KENSINGTON PALACE

ROYAL BOROUGH OF

KENSINGTON & CHELSEA

AN ARCHAEOLOGICAL

WATCHING BRIEF

KPF 09

DECEMBER 2009

PRE-CONSTRUCT ARCHAEOLOGY

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ARCHAEOLOGICAL WATCHING BRIEF

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An Archaeological Watching Brief at Kensington Palace, Royal Borough of Kensington and Chelsea

Site Code: KPF 09

Central National Grid Reference: TQ 2592 8002

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Pre-Construct Archaeology Limited, December 2009

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1 ABSTRACT

1.1 This report details the results of an archaeological Watching Brief conducted at Kensington Palace, undertaken by Pre-Construct Archaeology Ltd on behalf of Historic Royal Palaces. The project was managed by Tim Bradley and supervised by the author, both of Pre-Construct Archaeology Ltd.

1.2 Three test pits were monitored in this phase of works. One large shored trench was excavated adjacent to the light well (Test Pit 1), whilst two smaller excavations were carried out by Kingswood Construction in and adjacent to the standing building (Test Pits 2 & 3).

1.3 Test Pit 1 revealed a complex archaeological sequence consisting of structural and other remains that pre-dated the retaining light well wall, believed to be part of the remodelling of the original property carried out in 1690. The walls recorded in Test Pit 1 dated to the second half of the 17th century but had been built above a horizon of demolition debris that contained building materials and other objects dating to earlier in that century. A sequence of intercutting pits that apparently pre-date the earliest construction on the site was recorded at the base of the archaeological sequence.

1.4 Test Pits 2 and 3 revealed foundations that support the current standing building, these were also probably parts of the 1690 rebuild but brick samples could obviously not be removed from the fabric of the building for dating. However, the materials used appeared to be consistent with the retaining wall examined in Test Pit 1.

1.5 Although no structures that might be part of the Jacobean mansion erected in 1605 were encountered, it is highly likely that demolition debris derived from the building was found in Test Pit 1. This was suggested by a moulded brick depicting a 17th century musketeer that was recovered from the levelling layers found below the walls in Test Pit 1. The style of dress suggests a mid 17th century or earlier date as figures of this sort are typical of the Civil War period in England and can be seen on earlier 17th century European documents and artefacts.

2 INTRODUCTION

2.1 An archaeological watching brief was carried out at Kensington Palace on geo-technical test pits which were required to check structural details prior to remodelling work due to be carried out in the vicinity of the northern entrance. The watching brief was conducted by Pre-Construct Archaeology between the 10th and 20th of November 2009.

2.2 Three test pits were monitored in this phase of works. One large shored trench was excavated by Coniston Construction adjacent to the light well that runs north-south along the side of the path that allows public access to the north gate. Two smaller excavations were carried out by Kingswood Construction in and adjacent to the standing building

2.4 The central national grid reference for the site was TQ 2592 8002.

2.5 The site was given the code KPF 09.

2.6 The project manager for PCA was Tim Bradley; the watching brief was conducted by the author.

Figure 1
Site Location
1:20,000 at A4

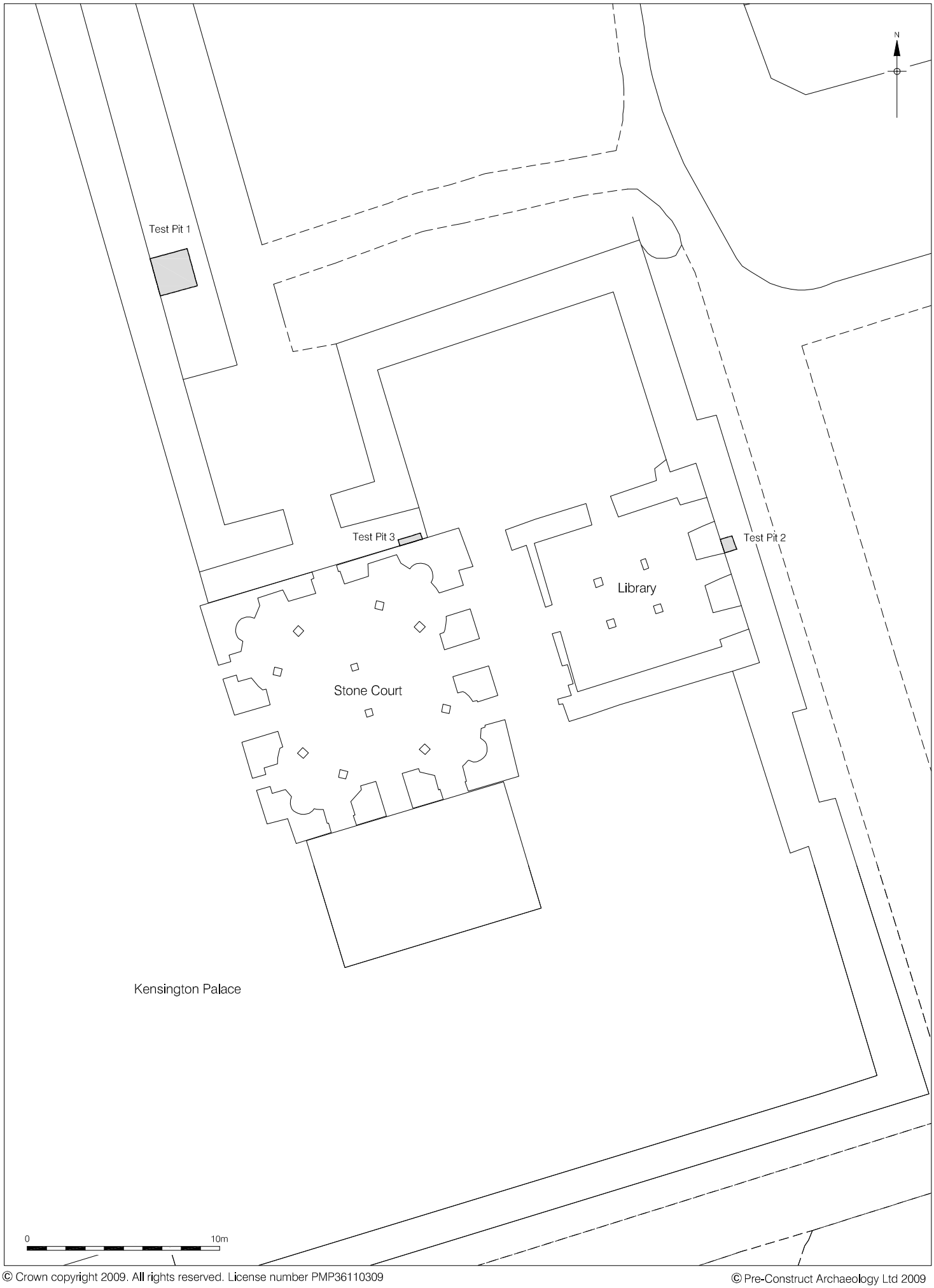


Figure 2
Test Pit Location
1:250 at A4

3 GEOLOGY AND TOPOGRAPHY

3.1 The British Geological Survey 1:50,000 series Sheet 256 (North London) and Sheet 257 (South London) indicate that the site is underlain by Quaternary Post-diversionary Thames river deposits composed of Lynch Hill Gravels.

3.2 Deposits of natural sand were only observed in Test Pit 1. The surface of the sand had been truncated by pits so the level recorded may not be representative but as seen the natural sand was evident 2.65m below the modern ground surface, or approximately 23.85m OD.

4 ARCHAEOLOGICAL AND HISTORICAL BACKGROUND

4.1 Earlier Archaeological Surveys

4.1.1 A comprehensive archaeological and historical background has previously been outlined in the report covering an archaeological evaluation carried out by PCA at Kensington Palace in 2007[1]. The brief synopsis reproduced below was prepared for a second evaluation carried out by PCA in 2009 and covers only the development of Kensington Palace in the post-medieval period[2].

4.2 16th Century

4.2.1 Hyde Park was acquired by King Henry VIII in 1536 and 600 acres were converted into a deer park. Bayswater Road, named Acton Road in the 16th century, marked the northern boundary of the park, whilst the forerunner of High Street Kensington delineated the southern boundary. In 1538, during the Reformation, Abbot's Manor also passed to the Crown, remaining property of the King until the end of the century. In 1599, it was sold to Sir Walter Cope, joint Keeper of Hyde Park and Chamberlain of the Exchequer. He also bought the neighbouring manors of West Town in 1591 and Notting Barns[3].

4.3 17th Century

4.3.1 At some point before his death in 1614, Sir Walter Cope sold off a strip of land that would later become the grounds of Kensington Palace. It was bounded by Hyde Park to the east, Kensington Church Street to the west, Acton Road to the north and the forerunner of Kensington High Street to the south. George Coppin, Clerk of the Crown and friend of Cope's, purchased the land between 1605 and 1614[4].

4.3.2 Coppin was responsible for the first phase of Kensington Palace's construction, between 1605 and 1620. He commissioned a villa-style Jacobean mansion, probably designed by land surveyor and antiquary John Thorpe. The villa was rectangular in plan, its long axis being orientated east-west. Bay windows were centrally placed on the north, east and west facing exterior walls, whilst the main entrance was located in the middle of the southern wall. Internally, the building consisted of a long, central

[1] Lythe 2007
[2] Watson 2009
[3] Impey 2003
[4] Impey 2003

hall, orientated north-south, with rooms leading off to the east and west. This would later become the Palace's core, around which later additions would be added[5].

4.3.3 Whilst much was replaced, vestiges of the Jacobean core can still be recognised in the modern-day layout of Kensington Palace. A series of architectural drawings (reproduced in Impey 2003) suggest the north and south facing walls of what is now the Cupola Room are in the probable positions of the northern and southern walls of the original core, whilst the northern and southern entranceways of the King's Drawing Room appear to mark the approximate position of its demolished eastern wall. It remains a possibility that some Jacobean masonry survives along the northern side of what is now known as White Court, possibly below ground level in the form of stairs associated with the mansion's main entrance.

4.3.4 The estate remained the property of the Coppins for a further two generations, before passing to the Finch family sometime around 1630. Deeds suggest the grounds consisted of ornamental gardens combined with orchards, woodland, pastoral and arable land at the time of sale. A series of outbuildings are also listed, including barns and stables. The writings of Samuel Pepys, who visited the house in 1664, mention the presence of a fountain. A "marble conduit" and a grotto, situated in a plot next to the southwest corner of the main building, were documented in 1662[6].

4.3.5 An inventory, compiled in 1676, suggests the property contained at least thirty rooms, indicating a phase of enlargement, perhaps in the location of the Queens Apartments. The estate remained in the possession of the Finch family for three generations. It became known as Nottingham House after Sir Heneage Finch II was made 1st Earl of Nottingham in 1681[7].

4.3.6 Before the reign of William (1689-1702) and Mary (1689-1694), the main royal residence in London was Whitehall Palace. This changed in 1689, when the Monarchs purchased Nottingham House from Daniel Finch, 2nd Earl of Nottingham. The King and Queen then commissioned a series of works designed to modernise the building. They were carried out under the instruction of Sir Christopher Wren (Surveyor of the King's Works, 1669 to 1718) and Nicholas Hawksmoor (appointed Clerk of Works, 1689-1715).

[5] Impey 2003
[6] Impey 2003
[7] Impey 2003

4.3.7 It is thought that, in order to save time and money, the Jacobean core of Nottingham House was left intact. Wren's modifications were then added to its four corners, creating a more modern, classical look. The extensions, known as "pavilions", were three storeys high with attics, providing additional space for the Royal Court. Wren also re-orientated the building by designing a new entrance and service courtyard, known as Great Court or Clock Court, on its western side. Kitchens were situated on the northern side of this and an archway and clock tower (still extant today) were added to the west. On the south side, a narrow range containing The Stone Gallery was constructed. This connected Wren's new main entrance with the southwest pavilion.

4.3.8 The building became known as Kensington House when the Royal Court took up residence, sometime after 1689. Shortly afterwards, Queen Mary instigated further building work with the intention of enlarging and improving her personal apartments. This resulted in the construction of The Queens Gallery, replete with its own staircase.

4.3.9 In November 1691, Kensington House was partially damaged by fire. Part of the southern range of Great Court was destroyed, necessitating repair work. The reconstructions provided an opportunity to remodel the approach to the Royal Apartments, during which the King's Staircase was rebuilt in marble and a lavishly decorated Guard Chamber was constructed at its base.

4.3.10 The last modification undertaken at the request of William III was the construction of the South Front, built in 1695, probably by Hawksmoor. This contained a long gallery at first-floor level.

4.4 18th Century

4.4.1 Few modifications were made to the Palace during the reign of Queen Anne (1702-1714), although her apartments were extended with the addition of several new rooms. The same cannot be said of the gardens, upon which £26,000 was spent. Several outbuildings were constructed, the most famous being The Orangery, which still stands to the north of the Palace. This was used as a greenhouse for the wintering of exotic plants, a "summer supper house" and a place of entertainment.

4.4.2 A survey conducted in 1716 at the request of George I (1714-1727) found Kensington House to be in a very poor state of repair. As a consequence, a restorative campaign was launched under the supervision of William Benson, Surveyor of the King's Works

(1718 to 1719). It is thought that the core of the Jacobean building was partially replaced by three new State Rooms, known as the Privy Chamber, the Cupola Room and the Withdrawing Room. They were probably designed by Colen Campbell, Deputy Surveyor of the King's Works, and elaborately decorated by the painter William Kent. The palace played an important role in the courtly life of George II, until his death in 1760.

4.4.3 George III (1760-1830) did not live at Kensington Palace after his father's death, which marked the last time a reigning monarch would reside there. As a result, the palace gradually fell into disrepair throughout the latter half of the 18th century.

4.4.4 In 1798, George III's brother, the Duke of Kent, was granted two dilapidated floors in the south-east corner of the Palace. He therefore instigated repair work, accompanied by a series of modifications to the lower floors. A new porch was constructed on the eastern side of Great Court, along with an entrance hall and a double staircase, which lead into the Red Saloon and others beyond. The work was carried out under the supervision of the architect James Wyatt, Surveyor-General to the Board of Works.

4.5 19th Century

4.5.1 The future Queen Victoria was born at Kensington Palace in 1819, living there with her mother, the Duchess of Kent, until her accession in 1837. Throughout the reign of William IV (1830-1837), the Duchess made several changes to the building. Under the supervision of architect Sir Jeffry Wyatville, the King's Gallery was partitioned into three rooms for the use of Princess Victoria. The Duchess' personal living quarters were also extended into the unused State Apartments on the second floor.

4.5.2 After Victoria became Queen (1837-1901), Kensington Palace ceased to be occupied as a residence. The State Apartments were neglected, being used as a storage area for objects from other palaces. As a result, the structural fabric of the building deteriorated; the brickwork began to degrade and much of the woodwork became infested with dry rot. An article in an 1888 issue of "The Queen's Homes" described the State Apartments as being "…empty, bare, dreary and comfortless…nothing but bare walls and bare boards".

4.5.3 During the 1890s, a plan concerning the Palace's demolition was put forward, a proposition that may have come to pass were it not for the intervention of the Queen. In 1897, Parliament was persuaded to pay for restorative building work, the aim of which was to recreate the Palace of George II. After the work was completed, the

State Apartments were opened to the public and used as an exhibition space. This took place on the Queens 80th birthday, on 24th May 1899.

4.6 20th Century

4.6.1 The State Apartments were acquired by London Museum in 1911, before being used as offices for charitable organisations throughout the First World War (1914-1918). In 1932-1933 further restorative work was carried out on Queen Victoria's apartments at the request of Queen Mary.

4.6.2 The State Apartments were subject to bomb damage during the Second World War (1939-1945), the Queen's Apartments being particularly badly affected. It was therefore necessary to close the Palace to the public for a total of five years, whilst repairs were made. It was then reoccupied by London Museum, which remained there until 1976[8].

8 http://www.hrp.org.uk/KensingtonPalace/stories/buildinghistory/default.aspx

5 RESEARCH OBJECTIVES

5.1 No specific archaeological research objectives were set for the phase of work covered in this report. The purpose of Test Pit 1 was to reach the footings of the retaining wall that currently supports the ground below the pedestrian access to the north gate of the Palace. The Test Pit was designed to expose the full face of this wall and allow details of its construction and present state of repair to be examined. Test Pits 2 and 3 were localised examinations of the foundations currently supporting the standing structure.

5.2 However, important archaeological remains were encountered in Test Pit 1 and the information gathered can be seen as part of the ongoing process of archaeological evaluation that has been taking place in recent years prior to the proposed redevelopment of areas of the Palace and the surrounding gardens.

6 METHODOLOGY

6.1 All Test Pits were excavated by hand. Test Pit 1 was excavated to a depth of 3.20m below the present ground surface, the sides being shored as required whilst the excavation proceeded. The trench was not excavated archaeologically but major archaeological features such as masonry structures were planned and photographed before being removed. No significant structures were removed without the prior permission of the Historic Royal Palaces.

6.2 A representative section showing the full sequence of deposits and structures encountered during the excavation was drawn at a scale of 1:10, as was a detailed sample elevation showing the construction of the retaining wall. Plans were drawn at a scale of 1:20. An archaeologist was in attendance at all times during the excavation and datable artefacts were recovered from the spoil whilst digging proceeded.

6.3 Test Pits 2 and 3 were excavated adjacent to the footings of the standing building. Test Pit 2 was located to the east of the fire doors leading from the library towards the Rose Garden but could not reach the full depth of the foundation as service pipes were encountered that may still be live. Test Pit 3 was located in an internal corridor immediately to the south of the Plant Room. Both Test Pits were planned at a scale of 1:20 and representative sections drawn at a scale of 1:10.

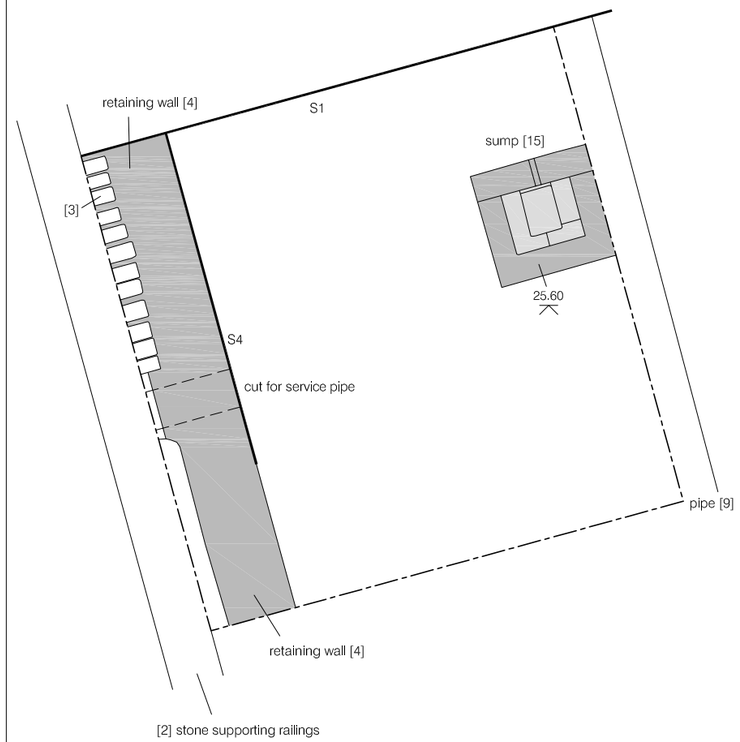
6.4 Test Pit 1 measured 2.20m east-west by 2m north-south at the surface. This area was reduced to 1.65m east-west as the trench stepped in to follow down the east side of the retaining wall and avoided undermining a modern service pipe or duct located on the eastern periphery of the Test Pit. The pit was excavated to a depth of 3.20 metres. Test Pit 2 measured 0.63m east-west by 0.74m north-south by 0.65m deep. Test Pit 3 measured1.20m east-west by 0.32m north-south by c.1.15m deep.

6.5 Test Pit 1 was located by the PCA surveyor, Test Pits 2 and 3 were located in relation to plans of the standing building. An Ordnance Datum spot height of 26.50m obtained during an earlier PCA auger survey was used for ground level on Test Pit 1. Relative depths below the modern ground surface, formed by flagstone flooring, were used for Trenches 2 and 3.

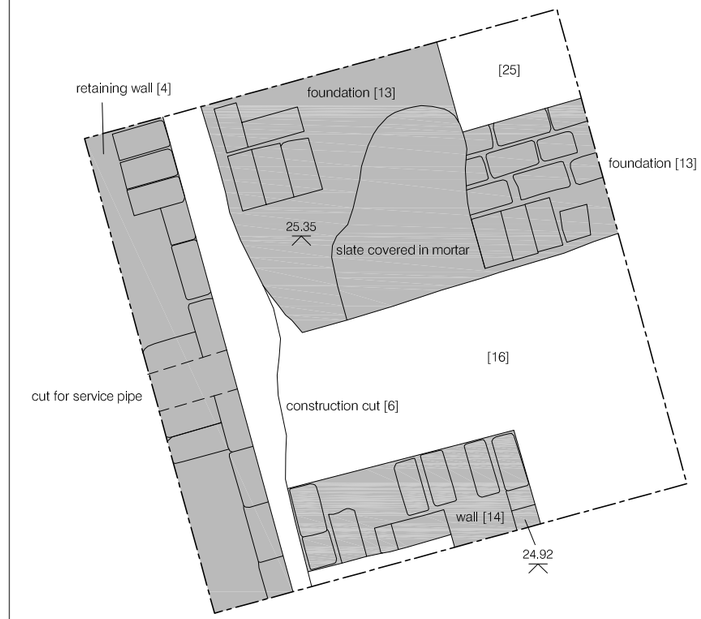
6.6 The site was given the temporary code KPF O9.

6.7 Recording on site was undertaken using the single context recording system as specified in the Museum of London Site Manual. Contexts were numbered

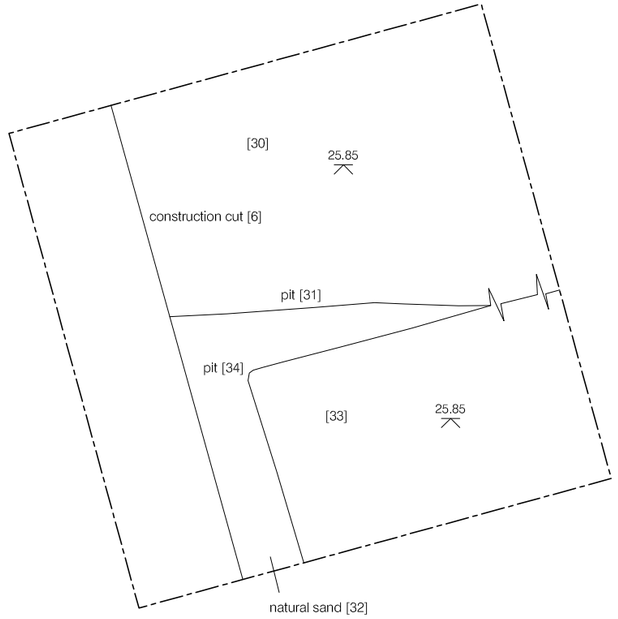
sequentially and recorded on pro-forma context sheets. Where referred to in the text context numbers are given in square brackets, i.e. pit [36].



Structure 15



Structures 13 & 14



Pits 31 & 34

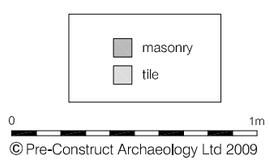
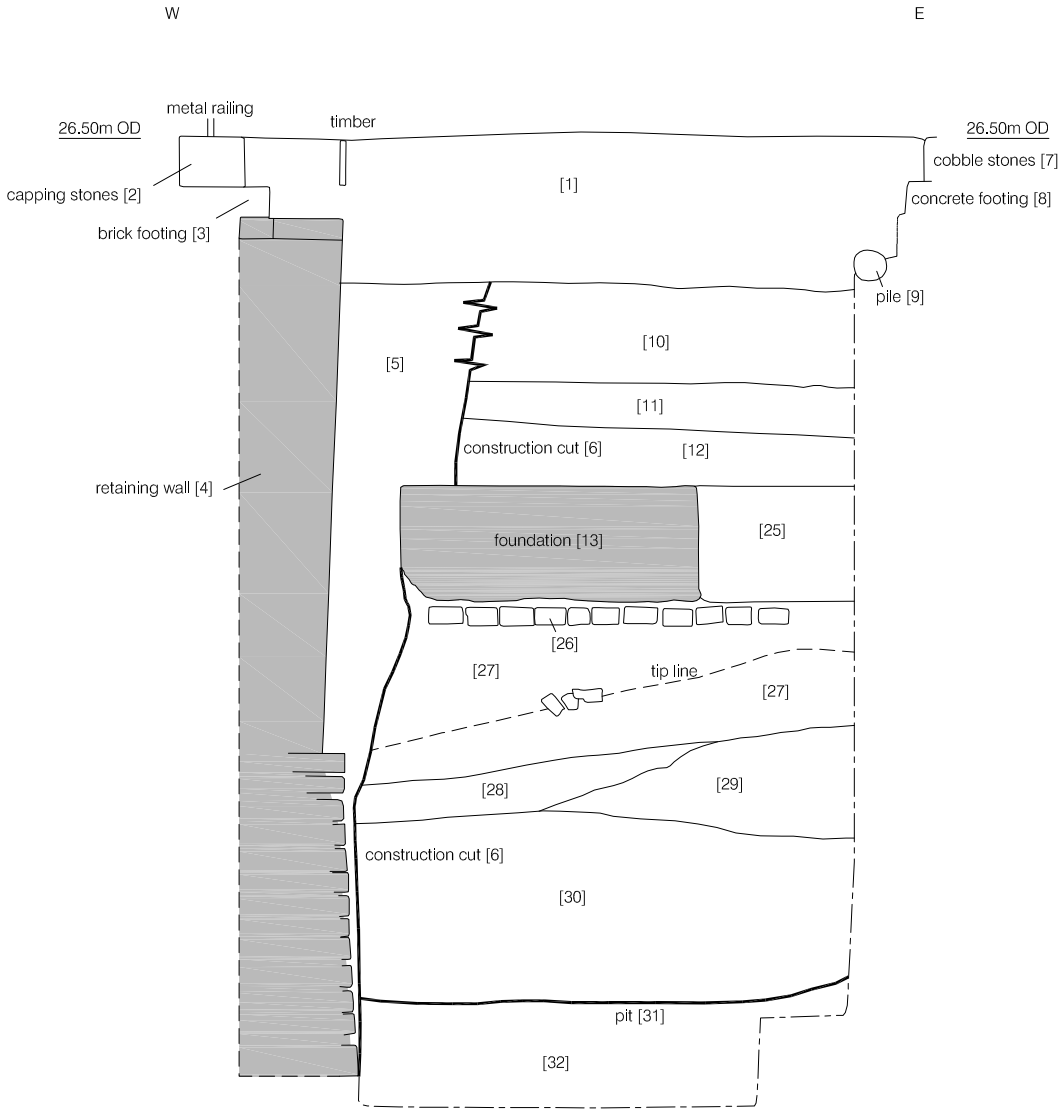


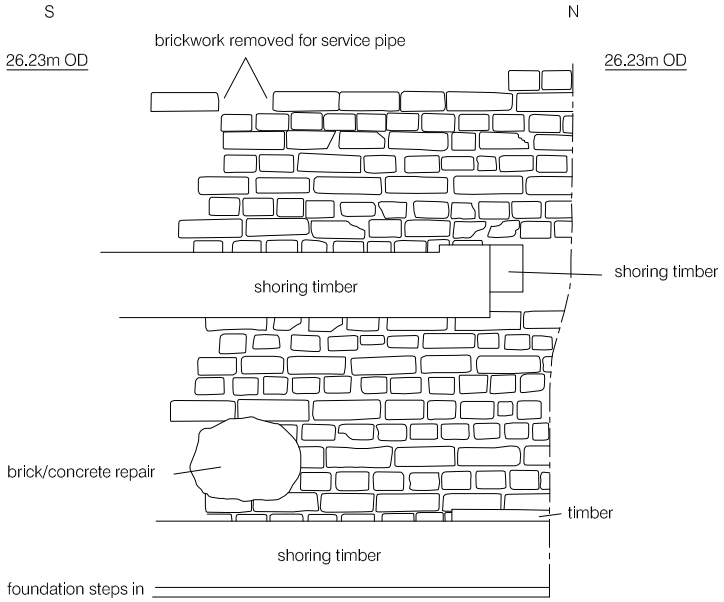
Figure 3
Test Pit 1
1:25 at A3



Section 1
Test Pit 1
South Facing

masonry

0 1m



Section 4
Test Pit 1
Sample Elevation of Upper Part of Wall [4]
East Facing

Figure 4
Sections 1 & 4 from Test Pit 1
1:25 at A4

7 ARCHAEOLOGICAL SEQUENCE

7.1 Introduction

7.1.1 The principal purpose of Test Pit 1 was to reveal the full face of the wall that retains the ground to the east of the light well. The information regarding the wall is given below in the first paragraphs that describe the archaeological sequence encountered in Test Pit 1. However, a complex archaeological sequence, all of which apparently pre-dated the construction of the retaining wall, was excavated in order to expose the wall.

7.2 Test Pit 1

Light Well Retaining Wall

7.2.1 The retaining wall [4] ran north-south along the west side of Test Pit 1. The top of the wall was fully exposed within the area of excavation and measured 0.33m wide which corresponded to the length of one brick laid as a header with a stretcher course laid to the rear of this. Most of the upper part of the wall, above the stepped foundation, was laid as alternate courses of headers and stretchers (see Fig 4, Section 4). However, this was not strictly adhered to as broken bricks and re-used materials were included within the build. The bricks used consisted for the most part of reddish purple, poorly fired unfrogged bricks that date to 1664-1750. Some of these were very probably seconds which had a very grey surface colour. These bricks may well have been included as the structure was never designed to be viewed, certainly not from the east side. A second brick type consisted of pale brown or yellowish brown examples which had a much sandier texture than the purple bricks and were noticeably thinner. These examples might have derived from an earlier demolished structure and their inclusion in the build again suggests a cost-effective sourcing of materials that were never designed to be part of the visible fabric of the palace.

7.2.2 The full height of the wall was 2.84m; of this the upper part consisted of a face 1.77m high that rested on a stepped foundation 1.07m high. The stepped foundation began with a course of bricks laid as headers that projected c 90mm eastward from the face of the wall. Below the step the foundation consisted of twelve courses of brickwork each of which stepped out very slightly to the west so that the base of the foundation was approximately 50mm wider than the top of it (see Fig 4, Section 1).

7.2.3 As stated above the foundation stepped out c 90 mm where it met the upper part of the wall. However, it should be noted that the upper part of the wall was not vertical

but leant out to the east by c 80mm. The eastern limit of the step in the foundation, where it met the upper part of the wall, was therefore almost directly below the western limit of the top of the wall. The wall may have been deliberately constructed in this fashion. If the wall had moved from an original vertical build it is far more likely that the weight of the ground to the east of it would have pushed the wall to the west.

West facing shot showing the full height of wall [4].
The lowest timber brace sits on the step.

7.2.4 The wall is assumed to have been part of the restructuring work carried out in 1690 for William and Mary[9]. With the exception of modern topsoil, context [1], and possibly the stonework that caps the retaining wall and the sloping brick facing that is found in the light well to west, wall [4] was the latest feature or deposit found in Test Pit 1. The construction cut for the wall, context [6], truncated all of the archaeological deposits and features found below the topsoil.

[9] Lee Prosser, pers. comm.

7.2.5 The relationship between the retaining wall [4] and the brick facing to the light well was not apparent. Where the top of the retaining wall was visible it was not tied in to the brickwork that formed the facing to the west. However, the full width of the wall was only visible in a very small area around a modern service pipe and the brick facing to the west of this could have been a later patch constructed after the service pipe had been laid in a channel that truncated both the retaining wall and the sloping facing to the west.

7.2.6 A rough unmortared footing [3] had been laid onto the top of the retaining wall to support the stones which hold the metal railings around the light well. The footing consisted of unfrogged reddish/purple bricks laid on their sides as headers. The stones, which serve both as capping for the brickwork and to support the railings, were recorded as context [2]. The tops of these stones are found at modern ground level.

The Levelling Sequence

7.2.7 The top of the archaeological sequence in Test Pit 1 was formed by modern topsoil, context [1]. This deposit was c. 0.50m thick and sealed or abutted all of the architectural elements found in this area from the stonework supporting the railings [2] in the west to the cobbled edging of the grass found to the east [7].

7.2.8 The topsoil also sealed the ceramic pipe [9] which was uncovered on the eastern periphery of the trench. The joints of this pipe were not sealed and it quite possibly functions as a duct carrying service cables rather than a water or waste pipe. The alignment of the pipe leads towards a telecoms inspection manhole sealed by a steel cover which is located to the south of the grassed area.

7.2.9 A series of levelling layers composed principally of demolition debris were evident below the topsoil, layers [10], [11] and [12]. Most of the demolition debris consisted of relatively fine elements such as mortar and plaster and small fragments of broken brick and tile. All of these layers had been truncated by the construction cut [6] for the retaining wall [4] and must therefore have been deposited before the wall was constructed. No datable artefacts were recovered from these layers.

Brick Sump [15]

7.2.10 A square brick structure [15] was uncovered during the excavation of this sequence of layers. The structure consisted of a narrow outer wall formed of brickwork with an open area in the centre; the walls were laid above a peg tile base (see Fig and photo below). The wall was built from yellowish unfrogged purple bricks that measured 215 x 110 x 65mm. The highest surviving point on the structure was found 0.90m below

ground level, or 25.60m OD. The purpose of the structure was not apparent, it might have functioned as a small sump or drainage feature. No associated masonry structures were evident at this level but the south side of the sump was aligned with the east-west face of the earlier brick structure [13] which was found below it. The sump measured 0.48m by 0.50m and was 0.24m deep internally. The depth of this feature showed that it must have been built immediately above, if not resting on, the much larger brick structure [13].

Vertical shot of brick structure [15]. Ceramic pipe [9] evident in foreground; second service pipe covered with concrete to the left. Tape 0.50m

Masonry Structure [13]

7.2.11 The levelling sequence consisting of layers [10] to [12] sealed a large masonry structure [13] which was located in the northern part of Test Pit 1. The structure appeared to be a substantial foundation that formed a right angle with distinct elements aligned north-south and east-west. The north-south element measured c1.00m east–west and continued beyond the limit of excavation to the north. The east-west aligned element measured 0.60m wide at the top where it consisted of a regularly laid course of brickwork. A single course of brickwork was also evident on part of the north-south aligned element but the majority of that area of the foundation was formed from mortar and rubble. A course of mortared slate, possibly a damp proofing measure, was also evident in the central part of this feature which might be indicative of an early ground surface at this level. When seen in section the

foundation appeared to be a mass of mortar and brick rubble rather than a structure built of coursed brickwork. The foundation survived to a height of 23.35m OD and was 0.42m thick.

North facing photo showing brick foundation [13] with later retaining wall [4] to the left. Tape 1m

7.2.12 The purpose of this structure was unclear as the shape in plan was not established. It extended beyond the limit of excavation to the north and had been truncated to the west by the construction cut [6] for the retaining wall [4]. The feature also appeared to be truncated to the east but the proximity of the limit of excavation in this area rendered interpretation somewhat speculative. The area inside the angle formed by the elements of [13] had also been filled with a mix of rubble and mortar [25]. However, the soft yellow mortar in this area was completely different from that used in the construction of the foundation [13] and it appeared that [25] was a later edition.

7.2.13 A single course of bricks [26] was evident below the foundation [13]. The bricks forming [26] were unmortared and had been laid flat on bed A void with vestigial traces of decayed timber existed between the two masonry elements and it appeared that the foundation had been built directly above a timber levelling course or shuttering. The course of bricks extended to the east beyond the limits of the foundation [13] when viewed in Section 1 and was also evident below the later infill [25].

7.2.14 The foundation [13] probably dates to the decades immediately before the Palace was remodelled for William and Mary in 1690. The construction cut for the retaining wall, [4], clearly truncated the demolition debris that sealed the foundation and had probably impacted the masonry. If the retaining wall was part of the 1690 rebuild, the foundation [13] obviously belongs to an earlier phase of construction. However, the bricks used to build [13] were probably not made before 1670 and the construction of this feature suggests either that parts of the Palace were remodelled in the decades before the 1690 reconstruction, or that outbuildings associated with the core of the Palace structure were being built in this area.

North facing shot showing the mortar and rubble foundation [13] to the left with mortared rubble infill [25] to the right. The brick footing [25] extends below both. Note the tip lines in the demolition debris below

7.2.15 The dating of this feature is not based purely on the brick sample recovered from the foundation but was confirmed by the finds assemblage found within the demolition horizon below the foundation. The small pottery assemblage has been dated 1630-1700, with a more precise date provided by the clay tobacco pipes which dated to 1660-1680. The finely moulded brick showing an early-mid 17th century musketeer was also recovered from the same horizon (see para. 7.2.18 for additional discussion). A combination of historical and archaeological evidence gives a very precise window, 1670-1690, in which the foundation appears to have been constructed.

Brick Structure [14]

7.2.16 A second brick structure, [14], was found in the southern part of Test Pit 1. This feature again consisted of a right angled wall with one element 0.34m wide running east-west along the southern periphery of the trench and a north-south wall of the same width extending beyond the limits of excavation to the south. This feature had undoubtedly been truncated by the construction cut for the retaining wall [4] and was cut into the same demolition debris as the foundation [13]. The highest point recorded on wall [14] was 1.58m below ground level, or 24.92m OD. This might suggest that the wall was earlier than the foundation [13] but the upper levels of wall [14] may have been demolished and levelled. The bricks from which wall [14] were constructed have been dated 1664-1725, a date consistent with the clay tobacco pipe dated 1660-1680 recovered from the layers below.

South facing shot of brick structure [14]. Tape 0.50m

7.2.17 Although very little of structure [14] was evident within the area excavated this feature was possibly a brick cesspit lining or part of a small cellar. No fill suggesting that the feature had been used as a cesspit was evident to the south of the wall. This area contained layers of sand and fine gravel that might indicate deliberate backfilling with clean material after the cesspit had been cleaned out. The width of the wall, and the rather poor quality of it's construction, did not suggest that this was a load-bearing foundation. However, it did continue 1.22m below the highest surviving course of

brickwork which tends to support the hypothesis that wall [14] formed part of a subterranean structure. The north-south element of the wall may have been a rebuild as it stepped out markedly to the south form the lower part of the north-south wall (see photo below).

South facing shot of brick structure [14]. Tape 0.50m

7.2.18 As stated above both of the brick structures [13] and [14] had been cut into or built over a levelling sequence that consisted of silt mixed into, or alternating with, layers of demolition debris. The artefacts recovered from this horizon were collected as context [16] although separate levelling layers, contexts [27] to [29], were evident whilst the horizon was being excavated and when the northern section was cleaned and drawn. The levelling sequence was c 0.70m thick; the tip lines seen in Section 1 suggest that material was introduced from the east. The pottery recovered as context [16] dated 1630-1700 and the clay tobacco pipe 1660-1680. A fragment of a tin-glazed tile with a hand-painted depiction of a duck has been provisionally dated to 1630-1640. This fragment of high status building material was accompanied by two other pieces that suggested that the demolition debris used as levelling derived from a building of considerable importance and style. The first of these was a finely moulded piece of Kennet stone that was imported from Rutland. The quality of the workmanship on this piece is of a very high order but the stone cannot be precisely dated. The second piece comprised a truly remarkable moulded brick with a depiction of a musketeer on

one face. This piece was undoubtedly the product of a special commission and was almost certainly an internal decoration, set around a fireplace or used in a similar architectural context. The style of dress would suggest the Civil War period in England although musketeers dressed in similar fashion and using a stand to support their weapon can be seen in earlier 17th century European contexts such as depictions of 30 Years War battlefields. This is an extremely rare find and indicates that a very high status building had stood nearby. Although not in itself an original element of the mansion constructed in 1605 there is every chance that this was a later addition to that building.

Moulded brick depicting a 17th musketeer

7.2.19 The levelling layers that pre-dated the building of walls [13] and [14] contained artefacts that were produced after 1660. The demolition debris itself consisted at least in part of items that date to earlier in the 17th century and indicate a very high status building. No structures that might be part of the original Jacobean mansion were discovered in Test Pit 1 but it is almost certain that the demolition debris spread in this area derived from the destruction of parts of this structure or additions to it that date from the mid 17th century.

7.2.20 Two relatively shallow intercutting pits, contexts [31] and [34], were evident below the levelling sequence described above. These features were not evident until the trench had been cleaned after the mass of the levelling material had been excavated. They were recorded in plan 2.65m below ground level, or 23.85m OD. Pit [34] was 0.35m deep and as seen measured 1.30m east-west by 0.80m north-south although it extended beyond the limits of excavation to both the east and south. No datable artefacts were recovered from this feature.

7.2.21 Pit [31] measured 1.67m east-west by 1.20m north-south as seen although the feature also extended beyond the limits of excavation and had been truncated to the west by the construction cut [6]. The pit was visible in Section 1 where the actual depth of 0.63m was evident. Pit [31] contained pottery dated 1550-1700 and peg tile dated 1480-1700. These wide date ranges are not particularly helpful but no clay tobacco pipe was recovered from either pit which would suggest a date in the late 16th or early 17th centuries. These pits were cut into natural sand and silt and contained no traces of demolition, they may have been quarries to extract the sand

7.2.22 The highest level recorded on the mix of natural yellow sands and bluish grey silts [32] was 23.85m OD, some 2.65m below ground level.

7.3 Test Pit 2

7.3.1 Test Pit 2 was located to the east of the Library adjacent to the foundation that supports the east wall of the building. The Test Pit was designed to expose the base of the north-south aligned foundation but this could not be achieved as a cast iron service pipe [22] was encountered 0.47m below the flagstone paving [20] laid in this area. The cast iron pipe was aligned north-south and had been laid on a concrete footing which partially overlay an earlier lead pipe [23]. None of the excavated material [21] which was dug from above the pipes contained any datable artefacts but given the date of the cast iron pipe and it's concrete bedding all of this material must consist of modern backfill.

7.3.2 The foundation [19] consisted of reddish purple bricks measuring 225 x 105 x 60mm laid as alternate courses of headers and stretches, although this pattern was not strictly adhered to with some evidence for broken or reused materials having been included in the build. The maximum depth achieved by the test pit exposed 0.47m of the foundation. Brick samples could not be removed from the fabric for dating but the foundation resembled the retaining wall [4] found in Test Pit 1 both in the style of build and the materials employed. The upstanding wall [17] did not sit directly on top of the foundation in this location and a gap 70mm deep was evident below the base of the wall. The gap was packed with a loose infill [18] that consisted principally of crushed brick and mortar.

West facing shot of Test Pit 2 showing foundation [19] and cast iron pipe [22]. Tape 0.50m

7.4 Test Pit 3

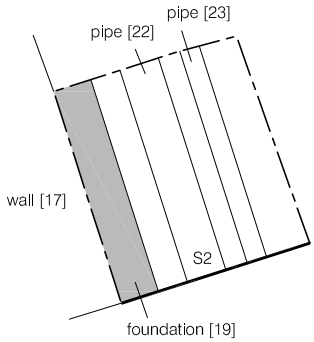
7.4.1 Test Pit 3 was located in a corridor immediately to the south of the Plant Room. The purpose of this pit was also to expose the full depth of the foundation which was achieved despite the extremely limited space available for excavation. The east-west aligned foundation [37] was of 0 87m deep in this area although it may once have been more substantial as it appeared that the top had been cut into to allow the laying of the substantial stone slabs [35] that currently form the floor in this area. This impression was given by the vestigial traces of bricks only a few millimetres thick seen on the top of the foundation [37]. The same bricks continue to the north as fully

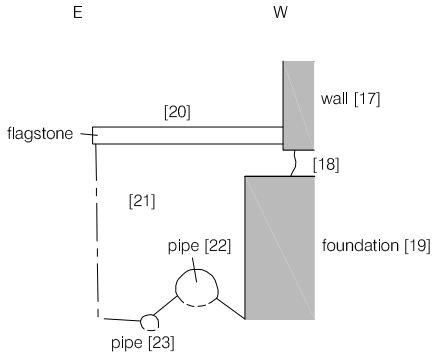
formed examples and now form part of the upstanding wall. These elements clearly once extended further to the south and either formed part of the foundation or perhaps the original base of the upstanding wall.

7.4.2 The foundation [37] was constructed from reddish purple bricks measuring 225 x 105 x 65mm laid as alternate courses of headers and stretchers. As stated above the full depth of the foundation from the step was 0.87m. The upstanding wall [36] had apparently been constructed from the same materials although very little of the original fabric was exposed. An area of the wall to the west of the Test Pit had clearly been repaired relatively recently as it consisted of yellow brick in a modern cement mortar.

South facing shot of Test Pit 3. Base of foundation shown by trowel. Yellow brick repair to wall evident to the right. Cut brickwork visible behind and to the left of tape at top. Tape 1m

7.4.3 As with Test Pit 2, brick samples could not be removed from the fabric for dating but the foundation resembled the retaining wall [4] found in Test Pit 1. A clay pipe dated 1700-1740 was recovered from the fill excavated adjacent to the foundation although some of this material had undoubtedly been disturbed during the construction of the brick service duct that formed the south side of this Test Pit. The date of the pipe may not therefore be indicative of the construction date of the foundation.



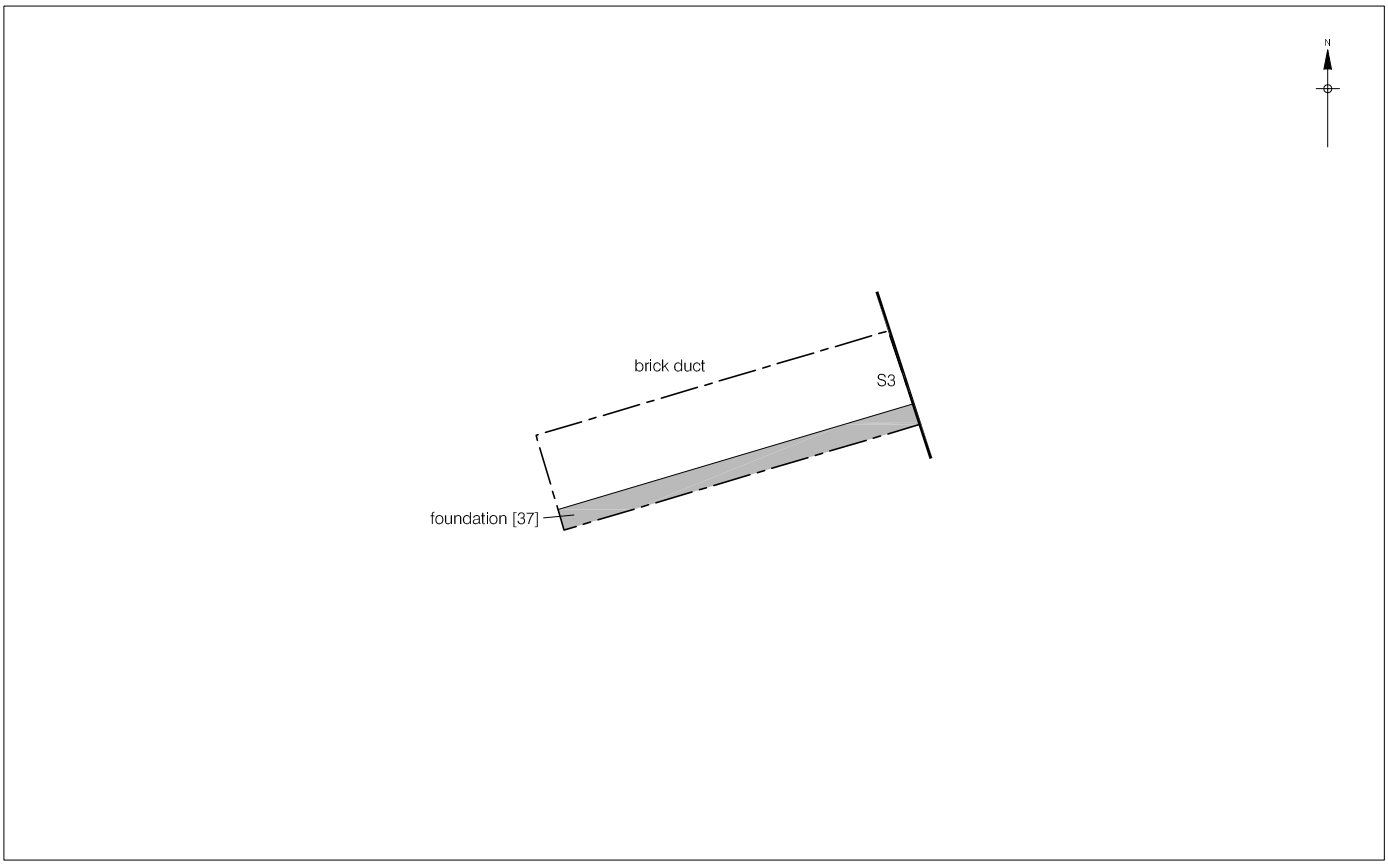


Section 2
Test Pit 2
North Facing

masonry

0 1m

Figure 5
Test Pit 2; Plan & Section
1:25 at A4



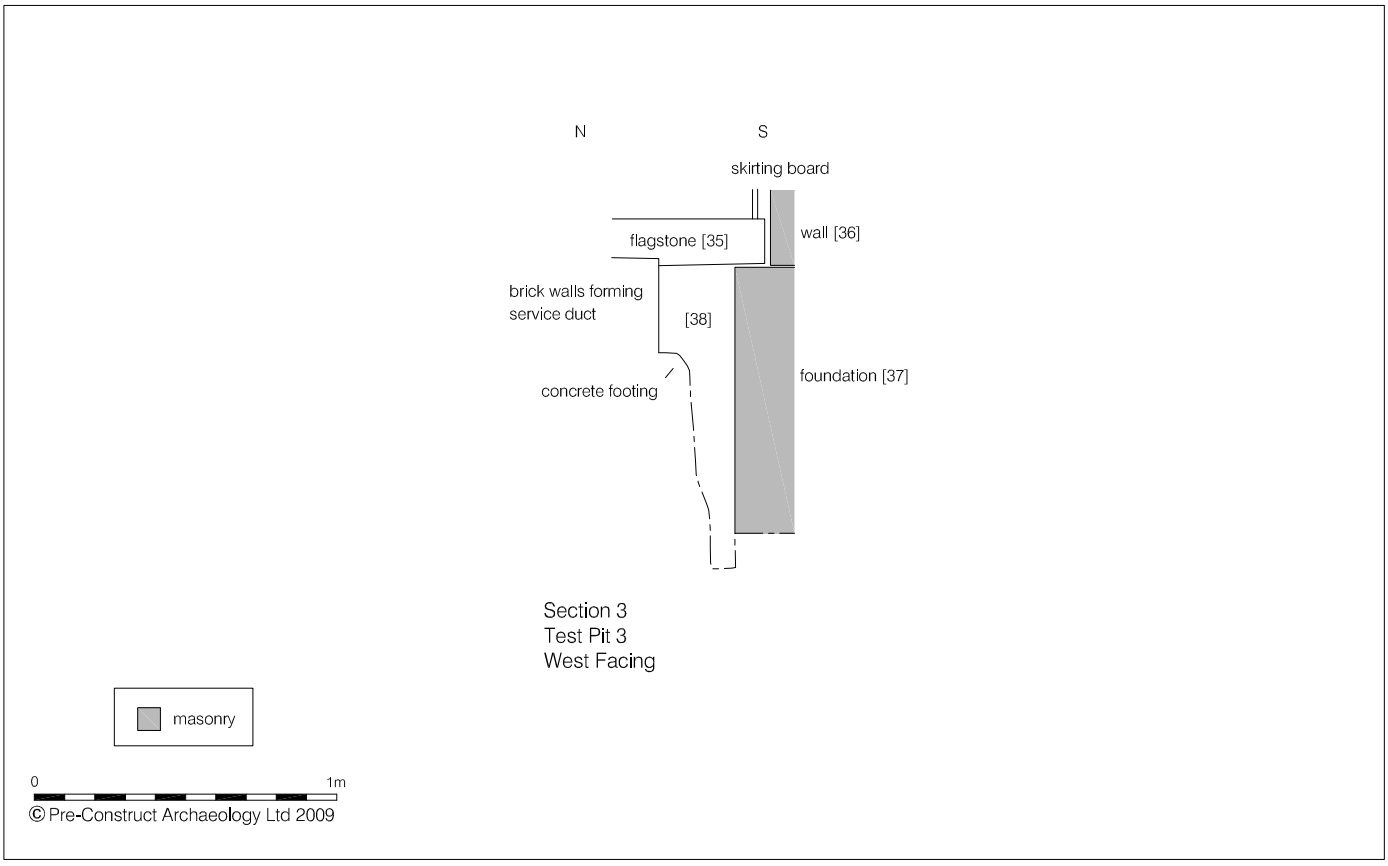


Figure 6
Test Pit 3; Plan & Section
1:25 at A4

8 CONCLUSIONS

8.1 Test Pit 1 revealed that the retaining wall for the light well consists of two main elements with a combined height of 2.84m. The upper part of the wall consists of 1.77m of brickwork which is 0.33m wide at the top. This section of the wall leans to the east, possibly as a result of it becoming distressed over the passage of time but also possibly by design to help contain the thrust resulting from the ground retained to the east. The highest point recorded on the wall was 0.26m below present day ground level.

8.2 The lower part of the wall consists of a foundation 1.07m high that steps out c. 90mm to the east of the upper part of the wall and then gradually widens to the east as the courses become lower. The base of the foundation was found 3.10m below ground level and was cut into natural sands and silts.

8.3 The construction cut for the retaining wall truncated a complex sequence of archaeological deposits and structures which begins c. 0.50m below modern ground level; the full depth of this sequence is some 2.35m. The top of this sequence consists of demolition debris from structures that were probably levelled as part of the remodelling work that included the building of the retaining wall. If the retaining wall was, as is surmised, built in 1690, all of the archaeological remains documented in Test Pit 1 are earlier than the renovations carried out after the Palace was acquired by William and Mary.

8.4 Two distinct episodes of levelling and landscaping were evident. The latest of these sealed brick structures which are likely to have formed either alterations to the original Jacobean mansion or, more possibly, outbuildings found to the north of the main range of buildings. The archaeological evidence demonstrated that the brick structures were built after 1660 and very possibly after 1670. One of the structures consisted of a substantial foundation capped by a course of slate that may have functioned as a damp course. If this interpretation is correct an earlier ground surface should lie c. 1.15m below modern ground level.

8.5 The brick structures dated to the later 17th century had been built over or cut into an earlier levelling and landscaping horizon that consisted largely of demolition debris. This demolition event probably took place around 1660 or possibly a little later. The demolition debris contained fragments of very high status building materials dating to the mid 17th century, possibly a little earlier. These probably derive from parts of the original mansion that had been refurbished around half a century after it was built. If

this interpretation is correct these improvements were apparently very short-lived as parts of the building were apparently demolished soon after the Restoration.

8.6 The earliest archaeological features consisted of pits cut into the natural sands and silts. These features may have been extraction pits for the sand. Very few datable artefacts were recovered from these pits but the pottery recovered is consistent with a date early in the 17th or possibly the late 16th centuries.

8.7 The highest point recorded on the natural sand and silt was 2.85m below modern ground level.

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10.3 Thanks also to Lisa Lonsdale for logistics, Jenny Simonson for the CAD drawings and Nathalie Barrett for the surveying. Kevin Haywood provided information on the building materials and Chris Jarrett spot dated the pottery and clay tobacco pipes. Many thanks to Streph Duckering for his excellent photograph of the musketeer. Thanks also to Rob Nicholson and his team who processed the finds

10.4 Thanks to Tim Bradley who project managed the project for PCA and edited this report.

Appendix 1 Context Register

Context	Test Pit	Plan	Section	Type	Description
1	TP 1	-	1	Layer	Modern topsoil
2	TP 1	15	1	Masonry	Capping stones supporting railings
3	TP 1	15	1	Masonry	Brick footings for [2]
4	TP 1	15,	1, 4	Masonry	Retaining wall for light well
5	TP 1	-	1	Fill	Fill of construction cut [6]
6	TP 1	-	1	Cut	Construction cut for wall [4]
7	TP 1	-	1	Masonry	Cobble sets
8	TP 1	-	1	Masonry	Concrete setting for [7]
9	TP 1	15	1	Pipe	Ceramic pipe or duct
10	TP 1	-	1	Layer	Demolition debris
11	TP 1	-	1	Layer	Levelling layer
12	TP 1	-	1	Layer	Demolition debris
13	TP 1	14	1	Masonry	Foundation
14	TP 1	14	-	Masonry	Wall/cesspit lining
15	TP 1	15	-	Masonry	Square brick structure
16	TP 1	-	-	Layer	Demolition horizon
17	TP 2	-	2	Masonry	Upstanding wall
18	TP 2	-	2	Layer	Rubble infill
19	TP 2	TP 2	2	Masonry	Foundation below [17]
20	TP 2	-	2	Masonry	Flagstone flooring
21	TP 2	-	2	Fill	Backfill above service pipes
22	TP 2	TP 2	2	Pipe	Cast iron pipe
23	TP 2	TP 2	2	Pipe	Lead pipe
24	-	-	-	VOID	VOID
25	TP 1	14	1	Masonry	Rubble and mortar infill
26	TP 1	-	1	Masonry	Brick footing for [13]
27	TP 1	-	1	Layer	Levelling layer/demolition debris
28	TP 1	-	1	Layer	Levelling layer/demolition debris
29	TP 1	-	1	Layer	Levelling layer/demolition debris
30	TP 1	31	1	Fill	Fill of [31]
31	TP 1	31	1	Cut	Pit
32	TP 1	31	1	Layer	Natural sand and silt
33	TP 1	31	-	Fill	Fill of [34]
34	TP 1	31	-	Cut	Pit
35	TP 3	TP 3	3	Masonry	Internal flagstones

36	TP 3	TP 3	3	Masonry	Upstanding wall
37	TP 3	TP 3	3	Masonry	Brick foundation for [36]
38	TP 3	TP 3	3	Fill	Backfill adjacent to

Appendix 2 Building Materials Dates

Kevin Hayward

Context Number	Material	Fabric	Comments	Date Range
4	Brick	3034	Unfrogged reddish purple, poorly fired. 220 x 110x 58-60mm V soft mortar.	1664-1700
13	Brick	3033	Unfrogged, reddish, stock moulded 98-100 x 63 x 215mm. Quite well made But mortar possibly C18th century. Soft lime mortar with clinker and brick, form of brick thick and quite narrow	1670-1750
14	Brick	3032 Nr3034	Unfrogged stock moulded 222 x 90 x 67mm. Very poorly made. Mortar lime without brick mortar and clinker	1664-1725
16	Tile		Tin glazed tile showing depiction of a duck[10]	1630-1640
16	Brick	3033	Moulded brick with depiction of musketeer. Custom made 45mm thick and 145mm wide quite unique size all pointing to a special commission. The brick is likely to have been used internally as preservation of moulding so good e.g. fireplace surround. The hat is similar to the Cromwellian pot morion or pikeman's pot used on both sides of the civil war. Depictions of musketeers of this type can be seen on Dutch tin-glazed tiles dating to the first half of the 17th century[11].	1450-1700
16	Brick		Yellow Dutch paving brick. Mortar v hard. This example probably C17th	1600-1800
16	Tile	2276	Peg tile, quite a thick example, medium coarse moulding sand. This example probably 1480-1700	1480-1900
16	Stone		Very high quality fragment of a stone moulding carved from Kennet stone. High status, very rare	-
30	Tile	2276 2271	Peg tile, very little sign of reuse or abrasion, medium-coarse coarse moulding sand, inclusion of fabric 2271 suggests an early assemblage	1480-1700

Table 1 Building Material Dates

[10] The dating of this piece is based on the style and colours used on the tile. Dating supplied by Ian Betts
[11] Pers. comm. Ian Betts

Appendix 3 Pottery and Clay Tobacco Pipe Dates

Chris Jarrett

Context Number	Material	Fabric	Comments	Date Range
16	Pot	PMR, TGWC, TGW Blue?, PMPR		1630-1700
16	CTP		Assemblage contains one example 1610-1640	1660-1680
30	Pot	RBOR	t stacking scar on base. This example 1550-1700	1550-1900
38	CTP		Possibly residual	1700-1740

Appendix 4 OASIS Report Form

OASIS ID: preconst1-68862

Project details

Project name	Geo-tech watching brief at Kensington Palace
Short description of the project	Late C17th brick structures, earlier C17th demolition horizons, late C16th or early C17th pits
Project dates	Start: 10-11-2009 End: 20-11-2009
Previous/future work	Yes / Not known
Any associated project reference codes	KPF 09 - Sitecode
Type of project	Recording project
Site status	Scheduled Monument (SM)
Current Land use	Other 2 - In use as a building
Monument type	WALL Post Medieval
Monument type	PIT Post Medieval
Significant Finds	CERAMIC BUILDING MATERIAL Post Medieval
Significant Finds	POT Post Medieval
Significant Finds	CLAY TOBACCO PIPE Post Medieval
Investigation type	'Watching Brief'

Project location

Country	England
Site location	GREATER LONDON KENSINGTON AND CHELSEA KENSINGTON AND CHELSEA Kensington Palace
Postcode	W8
Study area	6.00 Square metres
Site coordinates	TQ 2592 8002 51.5045708081 -0.185499135731 51 30 16 N 000 11 07 W Point
Height OD / Depth	Min: 23.50m Max: 23.85m

Project creators

Name of Organisation	Pre-Construct Archaeology Ltd
Project brief originator	Historic Royal Palaces

Project design originator	Lee Prosser
Project director/manager	Tim Bradley
Project supervisor	Douglas Killock
Type of sponsor/funding body	Historic Royal Palaces
Name of sponsor/funding body	Historic Royal Palaces

Project archives

Physical Archive recipient	Historic Royal Palaces
Physical Contents	'Animal Bones','Ceramics','other'
Digital Archive recipient	Historic Royal Palaces
Digital Media available	'Images raster / digital photography'
Paper Archive recipient	Historic Royal Palaces
Paper Media available	'Context sheet','Drawing','Plan','Section','Survey '

Project bibliography 1

Publication type	Grey literature (unpublished document/manuscript)
Title	An Archaeological Watching Brief at Kensington Palace, Royal Borough of Kensington and Chelsea
Author(s)/Editor(s)	Killock, D
Date	2009
Issuer or publisher	PCA
Place of issue or publication	Brockley
Description	A4 bound report, blue cover

Entered by	Douglas Killock (dkillock@pre-construct.com)
Entered on	3 December 2009

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