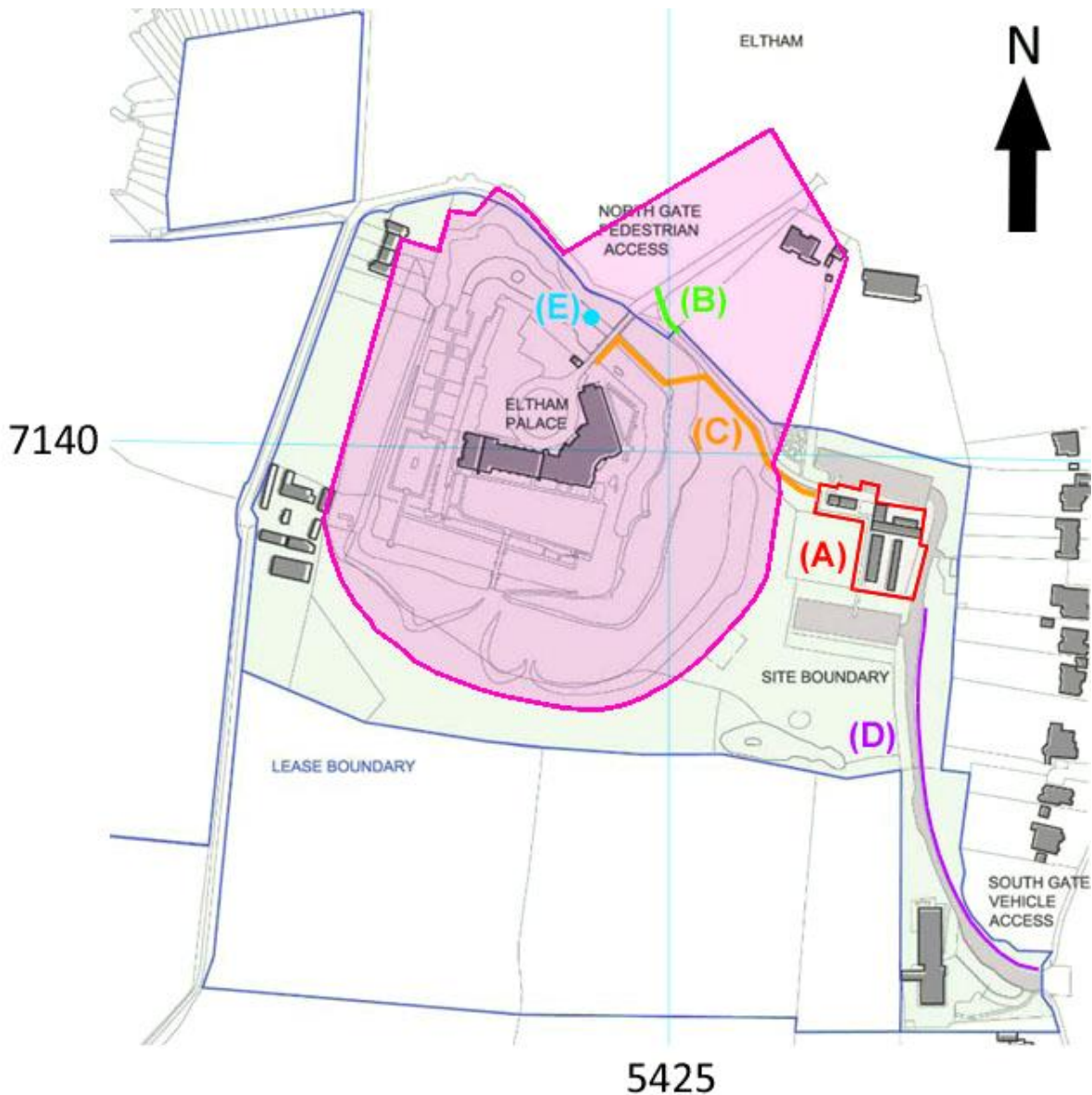


Fig.2: Plan showing the approximate locations of the various watching briefs. A = New Visitor's Centre; B = Gas connection works; C = I.T. cable trenching; D = New access path; E = Water pipe repair works. The pink shaded area represents the area of the Scheduled Ancient Monument

- 2.2 The British Geological Survey, Sheet 271: Dartford, indicates that the site lies over an island of Lambeth Beds, predominantly sand and clay with some pebble strata, surrounded to the north, south and east by Harwich formation, (also sand and clays), and underlying London Clay.

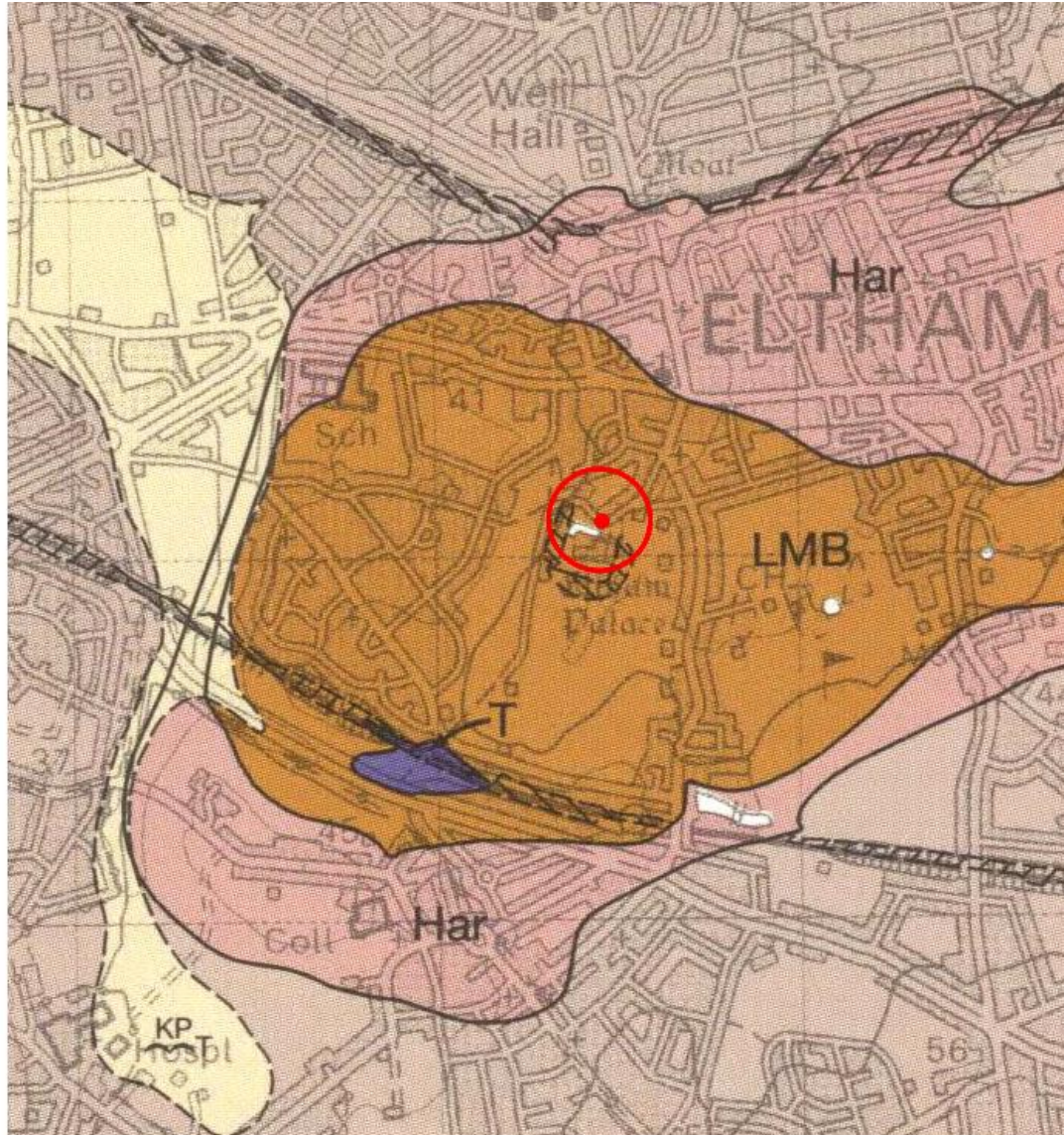


Fig.3: *The site in relation to the underlying geology*

- 2.3 The site is situated at approximately 60m to 61m OD, with the ground sloping down to the south and west into the moat; which lies at roughly 55m OD.

### **3       ARCHAEOLOGICAL AND HISTORICAL BACKGROUND**

The site history has been discussed in the accompanying Written Schemes of Investigation, (WSIs), for the various different works programmes and will not be repeated at length here. What follows is therefore a brief summary.

#### **3.1       Prehistoric**

Little evidence for prehistoric activity has been uncovered in the surrounding area; although the location of the site on a prominent hilltop seems likely to have been favoured by early settlers. An evaluation undertaken in 1996, by the Oxford Archaeological Unit, to the east of the Visitor Centre watching brief site, (site code EBE), uncovered an east-west aligned ditch; possibly part of a rectilinear boundary or enclosure, running along the northern boundary of the site. This feature was dated to the Late Bronze Age, supporting the possibility that there was some prehistoric activity in this area.

#### **3.2       Roman**

A single Roman coin has been found on Eltham High Street, (MLO2945), and a small Roman farmstead was uncovered in the 1920s some 900m north-east of the High Street, but these two events represent the sum of Roman evidence for this area. The line of the major Roman road from London to the Kent coast – Watling Street & now the A207 Shooters Hill – passes some 2.8km to the north.

#### **3.3       Saxon**

No archaeological evidence for Saxon activity or settlement has been found in the vicinity of the site. However the Domesday Book records that this area was held by Alwold from Edward the Confessor, suggesting that there may have been some form of human presence – if only agricultural – at this date.

#### **3.4       Medieval & Tudor**

A settlement existed on the site from at least the late-11<sup>th</sup> century, very soon after the Conquest. Excavations at Eltham Palace in the 1970s uncovered a timber building of late-11<sup>th</sup> century date, with two further phases of building dated to the late 12<sup>th</sup> and early 13<sup>th</sup> centuries, all sealed by a mid to late-13<sup>th</sup> century cultivation soil, (Woods 1982, 215). The documented history states that this area was initially held by Haimo, (sheriff of Kent), on behalf of Odo of Bayeux. In 1088 it was passed to the Earl of Gloucester, then to the De Clare family from 1216, to John de Veci in 1278, and to Bishop Bek, (Bishop of Durham), in 1295.

Bishop Bek constructed the first stone buildings on the site of Eltham Palace, in the late-12<sup>th</sup> to early-13<sup>th</sup> centuries. Parts of these, including the western perimeter wall, two towers, chapel, and hall, have been found in previous archaeological excavations.

In 1305 the land was passed to Edward II and Eltham was used as a royal palace for the next 200 years. During this time much rebuilding and several modifications took place – in the later-15<sup>th</sup> century the Great Hall, the stone bridge over the moat and lodgings were built; and later still Henry VIII rebuilt the chapel in the 16<sup>th</sup> century.

The land to the south of the royal palace was part of the royal park in this period, and was presumably wooded and used for hunting. That to the east may have been used for orchards and a tilt-yard, with the brick wall which still stands on the northeast side of the moat and further to the east possibly being part of a boundary wall separating these areas.

### **3.5 Post-Medieval**

From the mid-16<sup>th</sup> century the palace fell into decline, such that by the early-17<sup>th</sup> century it was said to be in disrepair. During the Commonwealth it passed to Colonel Nathaniel Rich, who demolished most of the buildings. In 1666, following the restoration of the monarchy, it reverted back to the King who leased it to Sir John Shaw who rebuilt the Old Lodge and laid out ornate gardens to the south.

Cartographic evidence provides a more detailed insight into the history of the site in the post-medieval period. Rocque's mid-18<sup>th</sup> century map shows the palace buildings in decline, but with some of the avenues and gardens of Shaw's house.

Archaeological excavations support the image of this area as being largely undeveloped until at least the 18<sup>th</sup> / 19<sup>th</sup> centuries. No finds pre-dating the 18<sup>th</sup> century were found during the 1996 evaluation, and post-medieval features consisted of two field boundaries and one probable drainage ditch, (Oxford Archaeological Unit 1996).

The 1844 Tithe Map also depicts the site in generally open and undeveloped land, crossing two main fields and with only one small building in the western part of the site. The 1869 First Edition 25-inch Ordnance Survey map shows it in broadly the same way.

In 1933 Stephen Courtauld obtained the lease for Eltham Palace. He restored the Great Hall, constructed the modern Eltham Hall, extended the moat, and laid out new buildings, glasshouses and gardens, to form the layout that can be found today. The 1957 1:1250 OS Map shows the site following this development.



## **4        ARCHAEOLOGICAL RESEARCH QUESTIONS**

The fieldwork presented an opportunity to address the following specific and more general research questions:

- Is there any evidence for prehistoric activity on the site, particularly in relation to the possible Bronze Age ditch recorded to the north in the 1996 evaluation?
- Is there any evidence for Saxon/early medieval activity, predating the initial development of Eltham Palace just to the west in the late 11<sup>th</sup> century?
- Is there any evidence for development &/or land-use in the medieval and early post-medieval periods?
- What is the evidence for post-medieval activity on the site, and can any of this be established to predate the 18<sup>th</sup> century? What form (horticulture, orchards, *etc.*) does the evidence for such activity take?
- At what levels do archaeological and/or geological deposits survive across the site?

## **5        METHODOLOGY**

### **5.1       Standards**

**5.1.1**    The field and post-excavation work was carried out in accordance with Historic England guidelines, (in particular *Greater London Archaeology Advisory Service: Guidelines for Archaeological Projects in Greater London*). Works also conformed to the standards of the Chartered Institute for Archaeologists, (*Standard and guidance for an archaeological watching briefs*). Overall management of the project was undertaken by a full Member of the Institute.

**5.1.2**    Fieldwork was carried out in accordance with the Construction (Health, Safety & Welfare) Regulations. All members of the fieldwork team held valid CSCS Cards, (Construction Skills Certificate Scheme), and wore hi-visibility jackets, hard-hats, and steel-toe-capped boots as required during the watching brief. Members of the fieldwork team also followed the contractors' health and safety guidelines.

### **5.2       Fieldwork**

**5.2.1**    The archaeological watching briefs took place during all groundworks; monitoring ongoing excavations as required for the necessary site stripping, strip footings, trenches and cable draw pits, and test pits.

The Client and the Historic England Ancient Monument Inspectorate were advised of the on-site monitoring dates, and of any significant features or remains that were exposed. Structural remains were all left *in situ*.

**5.2.2** Where archaeological remains were exposed adequate time was given for investigation and recording, although every effort was made not to disrupt the contractors' programme. During excavation, spoil from archaeological levels was if requested deposited separately, in such a way as to facilitate examination.

**5.2.3** Archaeological deposits and features were investigated and recorded in stratigraphic sequence, and finds dating evidence recovered. Archaeological contexts were recorded as appropriate on *pro-forma* sheets by written and measured description, and/or drawn in plan or section, generally at scales of 1:10 or 1:20. The investigations were recorded on general site plans and related to the Ordnance Survey grid. Levels were taken on any archaeological features or deposits, derived from those on the existing topographical survey.

The fieldwork record was supplemented as appropriate by photography.

### **5.3 Post-excavation**

**5.3.1** Assessment of finds (primarily pottery and ceramic building material) was undertaken by appropriately qualified staff (see appendices). Finds and samples were treated in accordance with the appropriate guidelines, including the Museum of London's 'Standards for the Preparation of Finds to be permanently retained by the Museum of London'.

**5.3.2** All identified finds and artefacts have been retained and bagged with unique numbers related to the context record, although certain classes of building material have been discarded after an appropriate record was made. Where necessary, sensitive artefacts have been properly treated, in line with the appropriate Standards.

### **5.4 Report and Archive**

**5.4.1** The report contains a description of the fieldwork including details of any archaeological remains or finds, and an interpretation of the associated deposits. Appropriate illustrations, including site plans located to the OS grid, scaled drawings of the trenches and pits and representative sections have also been produced to complement the written record. A short summary of the project submitted online and appended to this report using the OASIS Data Collection Form.

**5.4.2** There is no provision for further analysis or publication of significant findings. Should these be made the requirements would need to be discussed and agreed with the Client.

**5.4.3** An ordered indexed and internally consistent archive of the watching briefs will be compiled in line with MoL Guidelines for the Preparation of Archaeological Archives, and will be deposited in the Museum of London Archaeological Archive under site code ELT13. The integrity of the site archive will be maintained, and the landowner will be urged to donate any archaeological finds to the Museum.



## 6 RESULTS

### 6.1 INTRODUCTION

What follows is a written description of the findings of the archaeological watching briefs, separated into chronological order of when they took place. The descriptions include analysis of observed archaeological deposits and features, accompanied where appropriate by illustrative photographs. Individual trench plans and sections are referenced in the text and can be found in the appendices. Contexts are hereon shown in rounded brackets, (x), for fills / layers / deposits, and squared brackets, [x], for cuts / masonry.

### 6.2 THE NEW VISITOR CENTRE



Fig.4: Simplified ground floor plan of the new Visitor Centre (from Simpson & Brown Architects 2014, Fig 7)

**6.2.1** Development of the new Visitor Centre mainly involved rebuilding and extension at the northwest corner of the existing complex of garden buildings and glasshouses, with a further smaller building addition to the northeast. Archaeological monitoring and recording around this have been broken down into six principal areas, as outlined on the plan below (Fig. 5, A to F) and described in the following text (sections 6.2.2 to 6.2.7).

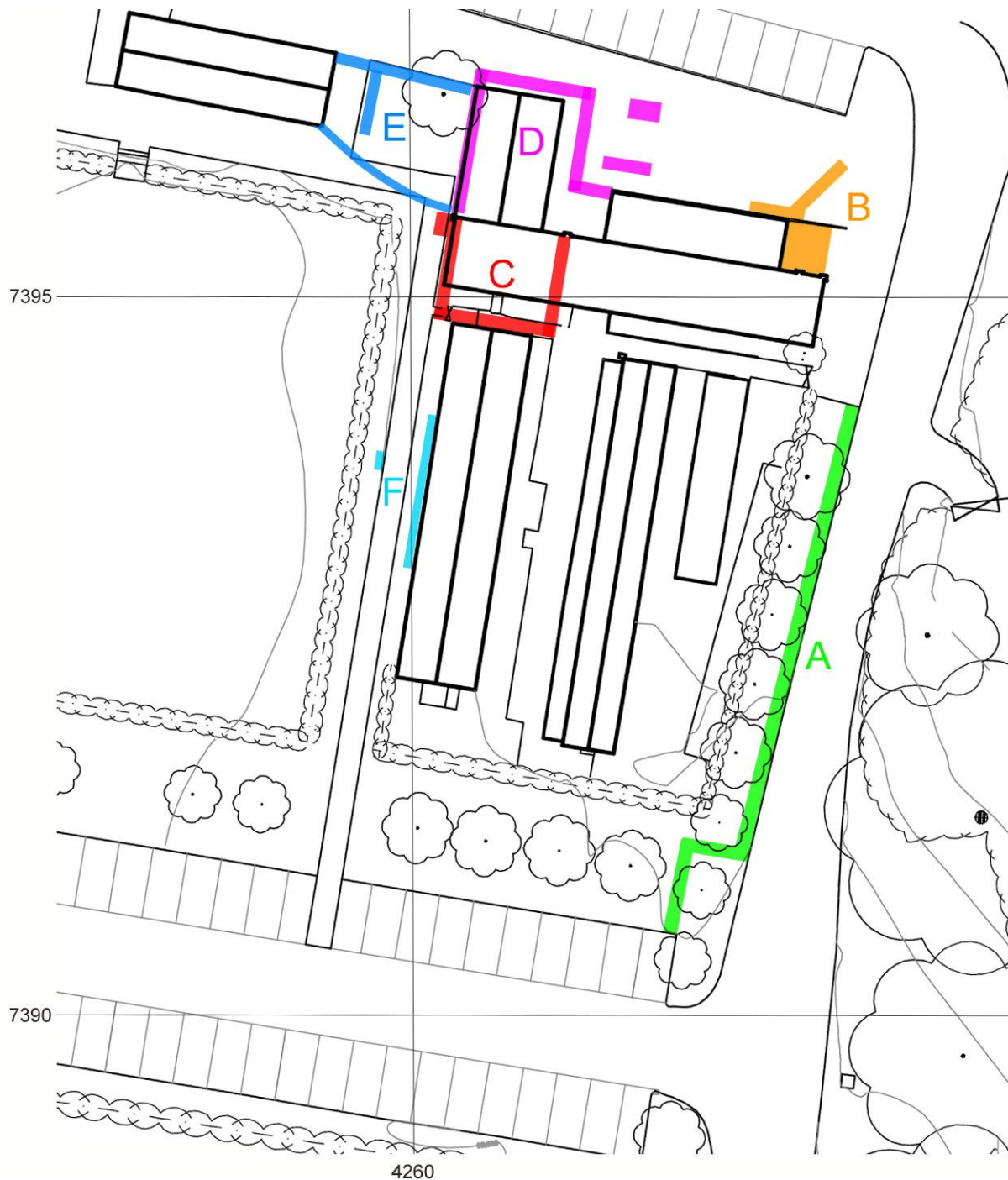


Fig.5: Principal areas of archaeological observation and recording (A-F)



### 6.2.2 AREA A

Initial archaeological monitoring took place on 25<sup>th</sup> September 2014, following topsoil stripping for the construction of a new pedestrian pathway along the western side of the road between the north and south car parks. The ground surface here dropped gently to the south from c 60.0m to 59.55m OD.

The overall length of the new pathway was just over 40m, and the width as excavated c 1.2m to 1.3m. The excavation was generally between 200mm and 230mm, although slightly shallower at the southern end (Fig.8). The base of the long trench also shallowed out to the east as it reached the concrete footings for the existing kerb (Fig.6).

Turf and a fairly shallow topsoil were removed to reveal a firm mottled grey-brown sandy silt with occasional pebbles. In some areas (particularly to the north) the ground appeared quite disturbed, with patches of yellow clay and inclusions of ceramic building material, clinker and crushed mortar. This may date from the 1930s, or even the remodelling of the areas in the mid 1990s.



Fig.6: *Turf and topsoil removed for the new pathway. View looking south (0.50m scale)*





Fig.7: Detail in the central part of the stripped area, looking southwest (0.50m scale)



Fig.8: The southern end of the new pathway, stepped to the west into the south car park

### **6.2.3 AREA B**

Prior to new construction the ground was excavated in the angle between two existing structures, the eastern end of the glasshouse range and the east wall of the gardeners' bothy. At a later stage service trenching was dug along part of the northern frontage of the bothy, and more extensively on a line out to the northeast. Pre-development ground level was about 60.2m OD, rising very slightly to the north.

- 6.2.3.1** It was known that the bothy had contained a cellar, originally accessed by from steps along the northern frontage but now backfilled and sealed up. The excavation revealed a further access point in the eastern wall, presumably for coal or similar material. The opening itself was 925mm wide and 760mm (10 brick courses) high, the lintel formed by a reinforced concrete beam (Fig.10) and rebates within the brickwork on either side for projecting walls.

Further investigation revealed elements of the projecting structure within the adjacent backfill and demolition material, including parts of the brick walls and a large concrete slab that would have formed a slide (at about 20° from horizontal & c 1.22m long) into the opening. Parts of this structure can be seen in front of the wall in Fig.9.

- 6.2.3.2** Elsewhere excavation revealed heavy disturbance of deposits. To the east a probable remnant of subsoil (a mid-dark grey slightly sandy silt) was overlain by modern rubble and made ground at about 59.85m OD (Fig.12), but in general this horizon was wholly truncated and recent deposits directly overlay the natural geology – either light grey-green silty clay or (at a slightly lower level) mottled greyish-yellow clay.

A very similar picture was observed in the subsequent service trenching, with slightly higher deposits (but no surviving soil horizons) recorded at the far end of the trench, some 5.5m northeast of the corner of the bothy (Fig.14). The maximum height of the natural deposit here was about 59.75m OD: occasional finds within the overlying made ground clearly indicate that this dated from the alterations of the mid 1990s rather than the 1930s.





Fig.9: *General view of the area between the easternmost glasshouse and (to right of frame) the gardeners' bothy, looking SW*



Fig.10: *Former cellar access in the eastern wall of the gardeners' bothy (1.0m scale)*





Fig.11: *Excavation at the NE corner of glasshouse range, facing southeast (1.0m scale)*



Fig.12: *Detail of the above area, facing east and showing natural deposits & residual subsoil overlain by recent made ground*





Fig.13: *Service trenching to the northeast of the gardeners' bothy, looking east*



Fig.14: *Detail of the northeastern end of the service trench: truncated natural deposits overlain by probable 1990s made ground*



#### 6.2.4 AREA C

This area covers the new Visitor cafe, located at the western end of the former glasshouse range and south of the central spine wall. The main impact was therefore represented by the new western, southern and eastern wall foundation trenches, as described below. The trenches themselves were generally about a metre wide, and to the south and west between 1.25m and 1.85m in depth: that to the east was shallower, about 0.60m to 1.2m to the south.

- 6.2.4.1** Excavations along the western and southern sides of this area showed that in most areas natural deposits were directly overlain by modern deposits and made ground, relating either to the 1930s development or to later remodelling and alteration – most likely that in the mid 1990s. There was also some deeper disturbance, from previous wall foundations on similar alignments and from service trenches between the previous building and the glasshouse to the south.



Fig.15: *General view of the western foundation trench, looking northwest (1.0m scale). Previous soil horizons have been wholly removed, and the truncated surface overlain with a mixture of modern building rubble, gravel and crushed stone (MOT Type 1)*

At the southeastern corner of the excavation the solid natural clay appeared to be more or less directly overlaid by a modern gravel path, at about 59.80m OD (Fig.19). This is clearly a higher level of survival than seen in the southwestern corner or along the line of the western trench, particularly given that the land surface is also lower by up to c 200mm.





Fig.16: *The western end of the spine wall, following demolition of the glasshouses to north and south and prior to excavation of the new foundations*



Fig.17: *Detail of the above area, showing mottled mid brown subsoil overlain by recent disturbed and made ground (at c 59.4m OD). The base of the subsoil grades into firm natural yellow clay*



Fig.18: *Excavation for the southern wall of the new cafe, facing SW*



Fig.19: *The east end of the above foundation cut, facing S (1m scale)*

Fig.20: *The western end & SW corner of the foundation cut*



**6.2.4.2** Excavation for the strip foundation on the eastern side of the new cafe revealed a different picture to the other two sides, related to the original design and construction of the 1930s glasshouse. Within the glasshouse was a thick deposit of made ground, overlying a concrete slab that sloped down from north to south (*ie.*, towards the outer wall of the glasshouse; see Figs.21 & 22 below). The slab itself appeared to be about 160mm thick, and on its southern side supported the brick outer wall – continuing some 180mm beyond this line.

The modern ground level in this area was about 60m OD, and the depth of made ground within the glasshouse some 560mm to 950mm (increasing N-S). It seems unlikely that the floor was originally at this level, but may rather have been a suspended construction – perhaps associated with underfloor heating. The other (& perhaps more likely) possibility is that the glasshouse was constructed as a closed environment, plants being rooted directly into the ground but contained by both the walls and a solid floor. The slope of the floor may simply have been to facilitate drainage to the exterior, whatever the precise role of the overlying space.

Outside the glasshouse was a fairly narrow strip of quite heavily disturbed ground – in part the result of the glasshouse construction, and also due to a large concrete attenuation tank that was located about 2.2m further to the south.





Fig.21: *The new cafe eastern foundation trench, looking NE*



Fig.22: *Detailed view of the above within the area of the former glasshouse, the scale standing on a sloping concrete slab (0.80m scale)*

## **6.2.5 AREA D**

This area principally consisted of foundation trenching to the north, east and west for the new visitor admissions and retail area. The trenches themselves were of similar dimensions to those to the south as described above, *c* 0.90m to 1.20m wide and between 1.25m and 1.80m deep. Subsequently two planting pits were also dug just to the east of the new building, the southern approximately 0.90m by 3.60m in plan and the northern 1.80m by 1.60m, and both about 1.10m to 1.30m deep (Figs.29-30).

**6.2.5.1** The general sequence of deposits revealed was also quite straightforward, with natural light brown to yellow clay often directly overlain by modern made ground, a mixture of compact gravelly rubble, concrete and (particularly to the southeast) MOT Type 1 crushed stone. In some areas there was an intermediate band of mid greyish brown to dark grey clayey silt with occasional pebbles, up to about 200mm to 300mm thick. As elsewhere, this may represent the truncated remnant of the original subsoil/ upper horizon of weathered natural, but did not produce any finds.

**6.2.5.2** The only feature of note was exposed in the northern foundation trench, about a quarter of the way along from the western end. The trench cut through the northern side of a pit, otherwise retained in the south section and up to *c* 1.10m wide by 0.68m deep (context [42]; Figs. 25 & 26). The majority of the fill (41) was a solid mottled yellow-grey clay with occasional small pebbles, but the lower section – *c* 300mm – also contained a substantial assemblage of adult cow bone, some still partially articulated and probably all from a single animal that had been butchered (Appendix IV).

There were no other finds and the date of the pit and remains was not firmly established. However, the southern edge of the feature was cut and overlain by the foundation for the previous glasshouse north wall, which was constructed in the mid-1930s. The surviving top of the pit was recorded at about 59.77m OD, some 0.58m below the modern (pre-development) land surface.





Fig.23: *The northernmost foundation trench, view looking east*



Fig.24: *West-facing section at the northeast corner of the new admissions and retail area (1.0m scale). Natural deposits (here reaching c 59.55m OD) & possible residual subsoil are overlain/truncated by recent made ground*





Fig.25: North-facing section on the northern side of the new admissions and retail area, the western part containing a pit [42] with animal bone (1.0m scale)



Fig.26: Detail of the pit [42] and fill (41), with bone inclusions near the base





Fig.27: A section of E-W foundation trench adjoining the gardeners' bothy (to the left), with truncated subsoil overlain by modern crushed stone (MOT Type 1)

Fig.28: The adjoining section of N-S trench, view looking SW & showing a similar sequence of deposits







Fig.29: *View looking SW, in the foreground excavation for planters outside the new admissions and retail area*



Fig.30: *Another view of the area above, looking northwest*

## **6.2.6 AREA E**

To the west of the new visitor admissions and retail building an area of sloping ground some 10m square was graded down to a fairly level surface, to the north – previously the highest area – to a maximum depth of 600mm to 700mm (*c* 59.65m OD; Figs. 31 & 32). Subsequently two deeper foundation trenches were dug, principally for a retaining wall along the northern side of this area (Fig.34). These were both about 0.50m wide and were excavated to an overall depth of *c* 59.00m to 59.10m OD. A new but shallower (*c* 400mm-500mm deep) service trench was also dug across the southern part of the area, from the southeast corner of the former Tennis Pavilion to the new Visitor Centre.

**6.2.6.1** In general the reduction and deeper excavations only exposed recent made ground, probably mostly from the remodelling of the area in the 1990s – and certainly containing finds such as plastic-covered electric flex that postdated the original mid-1930s development.

**6.2.6.2** At the southern end of the foundation trenching the made ground extended almost to the base of excavation, at this point overlying truncated and clean yellow natural clay. However, in the northern section a more complete sequence was preserved, with clean and then mottled greyish-yellow clay overlain by about 150mm of darker green/grey silty clay, context (44). This latter produced several sherds of 19<sup>th</sup>-20<sup>th</sup> century horticultural earthenware (*cf.* Appendix II).

Layer (44) is assumed to represent a residual subsoil, its surface at about 59.80m OD. As elsewhere on the site it was sealed by a series of modern levelling/ made ground deposits, including sand, crushed stone and concrete (*cf.* Figs.33-34).





Fig.31: *A general view across Area E, looking west and after initial ground reduction*



Fig.32: *The same area viewed from the southwest*





Fig.33: Detail of the northern section of Area E, with modern deposits, crushed stone and concrete overlying truncated subsoil (44). 0.6m scale



Fig.34: The area after deeper trench excavation along the northern section and southwards across the centre, looking northeast (1.0m scale)



### 6.2.7 AREA F

The final area relates to localised works adjoining and just to the west of the Hardy House, otherwise the westernmost (N-S) glasshouse.

- 6.2.7.1** Excavation of a new soakaway on the western side of the adjacent path revealed natural deposits directly overlain and truncated by recent made ground (at about 59.00m to 59.20m OD). As elsewhere, it seems most likely that this dates from the re-landscaping works in the 1990s.



*Fig.35: Part of the east-facing section of a new soakaway to the west of the Hardy House, and showing recent made ground directly over clean natural clay*

- 6.2.7.2** Excavation of a small N-S trench alongside the glasshouse itself (c 300mm wide by 350mm to 500mm deep) exposed some partly demolished brickwork as illustrated in Figs. 36-37 overleaf. Essentially the brickwork formed a low wall, at least three courses high and running parallel with and some 600mm out from the glasshouse. Its overall length was 10.70m, and at either end it turned through 90° to be bonded into the main structure.

This evidently formed part of the glasshouse construction: it may have been an external planter, although it seems too narrow to have been a covered cold frame or similar.





Fig.36: *Truncated brickwork built onto the western side of the Hardy House, looking northeast. Perhaps originally an external planter*



Fig.37: *Detail of the above brickwork, southwest corner (0.20m scale)*

## 6.3 GAS CONNECTION WORKS

**6.3.1** Between 19<sup>th</sup> and the 23<sup>rd</sup> of January 2015 archaeological monitoring took place during the excavation of a new gas mains connection trench to the northeast of the bridgehead, close by the north gate pedestrian access. This involved watching approximately 54m of trenching, which generally measured just over 300mm wide and between 450mm and up to 600mm deep. The trench ran from an existing gas main on the northwestern side of Court Yard, across the road and the wide grassed area to the southeast as far as the brick boundary wall. It was then cut under the wall foundation (following the route of some existing electricity cables), and dug for a further 2.45m just in front of the adjacent northern boundary wall to an existing service box. The present ground surface here is fairly level, rising slightly from the roadway (*c* 59.60m OD) towards the boundary wall (*c* 60.40m OD).

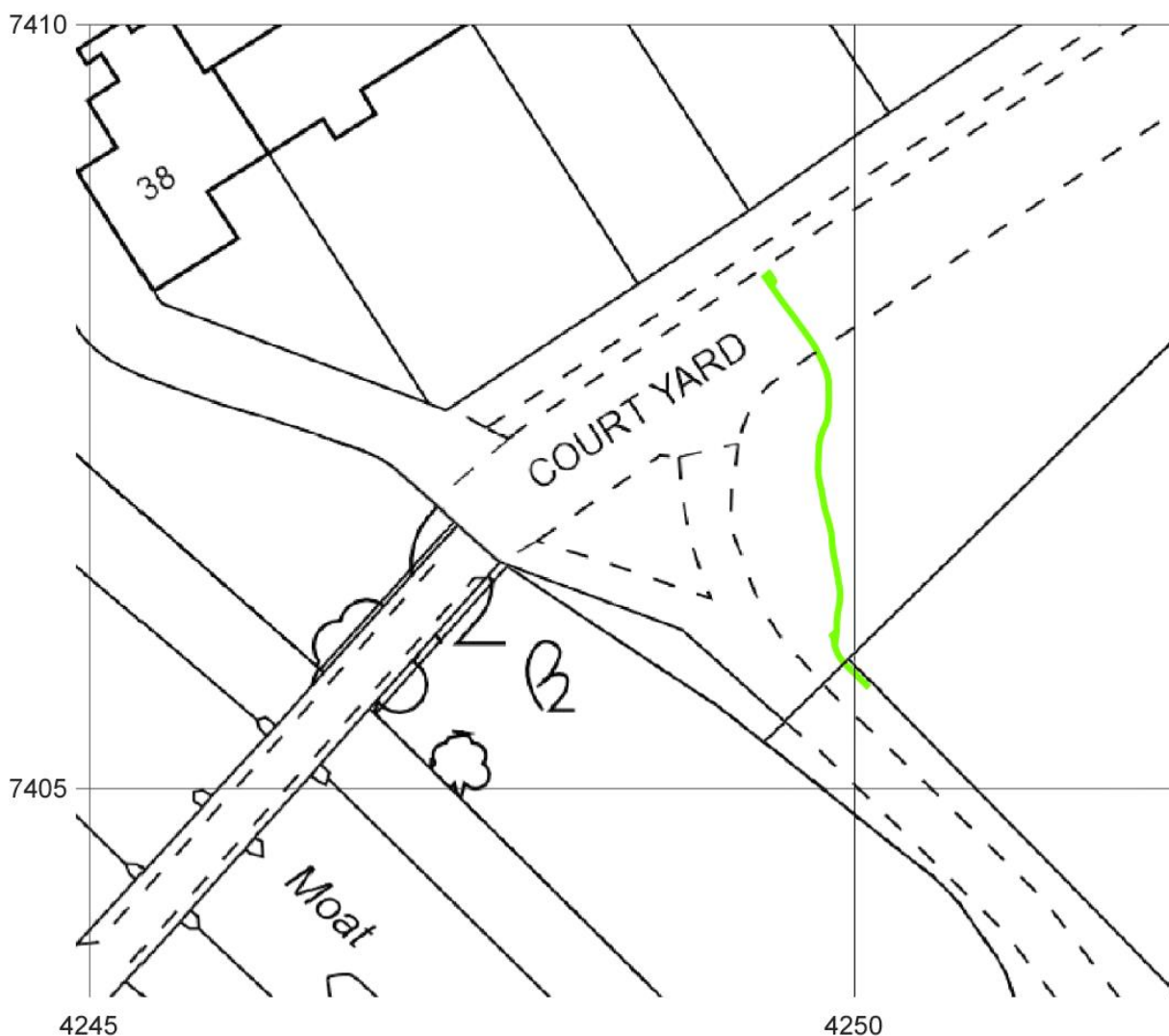


Fig.38: *Location of the gas connection trench*

**6.3.2** The exposed stratigraphy was relatively uniform. The existing turf and topsoil, (+), amounted to the upper 90-100mm of stratigraphy. This largely overlay a light brown-yellow silty-sand lens which thickened away from the site



boundary wall to the north, from 35mm to 90-110mm thick, (21). The lighter material overlay dark-grey / brown stony sandy silt containing occasional small pebbles and charcoal flecking. To the north the deposits coalesced and thinned out, giving way to an underlying made ground deposit (25) – renumbered (26) below the road base at the north end of the trench. In the centre and southern part of the trench (21) also sealed a 100mm-120mm thick deposit containing crushed ceramic building material (CBM), very occasional fine stone and mortar fragments, and moderate sized pebbles, (22). This rubble-rich layer must have represented a deliberate attempt to raise / level out the ground surface below and probably derived from localised demolition. Layer (22) was above a probable further dumped layer, comprising a mid-brown clayey-silt with occasional finely crushed CBM, very occasional fine mortar and stone fragments, (23).

In the southernmost part of the trench (to the southwest of the wall base [24] as described below) the lower/basal deposit was given the number (20), though in other respects identical to context (23). Both deposits are also dated by pottery inclusions to the 19<sup>th</sup> century, in the case of (23) to post-1830 (*cf.* Appendix II).



Fig.39: Gas connection trench facing south, towards the existing garden wall and northern access gate, 20<sup>th</sup> January 2015





Fig.40: Trench section facing E and approximately midway across the grassed area, showing the light-coloured deposit (21) and (23) below. 0.50m scale



Fig.41: Trench section facing E and just to the north of the wall base [24], showing the crushed brick deposit (21) and (23) below. 0.60m scale

**6.3.3** The only significant feature observed during the excavation was a short section of brick wall base, [24], aligned NW-SE across a curved section of the trench near its southern end and close to the existing garden walls. The uppermost portion of the brickwork was *c* 30mm to 45mm below existing



ground level (higher to the north, at *c* 60.05m OD). The surviving masonry measured *c* 660mm long, (extending beyond the limits of the excavation), and 230mm (a single stretcher) wide. The brickwork survived to at least three courses in height (although the base was not observed), but was largely truncated to two lower visible courses. See also Appendix I, Fig.78 for a detailed plan.



Fig.42: Brick wall base [24], looking southeast. This presumably extends up to the existing boundary and appears to represent a continuation of the similarly-aligned wall beyond, which is still largely standing today. 0.5m scale

Although there is no conclusive evidence the wall base [24] may be of 16<sup>th</sup> century date. It is evidently much earlier than the adjacent deposits (20) and



(23), but these contexts also produced a number of pieces of brick very similar to those within the wall itself, which have been uniformly dated to 1450/80-1650 (*cf.* Appendix III).



Fig.43: *Brick wall base [24] looking northwest (0.5m scale), with Court Yard in the background*

- 6.3.4** The additional short run of trenching to the southeast of the existing garden/boundary wall was excavated on the 19<sup>th</sup> January 2015. The trench measured 2.45m long by 250-400mm wide and was *c* 450mm to 600mm deep;



the ground level was slightly higher here, at *c* 60.58m OD. Although very close to the adjoining (& historic) northeast boundary wall nothing of archaeological significance was noted: the trench was cut into a heavily reworked and friable dark brown soil (27), becoming a bit lighter and more silty with occasional fragments of ceramic building material towards the base of excavation.



Fig.44: *Detail shot of the wall base [24] facing NW, 0.40m scale*

- 6.3.5** At its northern end the trench was dug through the existing access road (Court Yard) and so had slightly different stratigraphy to that previously seen across the grassed area. The observed deposits included *c* 150mm of existing tarmac



over a compacted gravel base, and overlying a largely homogenous loose, friable, dark-brown soil with frequent roots, moderate pebbles and occasional CBM fragments, (26). This became a slightly lighter and increasingly silty deposit in the lower 150mm or so, (28). No archaeological features were observed in this section of trench, but the pottery from the upper deposit, (26), was dated to the 17<sup>th</sup> century+, so potentially a good 150-250 years earlier than that below the grassed area and nearer the garden /boundary wall. The context also produced a probable mid 18<sup>th</sup> century copper alloy shoe buckle (Appendix V). The finds may reflect the more recently disturbed nature of some areas of the site, and a greater level of *in situ* survival of historic landscapes, or may simply be down to selective sampling of the material.



Fig.45: *Gas connection trench on the 19<sup>th</sup> January, facing NW, 0.6m scale*

At the far northern end of the trench (foreground above) the excavation was somewhat deeper in order to expose the existing gas main, but this was through previously disturbed ground and did not reveal any archaeological remains.

## **6.4 I.T CABLE TRENCH EXCAVATIONS**

**6.4.1** Between the 27<sup>th</sup> of January and the 11<sup>th</sup> of February an archaeological watching brief was conducted during excavation of a new I.T. cable trench. The trench totalled *c* 190m in length and was dug between 0.22m and 0.40m wide and generally up to 0.55m deep (occasionally slightly deeper).

**6.4.2** The observed stratigraphy was relatively homogenous across the majority of the trench, apart from the western and (in particular) eastern ends. Elsewhere between 150mm-400mm of rich topsoil, (1), typically overlay a mid to dark brown silty-clay subsoil containing moderate to frequent fragments of ceramic building material (CBM), chalk and mortar, (2), with the latter becoming slightly more pebbly and silty towards the base of the trench, (3). These two deposits combined measured up to 450mm thick.

Natural geological deposits were not often reached due to the limited nature and depth of the excavation, but these were observed within the central part of the trench (and on occasion as little as 400mm below ground level) as a mottled yellowish-light-brown quite firm clay-silt with lenses of silty sand. The deposit contained very occasional small pebbles and in some areas moderate to frequent fine fragments of shell, plus some small ( $\leq 5$ mm) complete shells.

**6.4.3** The main area of archaeological interest was a *c* 35m stretch of trenching rising up the bank of the moat at its northeastern corner, turning southeast, and following the inside hedge-line along the southern side of the pedestrian access route.

The line of the I.T trench shown overleaf, with descriptive text and illustrations following. More detailed plans of the principal features are included in Appendix I, figs.80 & 81.



Fig.46: The route of the I.T trench (marked orange)



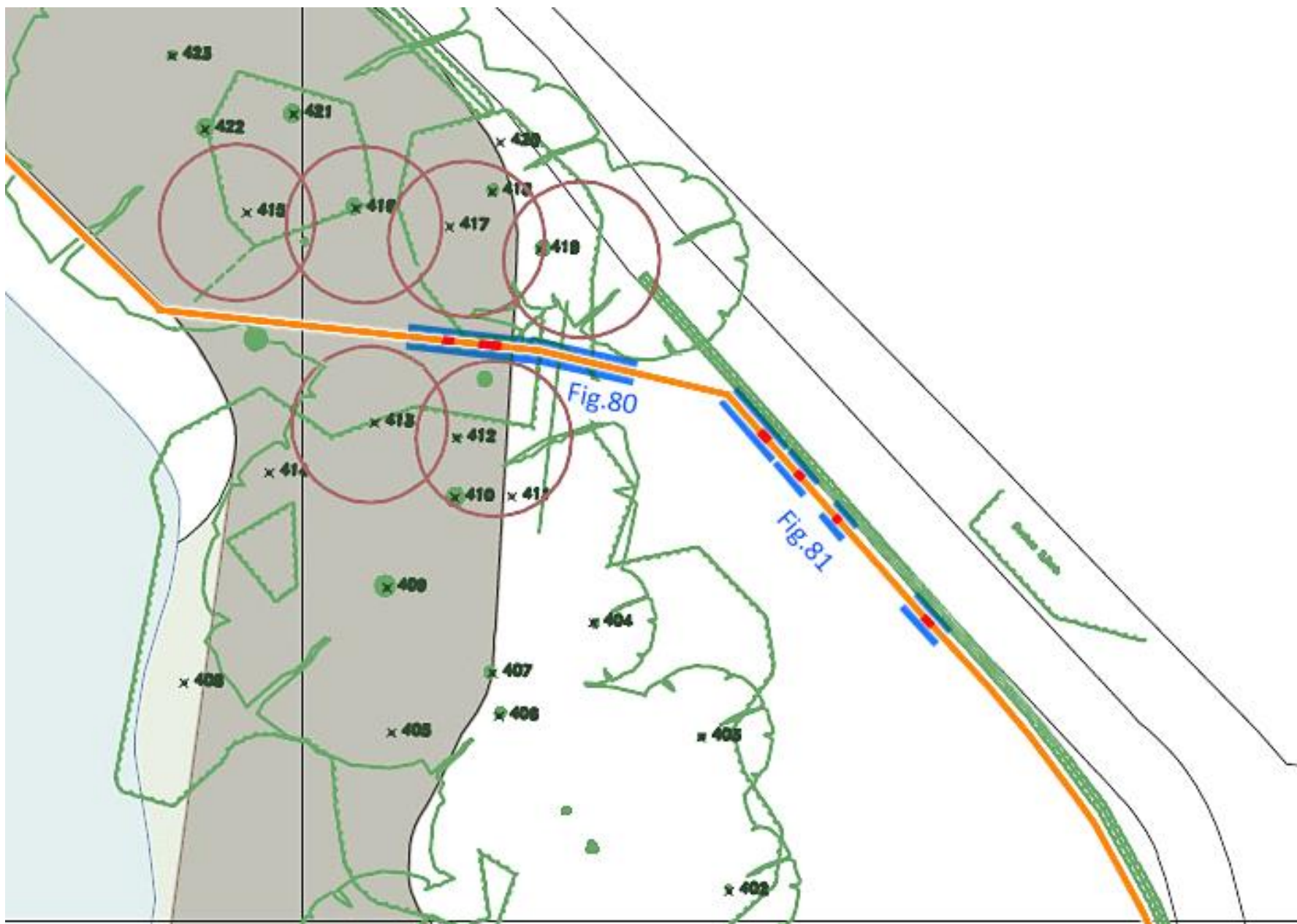


Fig.46a: Central part of I.T trench enlarged to show location of figs. 80 & 81

- 6.4.4** An 18m stretch of trench was dug on the slope of the northeastern bank of the moat between the 3<sup>rd</sup> and 4<sup>th</sup> of February 2015. The trench rose just over 5m southwest to northeast and was up to 0.40m wide by between 0.45m and 0.70m deep. Approximately 10.0m from the base of the slope at its southwestern end a brick wall base [10] was observed across the width of the trench, aligned approximately northwest-southeast (that is, following the contour of the bank).

The wall base was at least 350mm (4 courses) high and *c* 450mm wide, the top of the surviving brickwork present at about or just below 58.2m OD. The structure was sealed by around 200mm of topsoil and surrounded by deposit (3), whilst being cut into deposit (4), a light-brownish-yellow silt containing occasional fragments of ceramic building material (CBM). Bricks from the wall were dated to 1480-1650 and 1550-1800 respectively, and were unfrogged, suggesting a later 16<sup>th</sup> or 17<sup>th</sup> century date (although it is possible that the earlier sample was reused). The bricks were bonded with a white lime mortar.

- 6.4.5** Approximately 1.30m northeast of and above wall [10] a further northwest-southeast aligned wall base was exposed. This feature, [11], was just over 1000mm wide and (as exposed) up to 350mm tall, with its upper level recorded at about 58.7m to 59.0m OD. It was built from larger mud-packed and unmortared Reigate stone blocks, roughly shaped and faced, with some chalk elements on the northeastern edge where the footing was more deeply cut into the bank. The method of construction suggests an earlier date for this feature, possibly pre-16<sup>th</sup> century, although there is no firm evidence for this. Its function is as of yet unknown, although it is possible that both wall bases relate to some form of terracing of the moat bank – it may even be that this was to support planting arrangements.





Fig.47: Wall base [10], (foreground), and unmortared stone wall base [11] beyond, looking NE and towards the top of the moat bank (0.30m scale)





Fig.48: *Wall base [10], southwest face. (0.30m scale)*





Fig.49: *Detail of wall base [11], facing NE, (0.30m scale)*





Fig.50: Wall base [11], looking down the moat bank to the southwest

- 6.4.6** Further up the slope of the bank, more or less on the crest and *c* 2.50m northeast of wall base [11] was an expanse of crushed brick, tile and white mortar dust, (9), approximately 3.00m wide and present from 200-300mm below the topsoil – its surface at about 60.0m to 60.3m OD. The deposit was on a very similar alignment to the existing garden path, (NW-SE), and immediately west of it, and is believed to represent an earlier version of this walkway. Material from within the path construction dated to the mid-18<sup>th</sup> to early-19<sup>th</sup> century (*cf.* Appendix III).
- 6.4.7** Beyond the eastern edge of the garden path, (9), deposit (2) overlay a dark-brown silty-clay containing occasional crushed, residual probable medieval CBM, 19<sup>th</sup> century pottery and roots. This deposit, although physically separated from the western side of the trench by the former path was considered to be the same as deposit (3). At the far eastern end of this stretch (& some 4.2m southeast of the present gateway) the trench turned to the



southeast so as to continue to parallel with and just inside the line of the hedgerow flanking the present pedestrian path.



Fig.51: *Former path, (9), facing SW, downslope, (0.30m scale)*

- 6.4.8** The trench continued for nearly 70m along the line of the hedge, and at a distance of *c* 0.20m to 0.40m southwest of the hedge-line itself. However, it was only the first 20m of excavation that proved archaeologically significant, revealing four separate brick features [7], [12] and [13/14] as described below. This first section of trench was *c* 0.24m to 0.27m wide and dug up to 0.55m deep: the ground here was quite level, at around 60.48m to 60.53m OD.



- 6.4.9** At 2.90m from the northwestern end of the trench a brick wall base, 230mm (one header) thick, was exposed in plan, [7]. The feature was aligned NE-SW and was surrounded by deposit (3), whilst the bricks were bonded with an off-white lime mortar and were of a deep red-orange colour. The wall itself continued for an unknown depth below the base of the trench, and was overlain more or less from this level (*c* 60.0m OD) by soil horizons (1) and (2) without any obvious sign of a robbing cut.



Fig.52: *Wall base [7], overhead view with SE to top of frame (0.20m scale)*

- 6.4.10** Another 2.30m southeast from wall base [7] were the remnants of possible further brick wall footing (or more likely robbed-out foundation) [12], comprising crushed CBM, mortar, some charcoal and small rounded pebbles. This feature was *c* 370mm wide and disappeared into both sections of the



trench, and was on a similar alignment to [7], although slightly closer to east-west. The lack of structure to this, and the fact that again it did not rise much above the base of the present trench (at *c* 60.05m OD), made it hard to interpret.



Fig.53: *Possible robbed-out wall footing [12], overhead view with SE to top (0.20m scale)*





Fig.54: *General view of the cable trench looking northwest; possible robbed-out wall footing [12] in the foreground, just beyond the 0.20m scale*

- 6.4.11** Southeast of feature [12] was a further brick wall base [13], sealed by deposit (3) at 490mm below present ground level (60.03m OD). The main body of the wall was a single stretcher wide, 230mm, but a single half brick on the northwestern edge of the wall may suggest it was once up to 380mm wide and



had been partly robbed out or truncated, but no other such bricks were recorded in this section. This wall, like [7], was only exposed in plan, was aligned NE-SW, and only the top 20mm was cleaned for photography.



*Fig.55: Overhead view of wall base [13]; SE at top of frame (0.20m scale)*

**6.4.12** A further *c* 5.15m southeast along the trench was a brick built drain, [14], again crossing the trench on a northeast to southwest alignment. The external measurement was 570mm wide, with up to four courses (*c* 280mm) exposed in excavation. The internal height of the drain was 410mm (6 brick courses) and width was probably about 350mm, although not fully exposed. The drain was capped with brick set in a yellow-sandy mortar, and the brick sizes and lack of a frog suggest a 17<sup>th</sup> or earlier 18<sup>th</sup> century date.

Either side of the drain was deposit (4), giving way to a lower yellowish clayey-sand, (5), and fading into light-grey silty-clay and chalk mixture, (6), towards the southeastern end of the trench. The uppermost surviving part of the drain itself was sealed 320mm below existing ground level beneath subsoil (3) (at *c* 60.16m OD), and was cut into the adjacent deposits, (4) and (5).





Fig.56: *Brick-lined drain [14], overhead view with SW to top of frame, (0.20m scale)*



Fig.57: *Drain [14], eastern side, facing NW along base of trench, (0.20m scale)*





Fig.58: *Detail of the interior of drain [14], southeast side*

- 6.4.13** Beyond and to the southeast of the drain [14] trenching revealed no further significant features. However, there was little change in the general stratigraphy at least as far as the second garden gate and some 30m beyond the drain, the only exception to this being an area of quite recent disturbance (15) just to the west of the gate. The ground here rose very slightly, by about 130mm to *c* 60.61m OD

Elsewhere the sequence was as shown in the figures overleaf, typically 200mm to 300mm of topsoil (1) over the slightly lighter brown and more pebbly/silty subsoil (2), about 200mm thick. In this area the subsoil had few inclusions of ceramic building material (CBM) or any other items, and was not really differentiated into the lower and more slightly more pebbly/silty layer otherwise noted as (3). Below the subsoil and at or close to the base of the trench was the natural deposit (4). This was slightly disturbed and mottled by root action, but otherwise a firm light brown to yellow clayey silt with lenses of silty sand, fine fragments of shell (+ a few complete examples) and occasional small pebbles. Much of the shell was fossilised into a solid grey-brown matrix, in pieces *c* 5mm to 30mm in size, so was evidently derived from an earlier geological stratum.

- 6.4.14** Further to the southeast and beyond the second gate through the hedge the ground dropped slightly (to *c* 60.0m OD), though the topsoil also became deeper (*c* 350mm to 400mm), being more heavily reworked and disturbed by root action. Below this deposits become slightly lighter and more silty,



essentially the subsoil (2) as observed elsewhere and as above with few inclusions of imported material.



*Fig.59: Looking SE approximately at the mid-point of the I.T trench (& just to the E of the brick-lined drain [14]), the larger cut for a cable draw pit in the left foreground*



*Fig.60: Detail of the SW-facing section of the cable draw pit (0.60m scale)*





Fig.61: *Looking roughly northwest & towards the second gate (0.4m scale)*



Fig.62: *Detail of southwest-facing section (0.50m scale)*



**6.4.15** Towards the eastern end of the hedge line the trench turned southwards to run through the gateway leading to the former Tennis Pavilion; there was also a further slight drop in level, to about 59.5m OD. It then ran west-east just in front of the Pavilion, and across the adjacent pathway into the new Visitor centre. Excavations in these areas revealed only heavily disturbed and made ground, the Pavilion itself being built up on a raised terrace.



Fig.63: *Looking west with gateway to the garden at the top of the frame (1.0m scale)*

**6.4.16** At its western end and from the base of the moat bank (6.4.4 above) the cable trench was excavated to the northwest, parallel with and about 5.5m from edge of the moat itself.

No significant archaeological features or remains were revealed in this area. The ground was very wet (see photos overleaf) but was largely a dark topsoil (c 200mm) over slightly lighter and more mixed material. From the mains water pipe investigations on the other side of the bridge (see 6.6 below) it seems most likely this lower material represented quite recent made ground, most likely dating to the refurbishment of the estate in the 1930s.

The only features of note were two ceramic land drains, exposed at the far western end of the excavation and close to the bridge, where the trench turned through 90° to cross the moat. The drains were aligned southeast-northwest (parallel with the moat) and about 1.5m apart: identical features were also encountered and recorded in the water mains investigations (*cf.* 6.6.4), and presumably date to the 1930s.





Fig.64: *View of cable trenching alongside the moat, looking northwest towards the Bridge*

Fig.65: *View of the trench from the Bridge end and looking southeast (0.60m scale)*







*Fig.66: Parallel ceramic land drains running alongside the moat: view from above with NW to top of the frame (0.50m scale)*

## 6.5 NEW ACCESS PATHWAY FROM THE SOUTH GATE

The final archaeological monitoring took place between the 19<sup>th</sup> to 23 March 2015, during topsoil stripping for the construction of a new pedestrian pathway alongside the access road from the South Gate on Court Road.

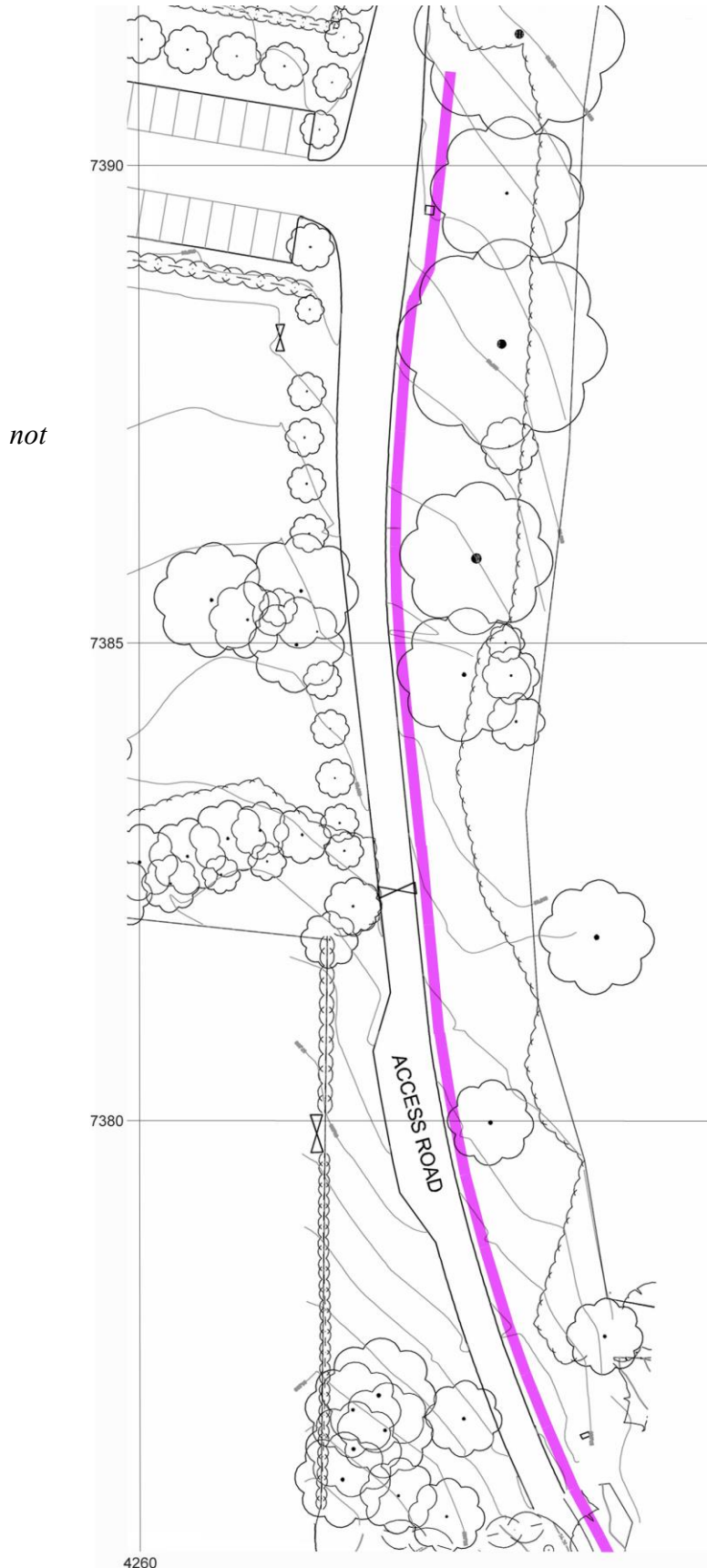


Fig.67: The line of the new pedestrian pathway  
(NB: full extent to south shown)



- 6.5.1** The overall length of the new pathway was about 230m, and the width as excavated *c* 1.2m to 1.3m. The excavation was quite shallow, generally between 180mm and 230mm including the existing turf. For most of the route the ground dropped gently to the south, from a starting point of about 59.60m OD at the northern end to just below 57.00m OD.
- 6.5.2** In the main only topsoil was removed, variously exposing a lower but still quite dark worked soil horizon, the line of occasional service trenches and also some areas of made ground.
- 6.5.3** Although no archaeological features or deposits were exposed two areas should be mentioned. Towards its northern end the stripping revealed a continuous line of made ground on the western side of the trench, over a distance of nearly 40m. It is most likely that this represents backfill within a 50m north-south archaeological evaluation trench that was dug in 1996 (Oxford Archaeological Unit 1996). The trench itself is recorded as being about 0.5m deep, and revealed two minor and apparently post-medieval features (*ibid.* 8; see also Figs. xx below).

A further substantial area of made ground was noted between *c* 43m and 76m from the southern end of the new pathway. The depth of this was not established, but it is possible that it represents levelling up of a previously low area or hollow in the landscape – just to west of the road the ground still falls away by up to 2m. The date is also uncertain but most likely to have been when the access road was constructed, which appears to be between the late 1950s and mid-60s.



Fig.68: *Looking south from the northern end of the new pathway (1.0m scale)*

Fig.69: *The same area viewed from the opposite direction, the Visitor Centre at top right*

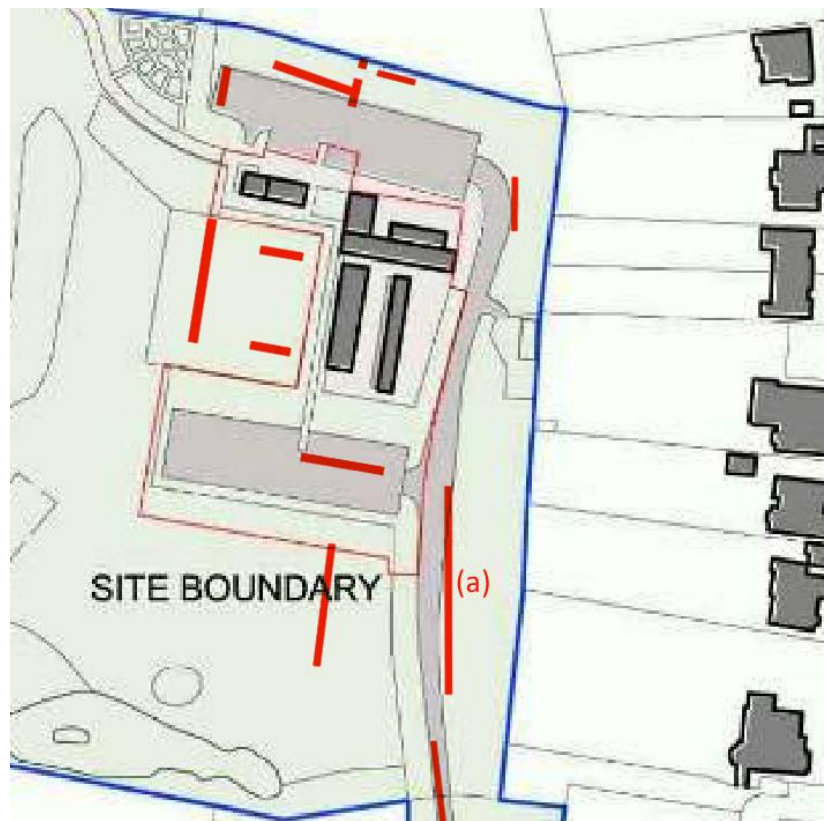






Fig.70: *Detail of topsoil stripping between the two previous figures, looking north (1.0m scale)*

Fig.71: *A plan of the evaluation trenches excavated in 1996, that labelled (a) being partly in the area of the new pathway (OAU 1996)*







*Fig.72: View looking south from just outside the inner gateway. A substantial area of made ground where the path line curves out of view may represent levelling up of an original hollow*



## 6.6 MAINS WATER PIPE INVESTIGATIONS

**6.6.1** Between 16<sup>th</sup> of April and the 7<sup>th</sup> May 2014 a total of four test pits were dug on the northeast side of the moat and just northwest of the bridge, in an attempt to locate and repair a water mains leak.

Although strictly speaking not part of the same programme of works as the other watching briefs described here the project has been allocated the same site code by the Museum of London Archaeological Archive, and indeed it seems most practical to review the results within this report

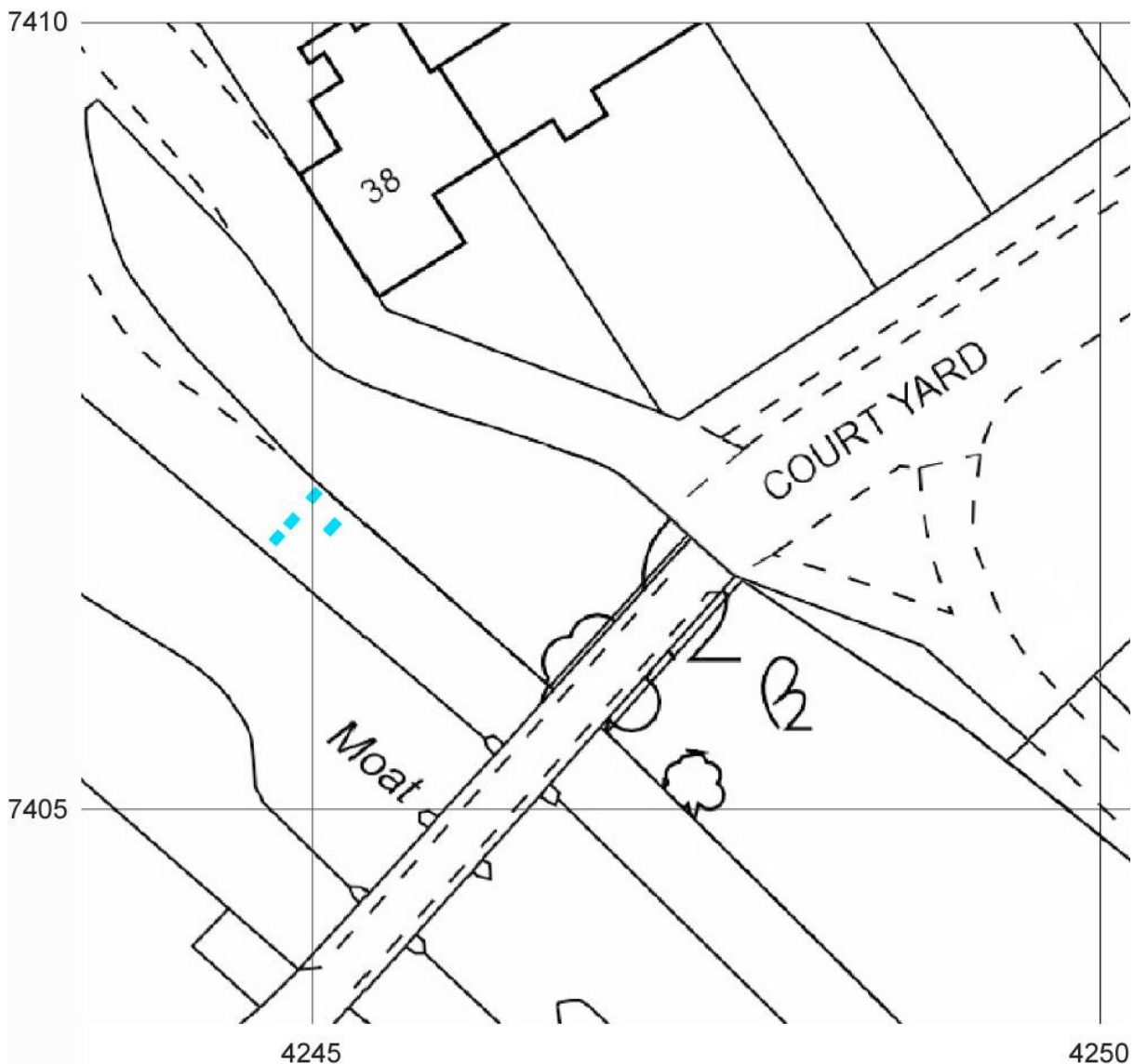


Fig.73: Location of the four water mains investigation pits

**6.6.2** The four pits were excavated on the grassed area next to the moat before the bank rises to the north, and about 17m northwest of the bridge. The ground here was fairly level, at about 5.25m OD at the base of the bank and falling slightly further towards the moat itself. Pit No.2 was located approximately 1.00mm north of the moat, and the other three were spaced at intervals within an overall

area measuring *c* 3.2m by 4.5m in plan. Three of the pits (nos. 2, 3 & 4) were aligned more or less in line with one another, with the fourth (No.1) offset to the southeast. Individual pits measured approximately 800mm long and between 400mm and up to 700mm wide, whilst overall depth was up to about 1.15m.



*Fig.74: Pits 2 and 4 on the edge of the moat, facing SE towards the bridge*



*Fig.75: Pit 2 facing NW (1m scale). The edge of the moat is just out of view to the left of the frame*



- 6.6.3** The pits invariably filled with water due to their proximity to the moat, the subsequent water table, and also the leak in the mains system. The observed stratigraphy was broadly similar in all four pits. Pit 2 is here taken as an example: 300mm of topsoil overlying 400mm of mixed silty-sandy clay, (context (32), and elsewhere (31) / (33) / (34) respectively), containing post-medieval pottery, occasional ceramic building material (CBM) fragments and moderate to frequent rounded pebbles. This sealed a further 500mm of fairly soft but compacted mottled, light-grey/ orange-brown silt-clay, containing very occasional rounded pebbles but otherwise free from inclusions. The pottery and CBM broadly dated the deposits to the 19<sup>th</sup> (or even early 20<sup>th</sup>) century, with some earlier – 16<sup>th</sup> to 18<sup>th</sup> century – residual material (see Appendices II and III).
- 6.6.4** Pits 1, 2 and 4 also exposed three lines of ceramic land drains, running southeast-northwest (parallel with the moat) and *c* 1.5m to 1.65m apart (see plan: Appendix I, Fig.86). The drains were between 200mm and 350mm below the present land surface (becoming shallower as this sloped down towards the moat). They were also identical to those exposed at the western end of the I.T cable trench excavation (*cf.* 6.4.16 above), and presumably date to the landscaping and improvement works of the mid 1930s.



*Fig.76: Pit 1 facing SE, with existing ceramic land drain at the far end just above water level*



*Fig.77: The SE-facing section of Pit 4, with a land drain to the left of frame. 1.0m scale*



## 7 CONCLUSIONS

7.1 The fieldwork presented an opportunity to address the following specific and more general research questions, as defined within the Written Schemes of Investigation:

- *Is there any evidence for prehistoric activity on the site, particularly in relation to the possible Bronze Age ditch recorded to the north in the 1996 evaluation?*

No evidence for prehistoric activity, including any individual artefacts, was found in any of the watching briefs.

- *Is there any evidence for Saxon/ early medieval activity, predating the initial development of Eltham Palace just to the west in the late 11<sup>th</sup> century?*

No evidence for Saxon/ early medieval activity or settlement was found in any of the watching briefs.

- *Is there any evidence for development &/or land-use in the medieval and early post-medieval periods?*

There was no evidence for medieval development or land-use in any of the watching briefs, apart from a few residual fragments of ceramic building material.

Potential evidence for such activity in the early post-medieval period (apart from a few further such finds) is best represented by the possible Tudor brick wall base [24] exposed in the gas connection trench, and perhaps also by the unmortared stone wall base [11] in the western part of the I.T trench. The brick base [10] – just to the southwest of [11] – may also be of later 16<sup>th</sup> or 17<sup>th</sup> century date.

- *What is the evidence for post-medieval activity on the site, and can any of this be established to predate the 18<sup>th</sup> century? What form (horticulture, orchards, etc.) does the evidence for such activity take?*

A number of post-medieval features were recorded, including the brick and stone wall bases [24], [10] and [11] noted above. Two smaller brick bases [7] & [13] and a brick-lined drain [14] were also located in the central part of the I.T trench. Although there is no conclusive evidence several of these may predate the 18<sup>th</sup> century, in particular [24] – which is also on the alignment of (& just to the northwest of) the historic northern wall of the present estate.

The function of these features is not altogether certain, although it is possible that both [10] and [11] supported terracing of the moat embankment. The bases [7] and [13] are quite narrow – one stretcher, or about 230mm – so are unlikely to have supported substantial structures.

There was no obvious evidence for horticulture, orchards, etc., unless the bases [10] and/or [11] formed part of an earlier garden design that incorporated terracing of the moat bank. The only other evidence for post-medieval activity was represented by the butchered cattle remains (41) in a pit

on the northern side of the new Visitor Centre site, but undated save by the overlying mid-1930s construction.

- *At what levels do archaeological and/or geological deposits survive across the site?*

Where geological deposits were observed they tended to be quite shallow – 0.5m or slightly less in the central section of the I.T trench. Deposits were also frequently close to the surface in the area of the new Visitor Centre, although here this clearly owed much to recent landscaping/terracing and resultant truncation of previous soil horizons.

The main archaeological deposits and features were also quite close to the modern surface – for the various wall bases, *etc.* in the range of 200mm to 500mm. It is likely however that in some areas remains also exist below the levels of present excavation – most obviously around the gas trench, where fairly shallow excavation revealed the surviving top of a potentially Tudor wall, abutted by deposits of 19<sup>th</sup> century date.

- 7.2 The watching briefs therefore produced a number of positive results, principally in the areas of the I.T and gas trenches. A number of finds and artefacts were also recovered, although in some cases possibly residual in later contexts – for example, pottery and perhaps the shoe buckle in context (26).

Elsewhere excavation revealed no significant remains, although for differing reasons. The groundworks adjacent to the moat - both the I.T trenching and water mains investigation pits – indicated fairly recent and deep made ground deposits, perhaps even dating to the landscaping works of the 1930s and probably consolidating/partially infilling an originally wider feature. In other areas such as the new pathways from the south gate and east of the Visitor Centre excavation was very shallow, barely removing the topsoil and exposing only recent features and deposits.

Groundworks within the new Visitor Centre itself showed that the area had been comprehensively truncated by previous development, and in general probably that of the mid 1990s rather than the original 1930s construction. Recent deposits and made ground often directly overlay clean natural clay, with at most a vestige of weathered natural or truncated subsoil. However, the works here did reveal some original information relating to the 1930s development – an access slide to the cellar below the gardeners bothy, a sloping buried floor slab within the south-facing glasshouse range, and a possible brick planter box on the western side of the Hardy House.



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*Ordnance Survey Maps*. Various dates and scales, c 1869-1957



## APPENDIX I TRENCH PLANS AND SECTIONS

### Gas Connection works

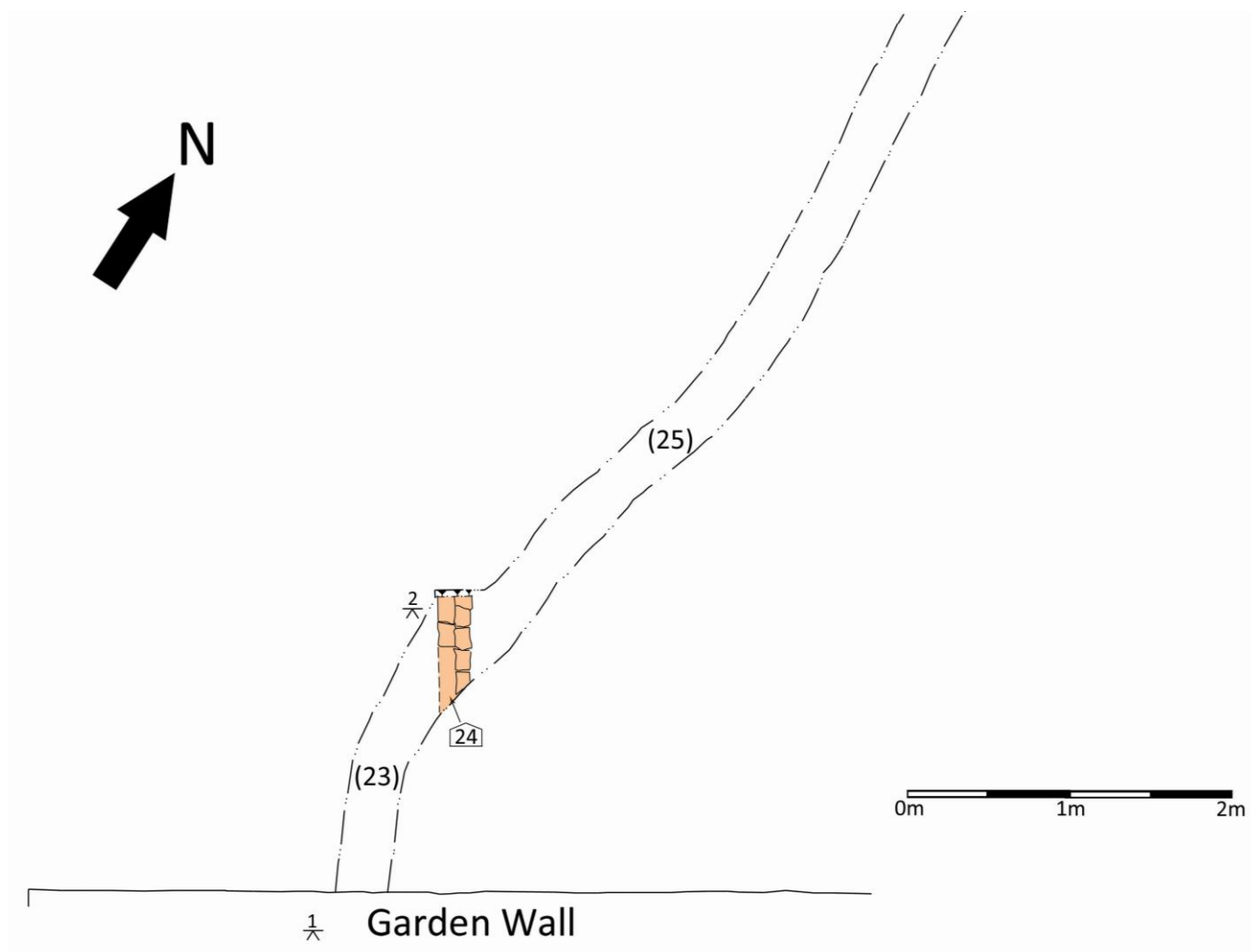


Fig.78: Plan of the southeastern end of trench works with the brick wall base [24]

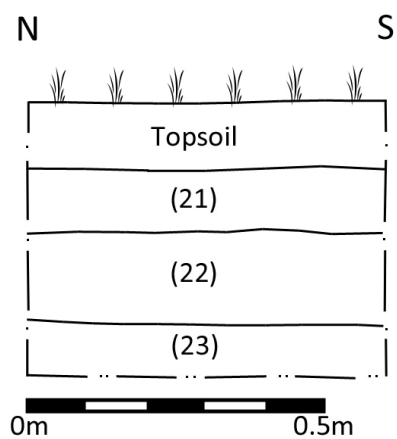


Fig.79: Sample section across gas trench

## I.T cable trenching

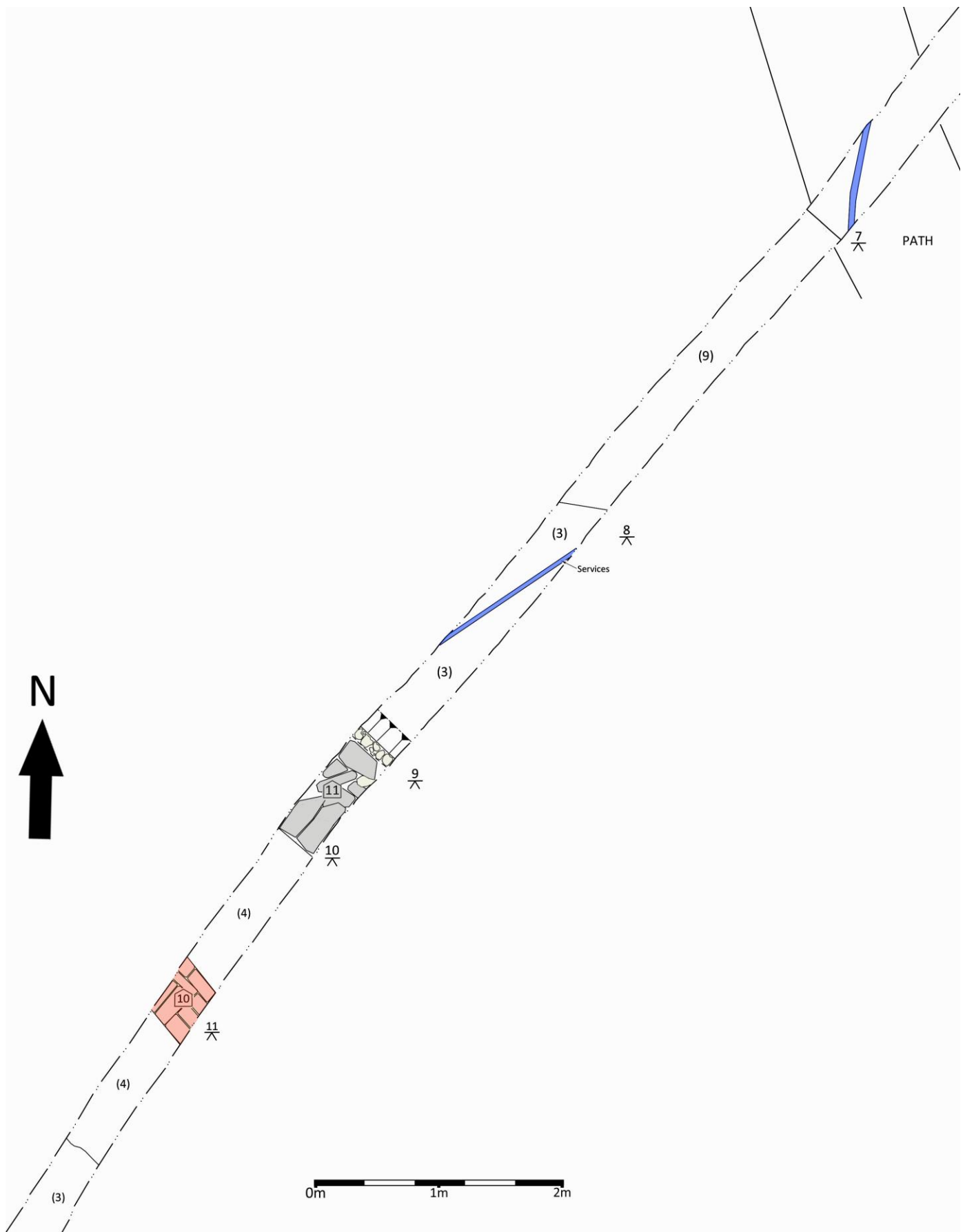


Fig.80: Plan of the I.T. trench within the central and upper part of the northeastern moat bank



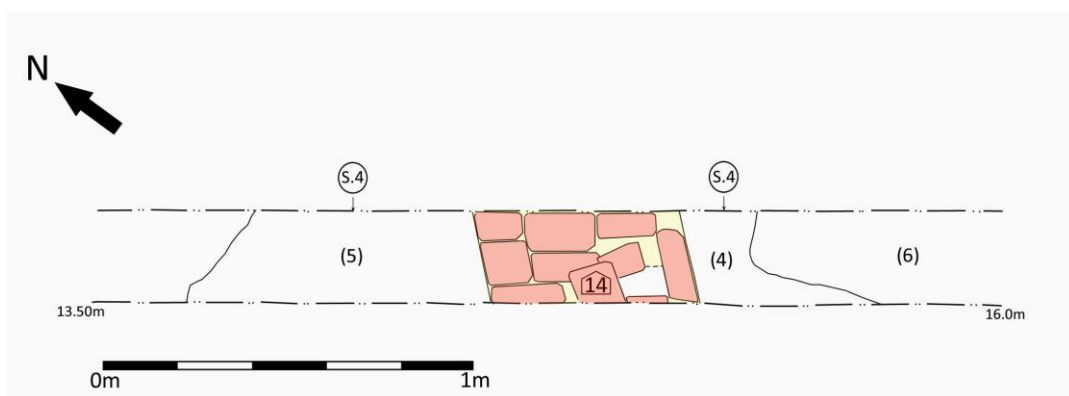
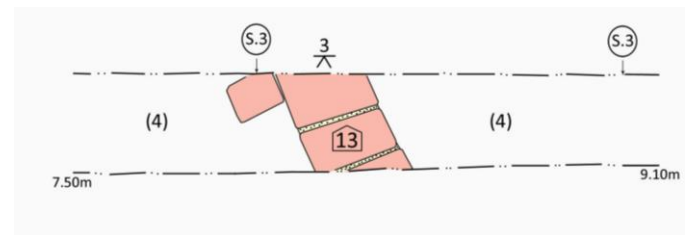
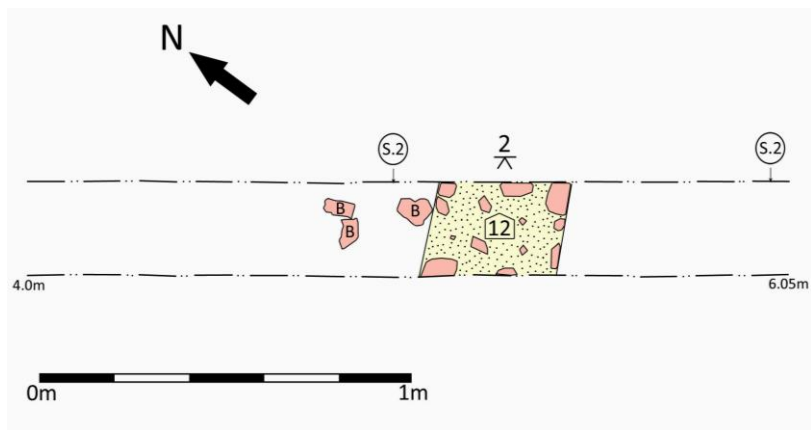
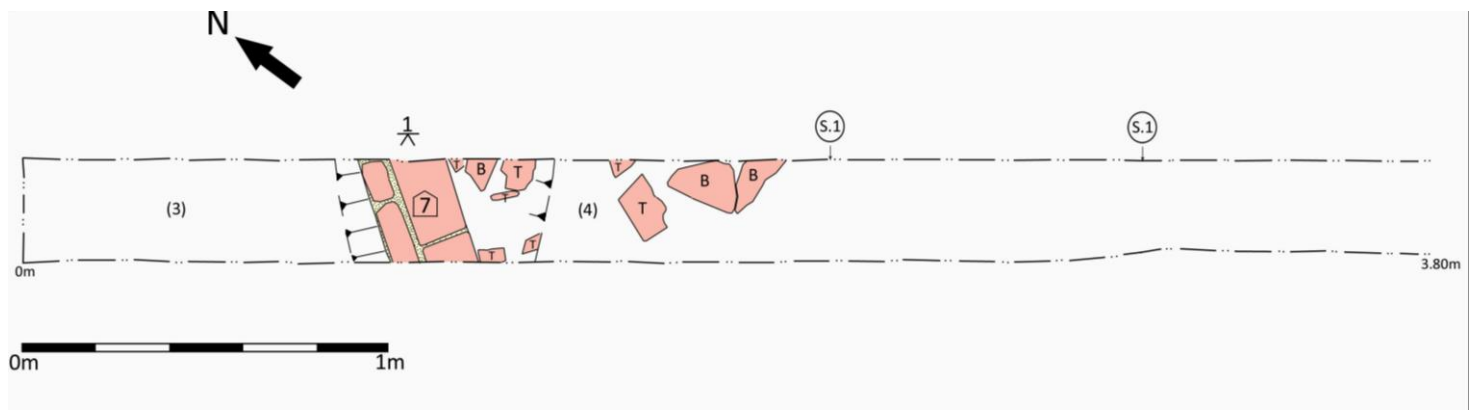


Fig.81: Plans of the western part of trenching along the hedge-line (NW-SE). See Fig.40a for location

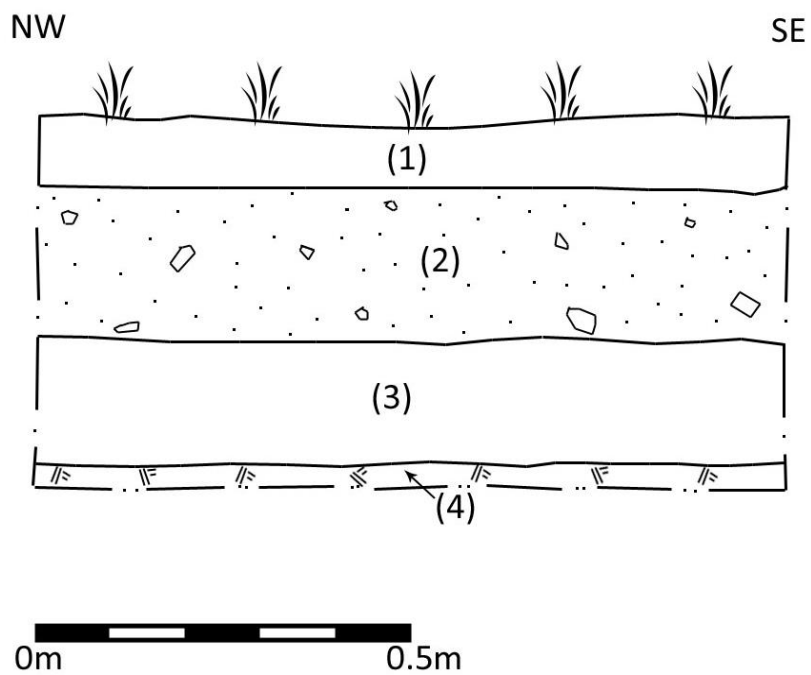


Fig.82: Section towards northwest end of trenching

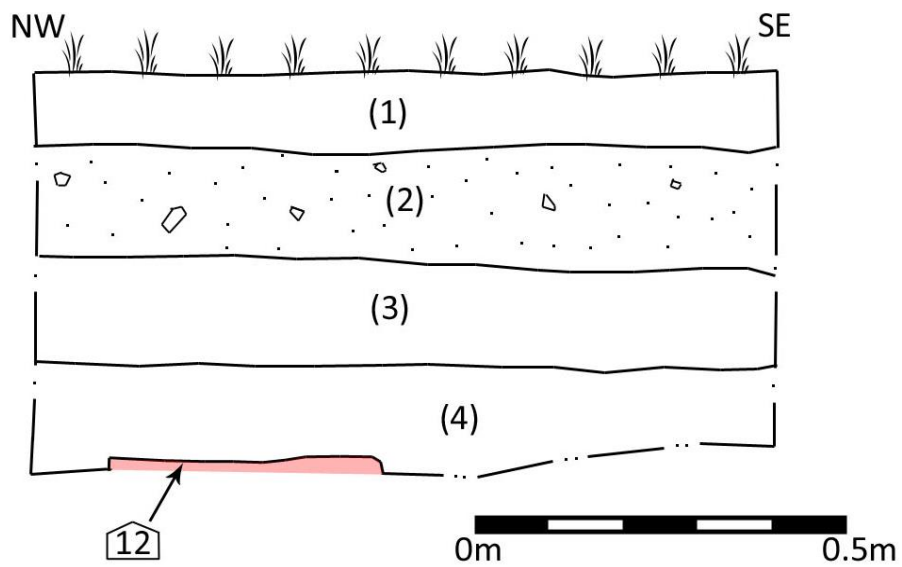


Fig.83: Section 2 above possible robbed-out wall footing [12]



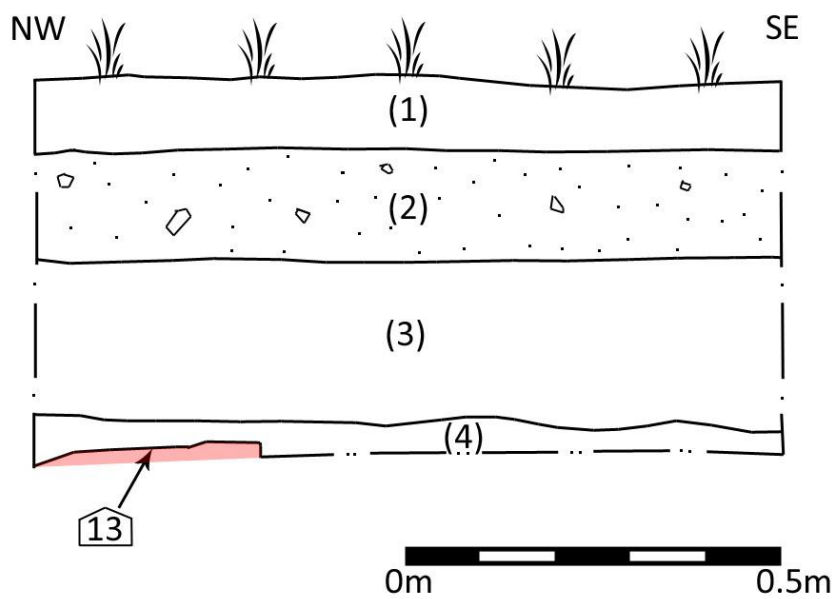


Fig.84: Section 3 above wall [13]

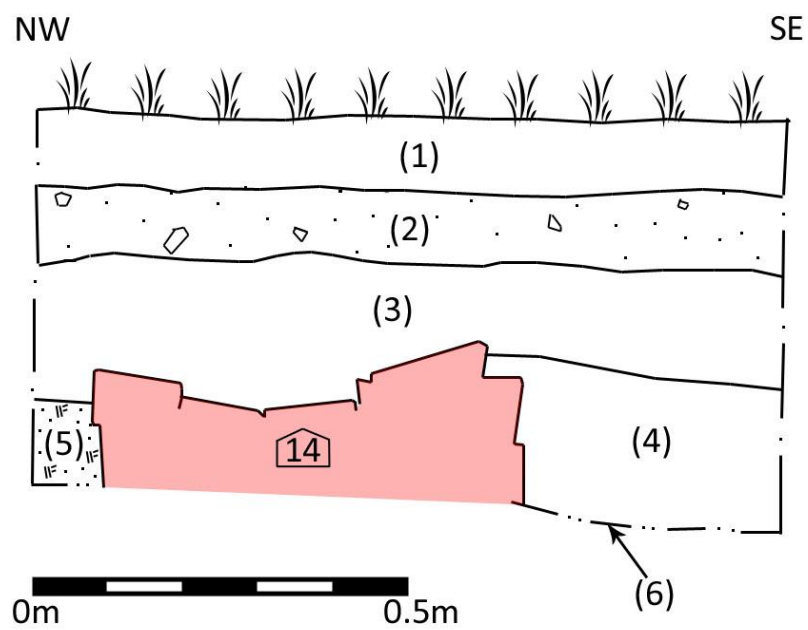
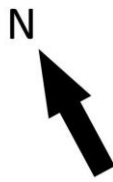
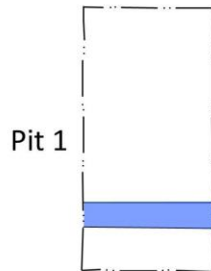


Fig.85: Section 4 above drain [14]

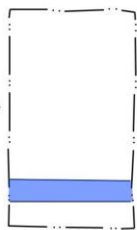
## Water mains investigation pits



Pit 3



Pit 1



Pit 4



Pit 2



MOAT

Fig.86: Test pits 1-4 along the northern bank of the moat, west of the bridge. The blue lines indicate land drains

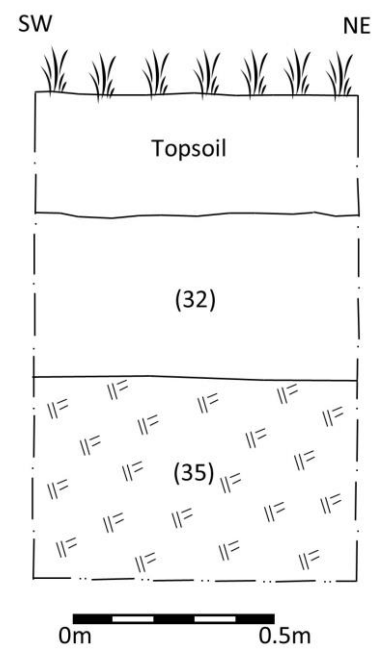


Fig.87: Sample section through pit 2



## APPENDIX II POTTERY ANALYSIS by Paul Blinkhorn

The pottery assemblage comprised 85 sherds with a total weight of 1,181g. It mainly consists of 19<sup>th</sup>-century wares, although small quantities of largely residual 16<sup>th</sup> – 17<sup>th</sup> century material were also present. It was recorded using the conventions of the Museum of London Type-Series, (eg. Vince 1985), as follows:

<b>BORDY:</b>	<b>Yellow-glazed Border Ware</b> , 1550-1700. 1 sherd, 3g.
<b>BORDG:</b>	<b>Green-Glazed Border Ware</b> , 1550-1700. 1 sherd, 6g.
<b>BORDB:</b>	<b>Brown-glazed Border Ware</b> , 1620 – 1700. 1 sherd, 112g.
<b>CHPO:</b>	<b>Chinese Porcelain</b> , 1580 -1900. 7 sherds, 31g.
<b>CREA:</b>	<b>Creamware</b> , 1740-1830. 5 sherds, 45g.
<b>HORT:</b>	<b>Horticultural Earthenwares</b> , 19 <sup>th</sup> – 20 <sup>th</sup> century. 18 sherds, 308g.
<b>LONS:</b>	<b>London Stoneware</b> , 1670 – 1900. 1 sherd, 73g.
<b>PMR:</b>	<b>Post-medieval Redware</b> , 1580 – 1900. 4 sherds, 199g.
<b>REFW:</b>	<b>Refined Whiteware</b> , 1800-1900. 20 sherds, 169g.
<b>TGW:</b>	<b>English Tin-Glazed Ware</b> , 1600-1800. 5 sherds, 19g.
<b>TPW:</b>	<b>Transfer-printed Whiteware</b> , 1830-1900. 20 sherds, 198g.
<b>WEST:</b>	<b>Westerwald-type Stoneware</b> , 1590-1800. 2 sherds, 18g.

The pottery occurrence by number and weight of sherds per context by fabric type is shown in Table 1 overleaf. Each date should be regarded as a *terminus post quem*. The range of fabric types is typical of sites in the region.

The earlier post-medieval assemblage comprised, in the main, small sherds from a typical range of utilitarian and fine wares. Most were small body sherds, although a complete handle from a BORDB tripod pipkin, a common Border Ware cooking vessel of the period, (Pearce 1988, 92), occurred in context (34), and a fragment of a PMR colander was noted in context (44). It appears an entirely domestic assemblage.

Similar comments apply to the 19<sup>th</sup> century material; all the pottery appears domestic, and consists of a mixture of table-wares such as plates, cups and saucers in CHPO, CREA, TPW and REFW, and HORT flower-pots.

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	BORDY		BORDG		PMR		WEST		TGW		BORDB		LONS		CHPO		CREA		HORT		TPW		REFW		
Context	No	Wt	No	Wt	No	Wt	No	Wt	No	Wt	No	Wt	No	Wt	No	Wt	No	Wt	No	Wt	No	Wt	No	Wt	Date
2													1	73					2	19					19thC
3																			2	19	2	24	1	9	19thC
4					1	40																	3	13	19thC
8																			1	11	1	6			19thC
10																			1	45	2	6			19thC
15																			2	34	1	59			19thC
20																							2	8	19thC
23																	1	2			2	7	5	53	19thC
25									3	7					2	10	2	16	2	40					19thC
26					1	46	2	18	1	7															17thC
31	1	3							1	5					3	8			2	16			9	86	19thC
32			1	6	1	104									1	1	1	18	1	7	1	3			19thC
33															1	12					11	93			19thC
34											1	112					1	9							M18thC
44					1	9													5	117					19thC
Total	1	3	1	6	4	199	2	18	5	19	1	112	1	73	7	31	5	45	18	308	20	198	20	169	

Table 1: Pottery occurrence by number and weight (in g) of sherds per context by fabric type. Contexts colour-coded: I.T trench (2-15), gas trench (20-26); water mains pits (31-34) & new Visitor Centre (44)



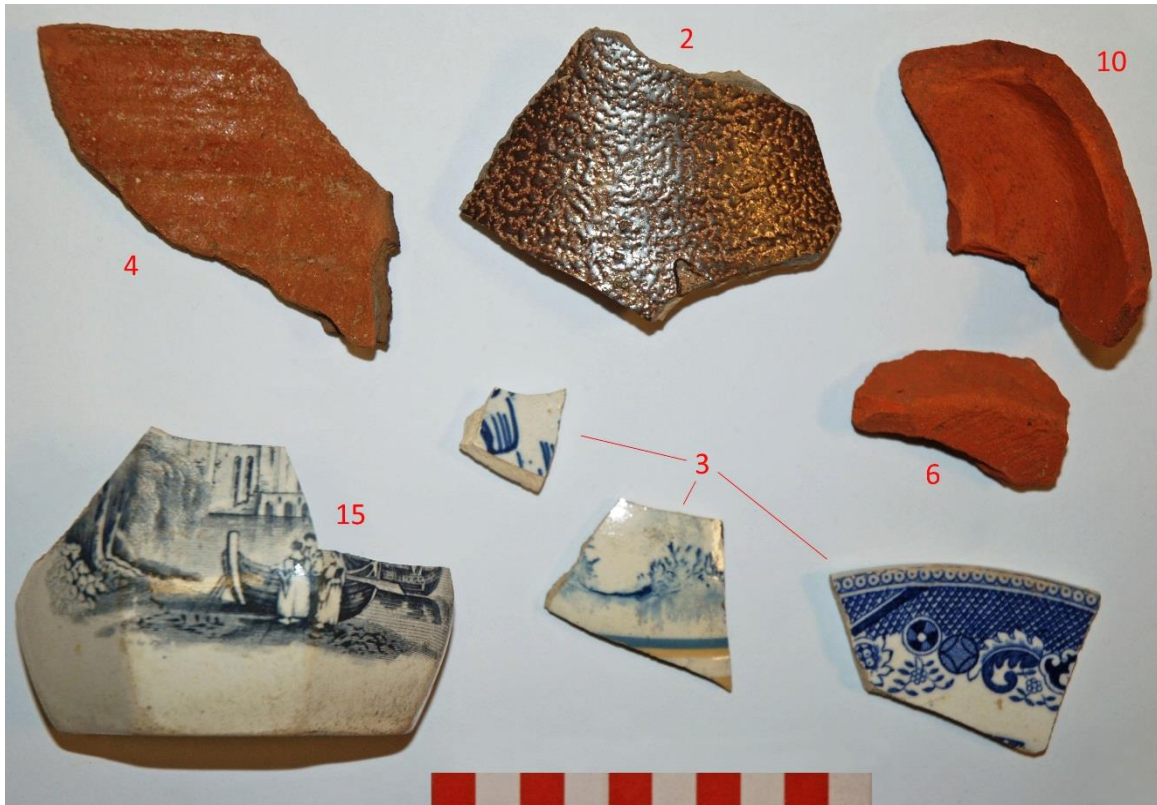


Fig.88: Pottery from I.T. cable trench, including context numbers (0.10m scale)



Fig.89: Pottery from the gas mains connection trench



Fig.90: Pottery from the water mains investigation pits (0.10m scale)



### APPENDIX III CERAMIC BUILDING MATERIAL ANALYSIS *by Sue Pringle*

**Key:** A = Abraded; M = Mortar; PM = Post medieval; Rd = Reduced; Ru = Re-used; V = Vitrified

All measurements given in millimetres, (L = Length; B = Breadth; T = Thickness)

Context	Date of CBM / Context	Period	Fabric	Form	Count	Weight (g)	L	B	T	Condition	Comments
<b>I.T cable trenching</b>											
2	1800-1950	PM	2276	Peg tile	1	23	-	-	-		
2	1800-1950	PM	3034	Brick	1	335	-	-	66		Fragment, indent on base - probably small part shallow frog.
2	1800-1950	PM	2276	Peg tile	3	439	-	-	-	M x1, S x1	-
2	1800-1950	PM	2271	Peg tile	2	85	-	-	-		-
2	1800-1950	PM	2586	Tile	1	46	-	-	19		Sandy fabric with silty inclusions. Form? Pantile? Ridge tile?
2	1800-1950	PM	2276	Edging tile	2	349	130+	90+	22		2 conjoin. Garden edging tile with decorative scalloped top. 19th/early 20th c?
3	1750-1900	PM	3034	Brick	1	124	0	0	60	M	Frogged
3	1750-1900	PM	2275	Pantile	1	23	0	0	0		-
3	1750-1900	PM	?	Pantile	3	762	0	0	0		2 conjoin. Fabric near 2275 with very coarse dark iron-rich inclusions. Black-glazed.
3	1750-1900	PM	2276?	Ridge tile?	1	87	0	0	13	M	Silty version of fabric? Slightly curved - could be peg.
3	1750-1900	PM	2276	Peg tile	3	144	0	0	0		-
3	1750-1900	M/PM	2271	Peg tile	1	110	0	0	11		Reduced core
4	1630-1800	PM	3083	Brick	1	193	0	0	56	Rd, A	-
4	1630-1800	PM	2275	Pantile	1	148	0	0	0		-
4	1630-1800	M/PM	3115	Roofing slate	1	154	0	0	10		Mid-grey roofing slate, probable West Country origin

Context	Date of CBM / Context	Period	Fabric	Form	Count	Weight (g)	L	B	T	Condition	Comments
4	1630-1800	M	3081?	Floor tile	1	416	101	100	27-30	A, M	Abraded top surface but brown glaze splashes on sides; knife-cut bevelled sides; no nail-holes survive. Fabric ID not secure but probably 'Westminster' tile and dated as such.
4	1630-1800	PM	2276?	Ridge tile?	1	136	0	0	16		Lumpy version of fabric.
4	1630-1800	M/PM	2271	Peg tile	10	857	0	0	0	M x4, Rd x2	2 conjoin with large polygonal nail-holes, c.15mm diam. One tile has splashed glaze
4	1630-1800	M/PM	2271?	Peg tile	1	69	0	0	0		Lumpy version of fabric. Part paw-print - cat or dog?
8	1300-1450	M	3031	Brick	1	311	61+	114	53	Rd, M	Unfrogged. Lime mortar on top and base. 1350-1400?
8	1300-1450	?	Plaster	Render	1	26	50+	37+	16	A	Fragment of render with narrow combing on flat surface.
9	1770-1850	PM	3035	Brick	1	2074	225	103	66		Shallow frog in base, c. 148 x 56 mm, 10mm deep. c.1800?
10	1480-1650	PM	3033	Brick	1	1953	230	98-112	57-62	A, M	Unfrogged; indented margin; creased sides and base
10	1200-1800	M/PM	2271	Peg tile?	1	61	0	0	11	Rd	Concave curve- reduced surface
10	1550-1800	PM	?	Brick	1	1005	151+	108	65	A	Brick sample from bank wall. Most of base missing. Smooth flat sides, lightly creased. Hole in top surface, c.15 x 10 mm, 28 mm deep. Orange fabric, fine sandy texture with abundant fine quartz, common fine to very coarse white calcium carbonate, moderate coarse to very coarse red iron-rich inclusions.



Gas connection trench											
Context	Date of CBM / Context	Period	Fabric	Form	Count	Weight (g)	L	B	T	Condition	Comments
20	1480-1650	PM	2276	Peg tile	4	481	0	0	0	M x 2	-
20	1480-1650	PM	3033	Brick	1	1307	126+	113	57	M	Unfrogged; creased sides and base. Mortared on bedfaces and on broken face.
20	1480-1650	PM	3033	Brick	1	1386	175+	112	55	M, A	Unfrogged. Bedfaces and header mortared; creased stretcher
23	1450-1650	-	Stone	Moulding	1	1431	195	90+	0		Cream oölitic limestone; fragment moulded block, 3 worked faces. Traces of limewash on concave faces.
23	1450-1650	PM	2276	Peg tile	1	83	0	0	0	M	Slightly silty variant fabric. Small nail-hole, shape obscured by mortar
23	1450-1650	PM	3046	Brick	1	1776	190+	118	57	M	Unfrogged; creased sides and base; indented margins. Arched lengthwise, top is convex.
23	1450-1650	PM	3033	Brick	1	274	0	0	65	M, Rd	-
23	1450-1650	PM	3033	Brick	1	1240	152+	115	60	M	52-60mm thick. Unfrogged; indented margin; creased sides; bedfaces obscured by mortar.
23	1450-1650	PM	3033	Brick	1	1648	175+	110	61-71	M	Unfrogged; indented margin; creased sides and base. Misshapen, irregular thickness.
23	1450-1650	PM	3210?	Brick	1	178	0	0	40	A	Fabric ID not checked.
25	1600-1800	M/PM	2271	Peg tile	2	143	0	0	0	M x 1	Both have reduced cores. Moulding sand fairly fine. 11, 12mm thick.
25	1600-1800	PM	2276	Peg tile	2	155	0	0	0		12, 13 mm thick
25	1600-1800	PM	2850?	Floor tile	2	446	154+	85+	29	A	Conjoin. Knife-cut bevelled sides. Probably unglazed. Nail-hole in surviving corner (fabric ID not checked).

Water mains investigations											
Context	Date of CBM / Context	Period	Fabric	Form	Count	Weight (g)	L	B	T	Condition	Comments
31	1850-1950, residual med, Late C18th	PM	2271	Peg tile	2	199	0	0	0	Rd x 1, A	1 nail-hole, probably round but squashed
31	1850-1950, residual med, Late C18th	PM	2276	Peg tile	5	215	0	0	0	M x 1	-
31	1850-1950, residual med, Late C18th	PM	?	Drainpipe	1	198	0	0	15		Vitrified clay pipe, brown salt-glazed inside and out
31	1850-1950, residual med, Late C18th	PM	3033 variant	Brick	2	397	0	0	54	A x 2	No features
31	1850-1950, residual med, Late C18th	PM	3033 variant	Brick	1	996	148+	109	55	A, Rd, V? M	Calcite version of fabric; ridge on top surface - misfired? Base is wear-abraded, flooring brick?
31	1850-1950, residual med, Late C18th	PM	3032	Brick	1	2014	217	102	63	Rd	Shallow frog c. 122 x 53 x 6mm deep. Slightly creased faces, sharp arrises.
31	1850-1950, residual med, Late C18th	PM	stone	Rubble	1	79	0	0	0		Fragment of ironstone?
31	1850-1950, residual med, Late C18th	PM	3034	Brick	1	2015	220	98	65	Rd, M	Overfired; shallow frog c. 135 x 42 x 6mm deep. Flat lightly creased faces, sharp arrises
31	1850-1950, residual med, Late C18th	PM	?	Brick	3	665	100+	105	0	A	Orange fabric with silty inclusions, very coarse calcium carbonate and flints. Two have shallow frogs (part), c.? X 61 x 8 mm deep.



Context	Date of CBM /Context	Period	Fabric	Form	Count	Weight (g)	L	B	T	Condition	Comments
31	1850-1950, residual med, Late C18th	PM	?	Brick	0	0	0	0	61	A	Orange fabric with silty inclusions, very coarse calcium carbonate and flints. Two have shallow frogs (part), c.? X 61 x 8 mm deep.
31	1850-1950, residual med, Late C18th	PM	3035?	Brick	4	702	0	0	65+ ?	A, Rd	Early version of fabric? Lightly fired? Unfrogged. Fabric resembles 3031 in two cases but brick are thicker and better made.
31	1850-1950, residual med, Late C18th	PM	?	Brick	1	256	0	0	68		Flakes of orange-red brick with cement-based bonding mortar and flat rendered face
(+) over 31	1480-1700	PM	2276	Peg tile	2	165	0	0	0		-
(+) over 31	1480-1700	M/PM	3031?	Brick	1	67	0	0	50+	A, M	Flake - ID not secure as fabric similar to early 3035 in same context.
32	1700-1800	M/PM	3107	Flake	1	454	c.140	c.120	39	A	Flake of Reigate Stone with traces of tooling on both sides and pecking on one side
32	1700-1800	PM	2276	Peg tile	3	498	0	0	0	Mx1	One round peg hole, 12mm diam.
32	1700-1800	PM	2276	Ridge tile	1	281	137+	0	13		-
32	1700-1800	PM	3033	Brick	1	871	147+	97+	53	A, M	Variant fabric; moderate medium to coarse white calcium carbonate inclusions; 1 stretcher missing. Surface v abraded.
32	1700-1800	PM	3047	Brick	1	640	115+	97+	46	A	Thin brick with flat faces and fine moulding sand. 1 face worn - used as flooring?
33	1630-1800	PM	2275?	Pantile	1	62	0	0	0	Rd	Fabric reduced, so ID not secure. Dating not affected.
33	1630-1800	M/PM	2271	Peg tile	1	11	0	0	0	Rd, S	-
34	1630-1750/1800	PM	2275	Pantile	1	276	0	0	0		-

Context	Date of CBM / Context	Period	Fabric	Form	Count	Weight (g)	L	B	T	Condition	Comments
34	1630-1750/1800	PM	?3033	Brick	1	753	105+	105	48	M	Unfrogged; indented margin; flat faces, lightly creased. Fabric near 3033 with yellow silty inclusions. 15th/16th c?
34	1630-1750/1800	PM	3033 variant	Brick	1	648	82+	108	57	A Rd, M	Unfrogged; worn on base, some reduced patches on surface; flat faces, little creasing. Probably later 16th/17th c.
34	1630-1750/1800	PM	V	Brick	1	592	137+	97	53	Rd, V, M	Vitrified fabric; unfrogged; lime mortar. Surfaces obscured.
34	1630-1750/1800	PM	V	Brick	1	323	0	0	56	V, Rd	Vitrified fabric, 'glaze' vitrification on top and base; unfrogged
Trench on NW corner of bridge-head	1750-1800	PM	3032?	Brick	3	2013	220	101	65	Rd, M	Conjoin. Fabric ID uncertain - reduced. Brick distorted by heat? Shallow frog, irregular. Probably late 18th c.

Table 2: *Ceramic building material*

**NB.** No ceramic building material was retained from investigations on the site of the New Visitor Centre. Any material here related only to the construction of the present buildings (1930s), or later.



## APPENDIX IV ASSESSMENT OF THE ANIMAL BONE

*By Valentina Bernardi, UCL Institute of Archaeology*

### Introduction

Animal bone was recovered from the watching brief in three areas – the I.T trench, new Visitor Centre and gas mains connection. The cutting of new I.T trench took place to a depth of c 550mm, to place new cables between the Palace & Visitor Centre. Context (4) was possibly redeposited or heavily disturbed natural, located within the central part of the excavation and running down the outer (NE) bank of the moat. Associated finds and remains suggest an earlier post-med date.

The new Visitor Centre is outside the Scheduled area and produced virtually no finds. The area was evaluated with very little result by Oxford Archaeology in the mid-1990s, and was thereafter evidently heavily disturbed by the construction of new car parks, *etc.* Context (41) was the fill of a pit at the northern end of the site: this was partly overlain by construction of one of the mid-1930s greenhouses, but otherwise undated.

The new gas trench was cut just outside the main entrance, an area that may have been the SW corner of the Tudor tiltyard. The trench depth was up to about 600mm; contexts (23), (25) & (26) seem to represent a mixture of made ground and reworked soil and running along the trench from north to south. One possible Tudor brick wall base [24] was exposed near the southern end, but no other significant finds were discovered.

### Methodology

The animal bones were assessed by direct observation. For each animal bone fragment the following characteristics were recorded where applicable: context, element, taxon, fusion, side, fragmentation, modification and weathering. The identification of taxa and elements was carried out following Hillson (1992) and Schmidt (1972). Estimation of age by observation of the fusion stage of the epiphyses was recorded following Silver (1969). The positions of butchery marks and fragmentation were recorded according to Binford (1981). Evidence of gnawing and condition were also recorded.

The assemblage is rather small, so limiting the kind of statistical analysis and meaningful results obtainable. NISP (Number of Identified Specimens) and MNI (Minimum Number of Individuals) quantification methods were calculated for each context (refer to tables 3 and 4).

### Taphonomy

Most of the bones present a slight weathering resulting in the flaking of the outermost layer of the cortex, though gnawing was observed only in one case in context (26).

### Age

All the elements in which the state of fusion was observable presented completely fused epiphysis, the presence of a completely fused cattle radius indicating that the animal was at least 48 months old at the time of death (41). Similarly the fused sheep tibia indicates that the animal was around 24 months at the time of death (23). No juvenile elements have been identified in this assemblage.

## Discussion

Most contexts contained just one or 2 fragments of bones, the largest assemblage was in pit fill (41) which contained 7 specimens, 4 lumbar vertebrae, a sacrum, a radius and half of the mandible. The 4 vertebrae and the sacrum belong to the same animal as they were found in articulation inside a pit sealed by the 1930s construction. It is probable that the other 2 elements also belong to the same individual, however this cannot be positively confirmed. The cut marks noted on the vertebrae are compatible with dismembering process (Binford, 1981, 136-143), suggesting human action.

Most of the bones from the other contexts also present butchering marks, mostly chopping marks, and few spiral fractures which again suggest human action. Contexts (4) and (23), (25), and (26) all come from disturbed and reworked contexts, so it is probable that they were redeposited from their original location. However, they do not seem to have remained exposed to the elements for long, as the weathering on the bones is only slight and animal gnawing was only present in one case.

Context		MNI (minimum no. of individuals)	NISP (no. of identified specimens)
41	Bos	1	7
4	Bos	1	1
4	Fowl	1	1
23	Ovis	1	1
25	Bos	1	1
25	Large size mammal	1	1
26	Ovis	1	1
26	Equus	1	1
26	Large size mammal	1	1

Table 3: *MNI and NISP calculation by context for the Eltham Palace assemblage*



## Pathology

No pathological changes were noted.

Context	taxon	side	bone part
41	bos	irrelevant	Lumbar vertebra
41	Bos		Lumbar vertebra
41	Bos		Lumbar vertebra
41	bos		Lumbar vertebra
41	bos		sacrum
41	bos	right	mandible
41	bos	left	radius
4	bos	unsided	rib
4	fowl	left	tarso-metatarsus
23	ovis	right	tibia d
25	bos	unsided	tibia
25	large size mammal		vertebra
26	equus large size	unsided	tooth
26	mammal	unsided	tibia
26	ovis	unsided	humerus

Table 4: *List of elements by context and taxon.*

## Conclusion

The assemblage seems to be composed of food processing wastage: most of the bones present butchering marks, such as chopping and dismembering marks. Context (41) is the only group found within a pit and still in articulation, and which seems to represent part of a specific event. With the exception the animal bone forms a redeposited scatter, the result of later reworking of the ground.

No further analysis is suggested for this assemblage.

## Bibliography

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- Lyman, R. L. 1994. *Vertebrate Taphonomy*. Cambridge: CUP
- Schmidt, E. 1972. *Atlas of Animal Bones for Prehistorians, archaeologist and quaternary geologist*. Amsterdam: Elsevier Science LTD
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## APPENDIX V METALWORK

- 1.1 A single buckle was recovered from context (26), at the northern end of the gas mains trench (*Dr Jörn Schuster*).

The buckle is a shoe buckle with sub-rectangular, ladder-like openwork copper alloy frame and (now missing) iron bar for the attachment of the hook which would have had one or two prongs. The date range is *c* 1720 to *c* 1800, although the size of the buckle makes it likely that it dates to the middle quarters of the 18<sup>th</sup> century.



Fig.91: *The copper alloy shoe buckle*

- 1.2 Two coins were recovered, both from the gas trench context (25). Both were heavily worn by use, and also somewhat corroded during their burial. However, the following identification was made:
- George III penny, *c* 1800-20. *Obverse* – almost totally illegible but appears to have the monarch's head facing right. *Reverse* – Unhelmeted figure of Britannia facing left. This pattern was introduced *c* 1797, though initially on the larger 'cartwheel' coinage. The smaller issue copper penny appeared about 1799, and the reverse design remained unchanged until 1821



- Probably a sixpence, diameter just over 20mm. ?George III or William IV.  
*Obverse* – although largely illegible has the monarch's head facing right.  
*Reverse* – crown set over a straight-sided shield, but otherwise unclear.

**1.3** Five corroded iron nails were recovered from the I.T and gas trench works. These were of varying sizes, the respective measurements (length by cross-section immediately below the head) were as follows:

***Context (3)***

- 62mm x ≤5mm

***Context (20)***

- 100mm x 12mm sq.

***Context (25)***

- 134mm x 12-15mm
- 98mm x 8-11mm
- 69mm x 5-6 mm

## APPENDIX VI CLAY TOBACCO PIPE

1. A total of nine pieces of clay tobacco pipe were recovered from the I.T and gas trench watching briefs. With one exception these were all stem fragments (including a mouthpiece). Details are given in Table 5 below.

The one partial bowl from context (23) appears to be of 18<sup>th</sup> century date, based on the available evidence (Atkinson & Oswald 1969).

Context	Description & dimensions
3	Stem fragment; 51 mm by 8.5mm (length x diam.)
	“ “ 44 mm by 6.5mm
	“ “ 43 mm by 7 mm
	“ “ 32 mm by 7 mm
4	Stem fragment; 48 mm by c 6 mm (length x diam.)
23	Incomplete bowl; base & front absent. Height c 39mm
	Stem fragment; 44 mm by 10±0.5mm (length x diam.)
25	Mouthpiece; 19.5mm by 6-7 mm. Trapezoidal in cross-section with rounded /lipped end
26	Stem fragment; 27.5mm by c 9.5mm

Table 5: *Clay pipe details.*



## APPENDIX VII OASIS DATA COLLECTION FORM

OASIS ID: compassa1-229778

### Project details

Project name	Eltham Palace archaeological watching briefs
Short description of the project	<p>A series of groundworks were monitored within and outside the Scheduled Monument, including the development of a new Visitor Centre and access paths, trenching for I.T and gas connections, and excavation of trial pits to locate a water leak. There were a number of positive results, mainly in the I.T and gas trenches. Several brick wall bases were recorded, including one of potential Tudor date just to the northeast of the main gate and two further structures - one brick, one stone, and of possible 16th/17th century date - that may have terraced the outer bank of the moat. A number of finds and artefacts were recovered, including 16th to 19th century pottery, a probable mid-18th century shoe buckle and a pit containing butchered cattle remains. Elsewhere excavation revealed no significant features: groundworks alongside the moat indicated fairly recent made ground, potentially dating to the landscaping works of the 1930s and probably consolidating/ partly infilling an originally wider feature. Observation of the new Visitor Centre site showed that the area had been comprehensively truncated, probably in the mid 1990s rather than the original 1930s development. Recent made ground often directly overlay natural clay, with vestiges of weathered natural or truncated subsoil. Nevertheless, observations did provide some original information on the 1930s construction - an access slide to a cellar a sloping buried floor slab in one of the glasshouses, and a possible brick planter adjoining another</p>
Project dates	Start: 25-09-2014 End: 23-03-2015
Previous/future work	Yes / No
Any associated project reference codes	ELT13 - Sitecode
Type of project	Recording project
Site status	Scheduled Monument (SM)
Site status	English Heritage List of Parks and Gardens of Special Historic Interest
Site status	Local Authority Designated Archaeological Area
Current Land use	Other 8 - Land dedicated to the display of a monument
Monument type	WALLS Post Medieval
Monument type	PIT Post Medieval
Monument type	PATH Post Medieval

Significant Finds	POTTERY Post Medieval
Significant Finds	BRICK Post Medieval
Significant Finds	ROOF TILE Post Medieval
Significant Finds	ANIMAL REMAINS Post Medieval
Significant Finds	BUCKLE Post Medieval
Significant Finds	COIN Post Medieval
Significant Finds	CLAY PIPE (SMOKING) Post Medieval
Investigation type	"Watching Brief"
Prompt	Scheduled Monument Consent
Prompt	Planning condition

#### Project location

Country	England
Site location	GREATER LONDON GREENWICH ELTHAM Eltham Palace
Postcode	SE9 5QE
Study area	250 Square metres
Site coordinates	TQ 4255 7309 51.438333887579 0.051186799406 51 26 18 N 000 03 04 E Point
Height OD / Depth	Min: 59.4m Max: 60.1m

#### Project creators

Name of Organisation	Compass Archaeology
Project brief originator	English Heritage
Project design originator	Compass Archaeology
Project director/manager	Geoff Potter
Type of sponsor/ funding body	English Heritage



## Project archives

Physical Archive recipient	Museum of London archaeological archive
Physical Archive ID	ELT13
Physical Contents	"Animal Bones", "Ceramics", "Metal", "other"
Digital Archive recipient	Museum of London Archaeological Archive
Digital Contents	"other"
Digital Media available	"Images raster / digital photography", "Spreadsheets", "Text"
Paper Archive recipient	Museum of London Archaeological Archive
Paper Contents	"other"
Paper Media available	"Context sheet", "Plan", "Report", "Section"

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## Project bibliography 1

Publication type	Grey literature (unpublished document/manuscript)
Title	A Series of Archaeological Watching Briefs at Eltham Palace
Author(s)/Editor(s)	Aaronson, J, and Potter, G.
Date	2015
Issuer or publisher	Compass Archaeology Ltd.
Place of issue or publication	5-7 Southwark Street, London SE1 1RQ
Description	In-house client report (102 pages incl. illustrations). Covers background to the project, details of methodology, results of the watching briefs and specialist reports.