

**An Archaeological Evaluation at Kensington Palace, Royal Borough of
Kensington and Chelsea**

Site Code: KP09 (temp)

Central National Grid Reference: TQ 2592 8002

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1. ABSTRACT

- 1.1. This report details the results of an Archaeological Evaluation conducted at various locations 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. Five test pits and two evaluation trenches were opened during the evaluation. Test Pit 2 was located inside the Palace within Stone Court. Test Pits 3, 4, 5 and 8 were located externally within light well areas surrounding the Plant Room and Cleaners Room while Evaluation Trenches 9 and 10 were located externally in the Rose Garden.
- 1.3. Natural deposits of greenish grey and mid yellow brown sands were observed in the base of Test Pits 3a, 4, 8, and Evaluation Trenches 9 and 10, which represents the underlying drift geology of Lynch Hill Gravel.
- 1.4. Test Pit 5 revealed brick walls dated to the 19th century. Trench 10 revealed a brick built drain culvert dated to late 17th – early 18th century, possibly part of Wren's alterations, while Trench 9 exposed a cast iron pipe dated to the 19th century.
- 1.5. Test Pit 2 revealed 19th century made ground and Test Pits 3 a & b, 4, & 8 all contained modern intrusions, associated with drainage services.
- 1.6. No evidence of the Jacobean mansion, the earliest phase of building at Kensington Palace, was discovered during the archaeological evaluation.

2. INTRODUCTION

- 2.1. An Archaeological Evaluation was undertaken in various locations within and around Kensington Palace and the adjoining Rose Garden, in order to evaluate the archaeological potential in advance of extensive ground remodelling for the opening of a new main entrance to Kensington Palace. The evaluation was conducted by Pre-Construct Archaeology Ltd., between 25th March and 3rd April 2009, and was commissioned by Historic Royal Palaces.
- 2.2. The National Grid Reference of the site is TQ 2592 8002.
- 2.3. The site was given the code **KP 09** (TEMP)
- 2.4. The project was managed by Tim Bradley and supervised by the author.



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Figure 1
 Site Location
 1:25,000 at A4

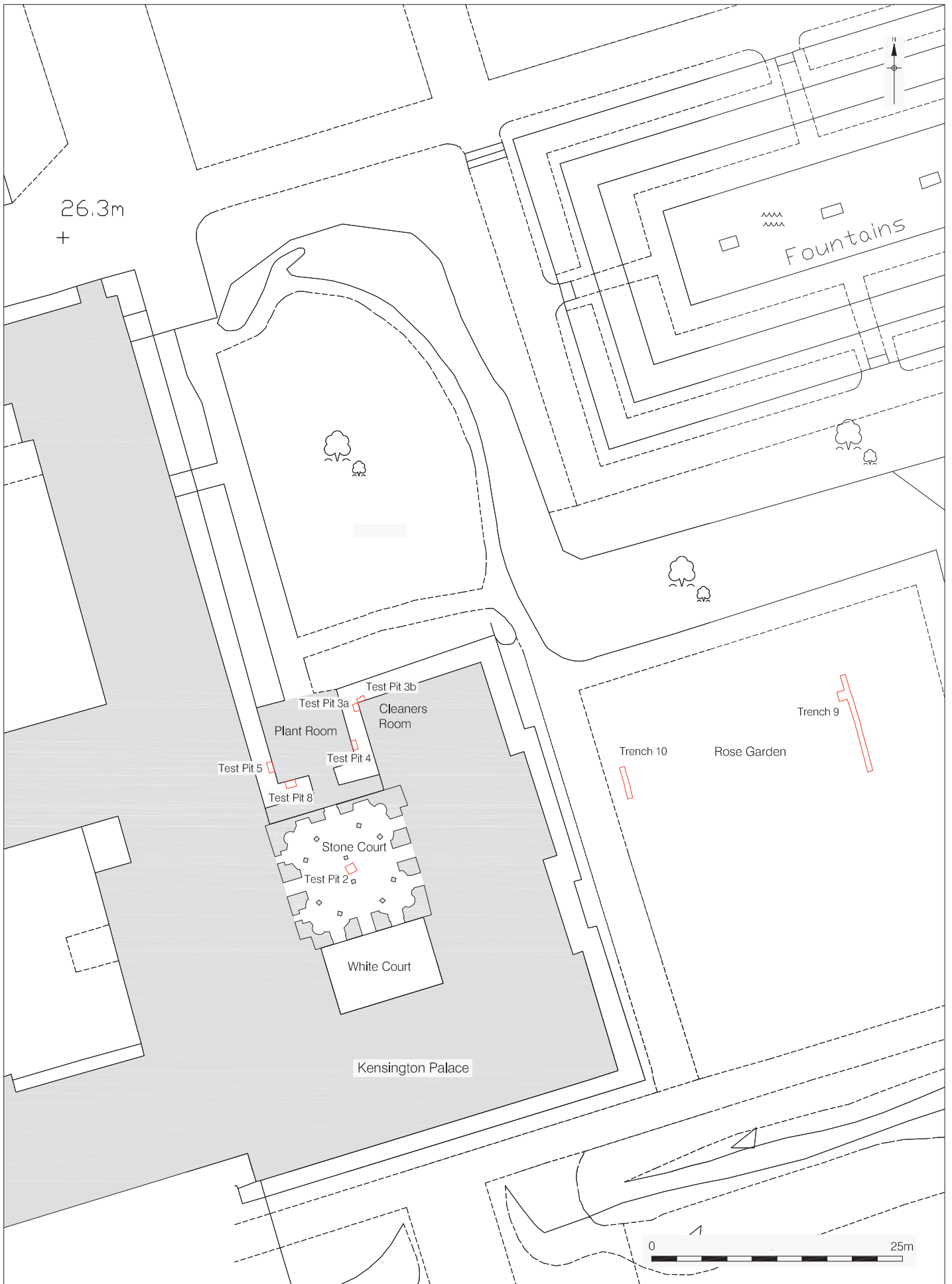


Figure 2
Trench Location
1:500 at A4

3. GEOLOGY AND TOPOGRAPHY

- 3.1. The British Geological Survey 1:50,000 Series Sheet 256 (North London) and Sheet 270 (South London) indicate that the site is underlain by Quaternary Post-diversionary Thames River Deposits of Lynch Hill Gravel.

- 3.2. Deposits of natural sand were observed at a depth of approximately 0.40m below modern ground level within the partly subterranean lightwell areas (Test Pits 3, 4, 5 and 8) and 1.10m below modern ground level in the area of the Rose Garden (Trenches 9 & 10).

4. ARCHAEOLOGICAL AND HISTORICAL BACKGROUND

4.1. A comprehensive archaeological and historical background has previously been outlined in both the Written Scheme of Investigation (WSI) prepared for this site¹ and in the results of a previous archaeological investigation conducted at Kensington Palace². Therefore, for brevity, only the development of Kensington Palace from the post-medieval period has been included in this report.

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 bound 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 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 added⁵.

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.

¹ Bradley 2009

² Lythe 2007

³ Impey, 2003 p.11

⁴ Impey, 2003

⁵ Impey, 2003

- 4.3.4. The estate remained property of the Coppins' for a further two generations, before passing to the Finch family some time 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).
- 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, some time 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.

⁶ *ibid.*

⁷ *ibid.*

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 Wyattville, 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 Queen's 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 (1935-1945), 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 1976⁸.

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

5. RESEARCH OBJECTIVES

5.1. The general aim of the research objectives at the site are as follows:

- What is the nature, location and date of any surviving archaeological deposits, features or finds on the site?
- What evidence can be revealed of the natural strata and its' topography at the site?

5.2. In addition, the following specific research questions were addressed by the archaeological works on site:

- Is there any evidence of the Jacobean Mansion, the earliest phase of building at Kensington Palace?
- Is there any evidence of a drain conduit known to exist below ground that ran under the Palace and east towards the Round Pond in Kensington Palace Garden?

6. METHODOLOGY

- 6.1. In advance of a major ground-remodelling programme to be conducted at Kensington Palace in late summer 2010, a programme of archaeological evaluation was required to establish the archaeological potential of the site. A series of Test Pits were opened within and around the Palace principally to establish the survival or absence of the earliest phase of building; the Jacobean mansion.
- 6.2. A single evaluation trench was proposed in the Rose Garden to locate a drain culvert known to exist on site. The initial plan specified seven Test Pits (TP) and one Evaluation Trench to be opened, however during the process of the investigation alterations to that original plan had to be made. TP 1 (located internally at the base of the Nash Stairs) was cancelled due to the presence of Asbestos. TP 3 had to be done in two parts (3a and 3b) as the connecting corner slab was found to be lined on its inner side by an asbestos sheet.
- 6.3. After on-site discussions with Jo Thwaites and Matt Stafford of Historic Royal Palaces, TP 6 (originally to be located at the centre of the eastern elevation of the Palace opposite the external doors to the Library) was re-sited to the western side of the Rose Garden, to become Evaluation Trench 10. This decision was taken after the excavation of TPs 3, 4, 5 and 8 demonstrated that modern, still functioning, services masked any underlying archaeological deposits in trenches close to the building and a better opportunity lay within the Rose Garden. Therefore five Test Pits and two Evaluation Trenches were opened.
- 6.4. The locations and dimensions of the test pits and trenches are detailed below and depicted on Figure 2):
 - TP 2 was located internally in the centre of Stone Hall and measured 0.86m north south by 0.86m east west.
 - TP 3a & b was located externally on the north west corner of the Cleaners Room. 3a (on the west of the corner) measured 0.77m north south by 0.58m east west. 3b (on the north of the corner) measured 0.52m north south by 0.78m east west.
 - TP 4 was located externally on the eastern side of the Plant Room and measured 0.94m north south by 0.50m east west.
 - TP 5 was located externally on the western side of the Plant Room and measured 1.6m north south by 0.54m east west.
 - TP 8 was located externally to the south of the Plant Room and measured 0.70m north south by 1.00m east west.
 - Evaluation Trench 9 (designated Area 7 on HRP plan) was located on the eastern end of the Rose Garden and measured 10.0m north south by 0.50m east west with a small extension (0.94m north south by 0.78m east west) added to the northern end of the western side of the trench.
 - Evaluation Trench 10 (superseding TP 6) was located at the western end of the Rose Garden and measured 3.28m north south by 0.54m east west.

- 6.5. At TP 2 maintenance staff of Kensington Palace lifted two stone slabs forming part of the floor of Stone Hall and the underlying deposits were then excavated by hand to a depth of 1.10m.
- 6.6. At TPs 3, 4, 5 and 8 the concrete ground surface was broken out by maintenance staff of Kensington Palace using a hand held impact drill and the underlying deposits were then excavated by hand to a depths of 0.45m (TP 3a), 0.38m (TP 3b), 0.68m (TP 4), 0.70m (TP5) and 0.96m (TP8).
- 6.7. Evaluation Trench 9 was excavated by a small (3 tonne) mechanical excavator equipped with a toothless ditching bucket to a depth of 1.30m.
- 6.8. Evaluation Trench 10 was excavated by mechanical excavator equipped with a toothless ditching bucket to a depth of 0.95m.
- 6.9. The sides and bases of the trenches were hand-cleaned prior to recording. Representative sections were then drawn, along with plans of the trenches. All recording systems were fully compatible with those most widely used elsewhere in London, which has developed out of the Department of Urban Archaeology Site Manual, now published by the Museum of London Archaeology Service (MoLAS 1994). Individual descriptions of all archaeological strata and features excavated and exposed were entered onto pro-forma recording sheets. Plans and sections were recorded on polyester based drawing film; plans at a scale of 1:10 and 1:20 as appropriate and sections at 1:10. The OD heights of all principal strata were calculated and indicated on the appropriate plans and sections. A full photographic record of the investigations was prepared, including 35mm black and white print film, 35mm colour slide film, and digital format photography.
- 6.10. Three Temporary Bench Marks (TBM) were established on site, all traversed from an Ordnance Survey benchmark with a value of 27.66m OD, located on a boundary marker on the eastern side of The Broad Walk, Kensington Gardens. TBM 1 (applicable to TP2), was located on top of the modern steps that form the northern entrance to White Court and had a value of 23.51m OD. TBM 2 (applicable to TPs 3, 4, 5 & 8) was located to the west of the Plant Room and had a value of 23.48m OD. TBM 3 (applicable to Trenches 9 & 10) was located on a drain cover to the east of the Rose Garden and had a value of 24.19mOD. The Test Pits were located in relation to the standing walls of the Palace, while the evaluation trenches were located using GPS survey equipment and were tied into the Ordnance Survey grid.

7. ARCHAEOLOGICAL SEQUENCE

7.1. Introduction

- 7.1.1. The following description of the stratigraphy details the main characteristics by trench, of each context and its position in the phased stratigraphic matrix. Further information regarding the contexts can be found in Appendix 1.

7.2. Test Pit 2 (Figure 3)

- 7.2.1. Test Pit 2 was located internally within Kensington Palace in the centre of Stone Hall, room GF083A, and was excavated to a maximum depth of approximately 0.92m below ground level at 22.58mOD.
- 7.2.2. The earliest feature encountered was a layer of dumped brick material [8] that formed the majority of the Test Pit's fill. Initially it was thought that an earlier remnant of wall existed *in-situ* below this mass (given context [7], but since voided) as it survived as a short intact section. However, further investigation indicated that it was not *in-situ* and thus constituted part of [8]. The fabric analysis and date range of the brick samples taken from this layer include Post-Great Fire 3034 machine made frogged brick dated to 1850-1900, transitional 3039 red stock brick and red 3033 brick both dated to 1450-1700. The later dates suggest this is a 19th century deposit and is interpreted as a layer of dumped material for ground make up and consolidation. The highest level for this deposit was at 23.15m OD and continued down beyond the trench base limit of excavation to 22.57mOD.
- 7.2.3. Within the centre of [8] and partly overlying it, was layer [11]. This was a mid yellow brown sandy silt deposit with moderate fragments of Ceramic Building Material (CBM). A fragment of clay tobacco pipe stem recovered from this layer was spot dated to the 19th century. This layer was 0.48m thick with a level at the top of 23.00mOD, and is interpreted as 19th century dump layer associated with layer [8].
- 7.2.4. Above layer [11] was layer [10], a thin (0.10m thick) layer of mixed green grey and mid yellow sand which was interpreted as re-deposited natural, and is similar to layers [24] in Trench 9 and [34] in TP 5 (Figure 6). The top of this layer was recorded at 23.10mOD.
- 7.2.5. This in turn was sealed by layer [9], a 0.35m thick deposit of loosely compacted mid brown sandy silt with frequent inclusions of fragments of CBM. The top level was recorded at 23.45mOD and formed the sub-strata to the limestone slabs above which was the current ground level at 23.50mOD.



North Facing Shot of Test Pit 2

7.3. Test Pit 3(a & b) (Figure 4)

- 7.3.1. TP 3 was located on the north west corner of the cleaners room GF074. Initially conceived as one trench, the slab to be lifted on the corner was lined with asbestos and was left in place. Consequently the TP had to be separated into two parts; 3a and 3b.
- 7.3.2. TP 3a occupied the western part of the corner and was excavated to a depth of 0.45m. The lowest feature observed was a layer of green grey and mid yellow natural sand [1] at 23.04mOD. The western side of this natural deposit had been truncated by cut [2], the construction cut for a modern cast iron service pipe that ran northeast by southwest in the centre of the trench. The construction cut was filled with [3], a modern bedding layer of concrete to support the pipe. This in turn was sealed by a 0.29m thick layer of demolition rubble used as ground raising [4] and was topped by modern concrete slabs, the top of which formed the current ground surface at 23.43mOD.
- 7.3.3. The service pipe continued into TP 3b, which was located on the northern corner of the cleaners' room. Excavated to a depth of 0.37m, the southern side of the test pit exposed the brick footings of the standing wall above. In the base of the trench, at 23.04mOD, was a lead pipe encased in a bedding layer of concrete [5] covered by a further layer of concrete [6]. This in turn was sealed by a 0.34m thick layer of modern demolition rubble [12] used as ground raising and consolidation which was topped by flagstones, the top of which formed the current ground level at 23.43mOD.
- 7.3.4. Below the slab covering the unexcavated corner separating TPs 3a and 3b some form of access point to the modern service pipes was observed, with an unidentified metal fitting that it is presumed to have facilitated the joining of the cast iron pipe in TP 3a with the lead pipe in TP 3b.



North Facing Shot of Test Pit 3a (0.50m Scale)



South Facing Shot of Test Pit 3b (0.50m Scale)

7.4. Test Pit 4 (Figure 5)

7.4.1. Test Pit 4 was located near the south east corner of the plant room GF077 and was excavated to a depth of 0.68m below current ground level to 22.74mOD.

7.4.2. The earliest deposit observed was a greenish grey mixed with mid yellow brown natural sand layer [17], the top of which was encountered at 22.90mOD. This was truncated on its eastern side by a modern construction cut [18] for a metal pipe, which

is probably the same service run observed in TPs 3a and 3b described above. The cut [18] was backfilled with dark grey brown silty sand [19]. This in turn was sealed by a thin (0.04m) crudely made concrete layer [16], which covered the pipe, the top of which was at 22.94mOD.

- 7.4.3. Layer [16] was sealed by a sequence of deposits of demolition rubble acting as ground raising, levelling and consolidation layers. Layer [15] was a pinkish grey sandy mortar layer with frequent fragments of CBM, 0.20m thick. This was overlain by layer [14], a re-deposited natural sand combined with modern demolition rubble 0.08m thick, which in turn was sealed by [13] a 0.15m thick layer of demolition rubble composed of whole and fragmentary unfrogged red bricks in a dark brown sandy matrix. This in turn was sealed by a modern flagstone and concrete surface, the top of which formed the current ground level at 23.42mOD.



West Facing Shot of Test Pit 4 (0.50m Scale)

7.5. Test Pit 5 (Figure 6)

- 7.5.1. Test Pit 5 was located near the south west corner of the Plant Room GF077 and was excavated to a depth of 0.7m below ground level at 23.47mOD.

- 7.5.2. The lowest feature observed was wall [21], recorded running north to south along the western side of the test pit. This was constructed from unfrogged red 3033 and purple 3032 stock brick in an irregular bond. Brick samples recovered from the wall were spot dated to the mid 17th century, however these appear to have been re-used as the bonding material is much later, composed of coarse Roman cement indicative of a 19th century date (see discussion below). The wall as found measured 1.02m north-south by 0.40m east-west and had a highest level of 23.20mOD.

- 7.5.3. Partly overlying wall [21] was a single course of re-used 2276 peg tiles [20] laid on a thin bed of sand. Its function is unknown and the fabric has been spot dated to 1700-

1900. As it overlies wall [21], dated to the 19th century, the later part of the date range is more probable. The top of the tiles was at 23.01mOD.

- 7.5.4. Wall [21] and tiles [20] were overlain by layer [34], a 0.35m thick layer of re-deposited natural sand which is probably the backfill to an un-seen construction cut of wall [21], the top of which was at 23.07mOD. This in turn was sealed by a 0.35m thick layer of modern hardcore in a sandy silt matrix which backfilled two modern cast iron service pipes and an earlier lead water pipe, and acted as the sub-strata to the modern concrete ground surface above, the top of which was at 23.44mOD.



North Facing Shot of Wall [21] in Test Pit 5 (0.50m Scale)

7.6. Test Pit 8 (Figure 7)

- 7.6.1. Test Pit 8 was located south of Plant Room GR077 and was excavated to a depth of 1.00m with the base of the test pit at 22.49mOD.
- 7.6.2. The earliest feature encountered was a natural deposit of greenish grey mixed with mid yellow brown sand [35] which measured 0.30m thick to the base limit of excavation and was recorded at a highest level of 22.79mOD. The natural layer had been truncated by a modern construction cut and its associated drain-pipe (not contexted). The natural layer appeared to underlie the base of brick footings of the standing southern wall of the plant room, which ran east-west along the northern limit of excavation. The base of the footings was recorded at 22.81mOD, 0.70m below

current ground level. All of the above features were overlain by a 1.00m thick layer of loose modern type 1 hardcore, presumably the backfilling to a modern waste pipe that could be seen beyond the eastern limit of excavation. This was sealed by the modern concrete floor surface, the top of which formed the current ground level at 23.49mOD.



North Facing Shot of Test Pit 8 (0.50m Scale)

7.7. Evaluation Trench 9 (Figure 8)

- 7.7.1. Evaluation Trench 9 was located in the eastern half of the Rose Garden, and was excavated to a depth of 1.30m.
- 7.7.2. The earliest deposit encountered in Trench 9 was a natural greenish grey and mid yellow brown sand [25], which was 0.10m thick to the trench base limit of excavation and the top of which was recorded at 22.93mOD.
- 7.7.3. This in turn was sealed by deposit [24], a layer of re-deposited natural sand mixed with mid yellow brown silty sand that was between 0.20m and 0.28m thick. The top of this layer was encountered at 23.23mOD. Cut into the top of this layer a cast iron pipe was observed [26], running east-west across the trench and continuing for an unknown distance beyond the limit of excavation. The pipe had a diameter of 0.25m, and the surface of the pipe was heavily incrustated. It may possibly be associated with the brick culvert [27] seen in Evaluation Trench 10 (see discussion below). The top of the pipe was approximately 0.87m below the modern ground level at 23.26m OD. No construction cut was visible for the pipe and it is presumed that layer [24], together with the layer above [23], represent the backfill of an unseen construction cut.
- 7.7.4. Overlying [24] was layer [23], a 0.30m thick sandy deposit with a highest level of 23.43m OD. Both layers [24] and [23] were similar layers of re-deposited natural sand mixed with mid yellow brown sandy silt, the difference being that layer [23] contained

inclusions of occasional fragments of CBM. As with [24], this layer is presumed to be the backfill of the cast iron pipe [26].

- 7.7.5. Sealing layer [23] was layer [22], a mid yellow brown sandy silt with inclusions of moderate fragments of CBM that were spot dated to 1800-1900 indicating that this layer was 19th made ground. This in turn was sealed by a 0.40m thick layer of modern garden soil, the top of which was laid to lawn and formed the modern ground surface of the Rose Garden at a level of 24.10m OD.



West Facing Shot of Cast Iron Pipe (0.50m Scale)

- 7.8. **Evaluation Trench 10 (Figure 9)**
- 7.8.1. Trench 10 was located in the western half of the Rose Garden opposite the doors of the library room GF069 and was excavated to a depth of 0.90m.
- 7.8.2. The earliest deposit observed was natural layer [25], also observed in Trench 9, which was 0.10m thick to the trench base limit of excavation and the top of which was at 22.93m OD.
- 7.8.3. A short section of a brick built culvert, context [27], was exposed in Trench 10, running east-west, and continuing beyond the trenches limits of excavation. Constructed from poorly made unfrogged red 3033, transitional 3039 and purple 3032 stock moulded bricks, the side walls were two courses high in Stretcher bond. The base was irregular, laid on-bed as half-bat bricks and the culvert was capped on-bed with a single course of stretchers laid side by side. Brick samples recovered from the structure gave a date range of 1664 to early 18th century. After removal of the brick capping, a dark greyish brown silty sand fill [32] was observed in the base of the culvert deposited to a depth of 50mm. A fragment of Clay Tobacco Pipe stem was recovered from this fill, which was spot dated to the 17th or 18th century. The culvert as exposed measured 0.42m east-west by 0.32m north-south and was 0.22m deep. The top of the structure was at a level of 23.51m OD. The culvert had been built

within a 0.48m wide construction cut, [31]. Its full depth could not be established as it lay directly below the culvert, which remained unexcavated. The construction cut had been backfilled with [30], a deposit of light yellowish brown sandy silt.

7.8.4. The construction cut [31] truncated sequential layers [29], [28] and [33]. Layer [29] sealed the natural layer [25] and was a 0.35m thick layer of re-deposited natural sand mixed with silty sand and was similar to context [24] in Trench 9. The top of this deposit was recorded at 23.49m OD. This was sealed by [28], a 0.16m thick layer of mid greyish brown silty sand with occasional fragments of CBM as inclusions. The top of this layer was at 23.60m OD, and was interpreted as made ground that must pre-date the drain culvert [27] as it has been truncated by the cut for it. In the upper levels of [28] was a 0.04m thick lens of gravel [33], the top of which was at 23.64m OD. This may be some remnant of a garden feature.

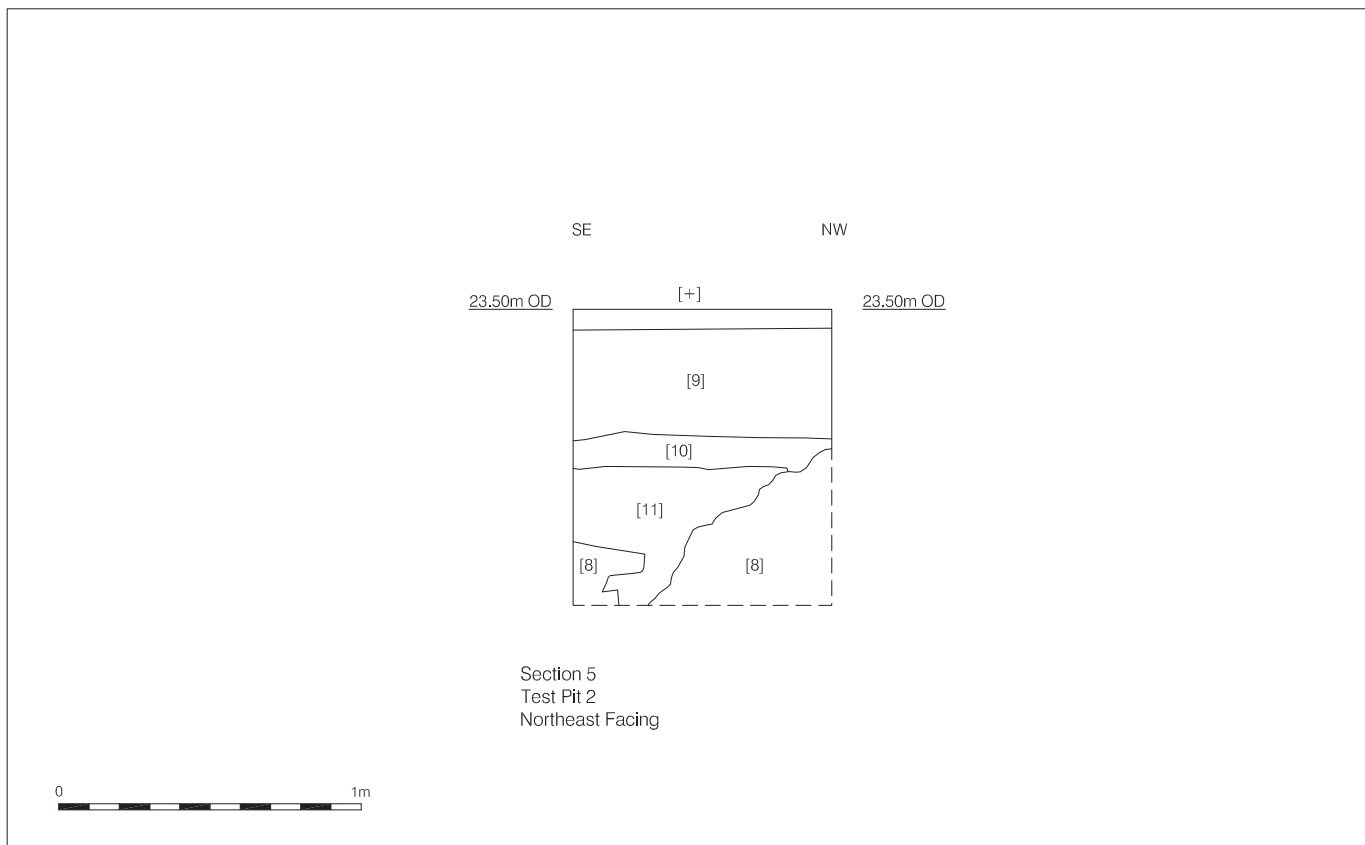
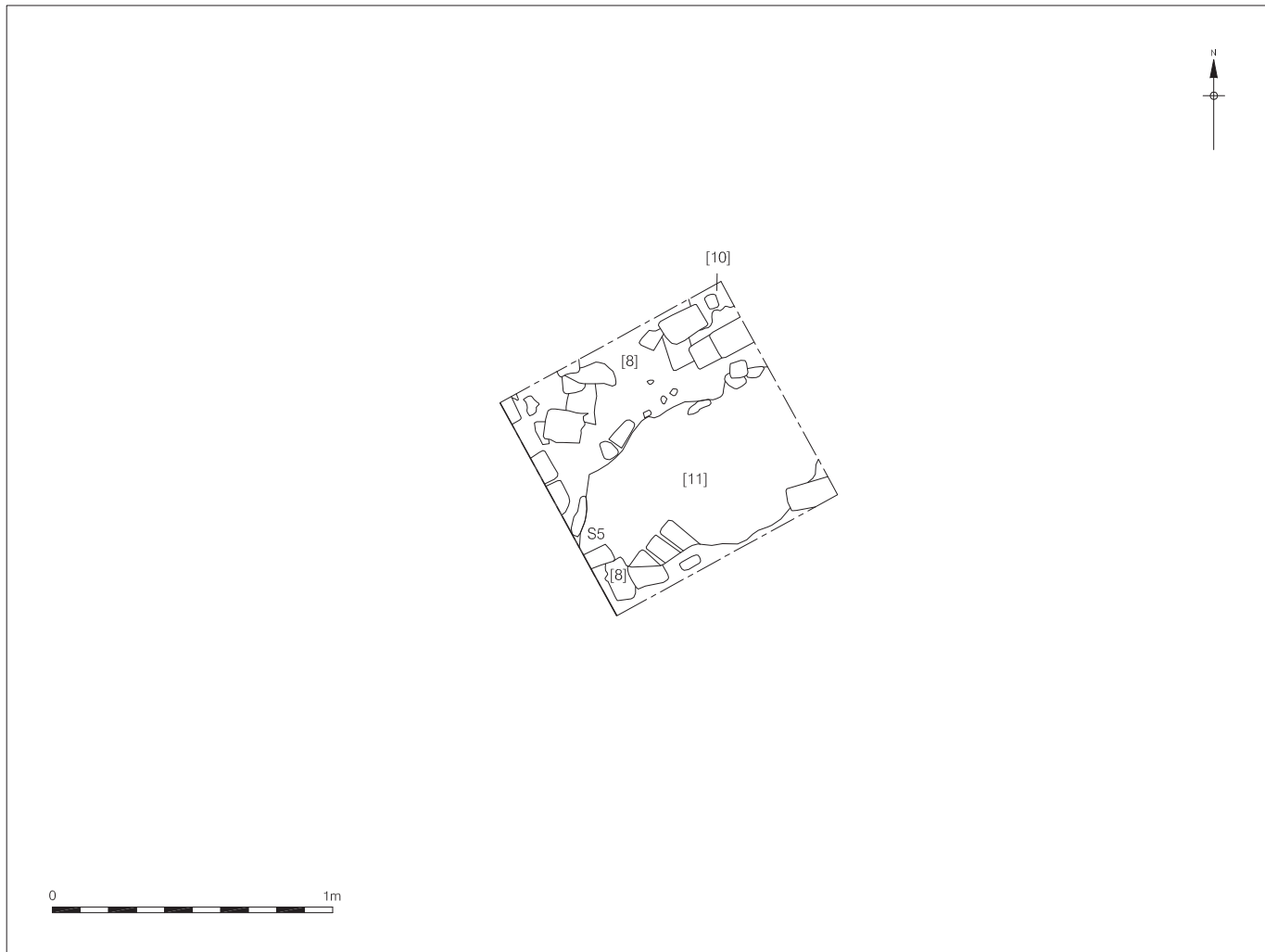
7.8.5. All of the above features were sealed by a 0.40m thick layer of modern garden soil, the top of which was laid to lawn and formed the modern ground surface of the Rose Garden at a level of 23.99m OD.



East Facing Shot of Brick Culvert with Capping (0.50m Scale)



South Facing Shot of Culvert with Capping Removed (0.10m Scale)



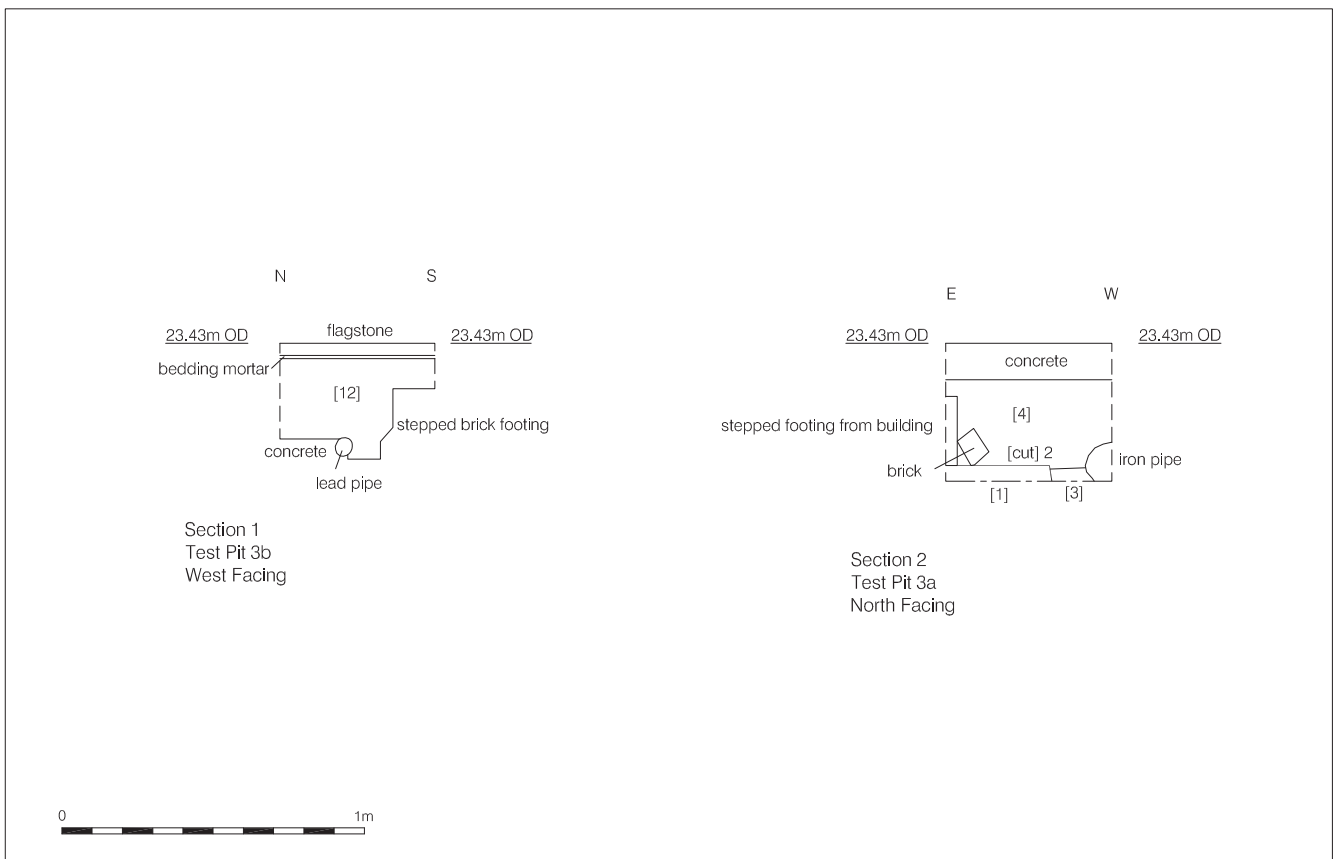
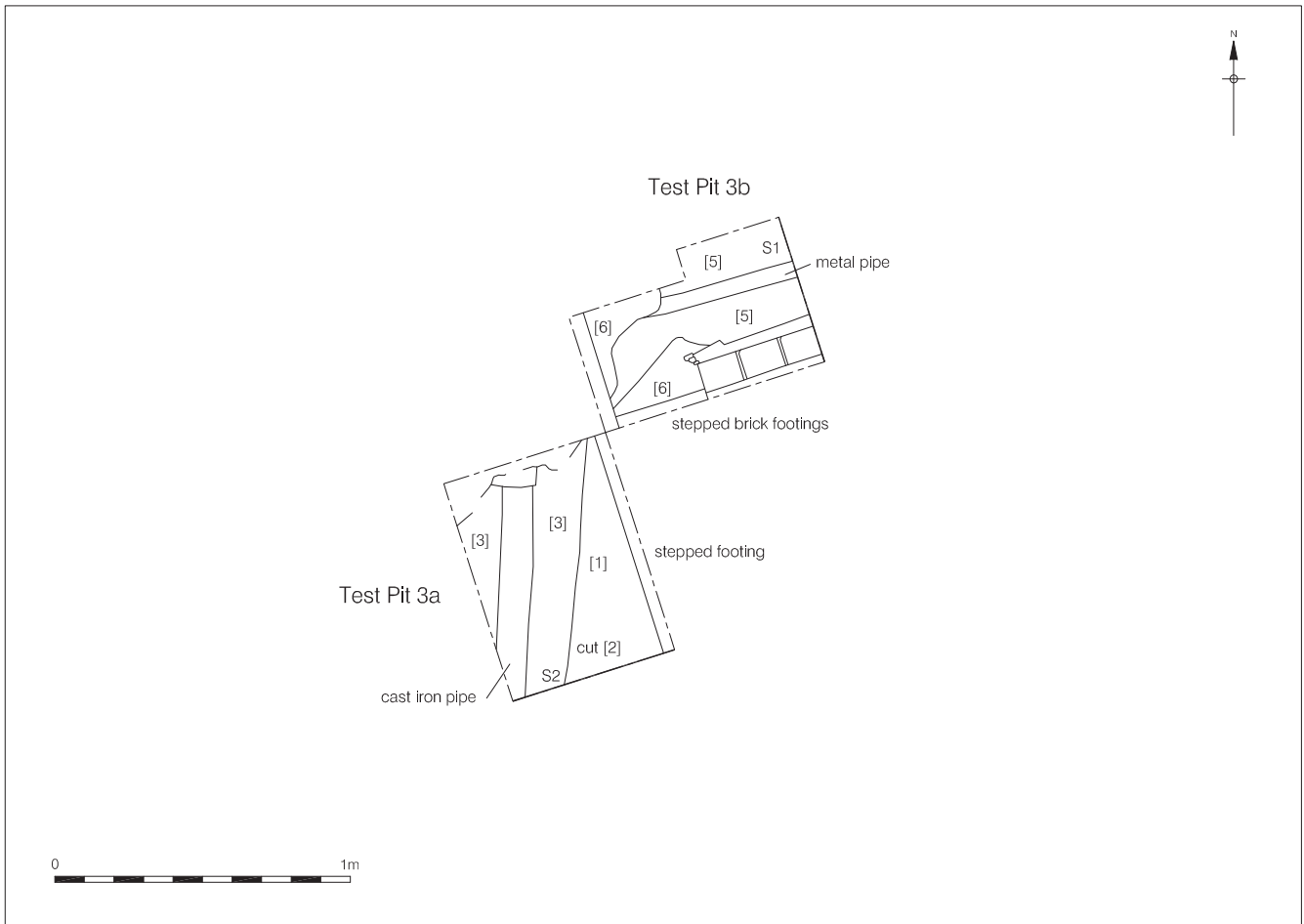


Figure 4
Test Pits 3a & 3b, Sections 1 & 2
1:25 at A4

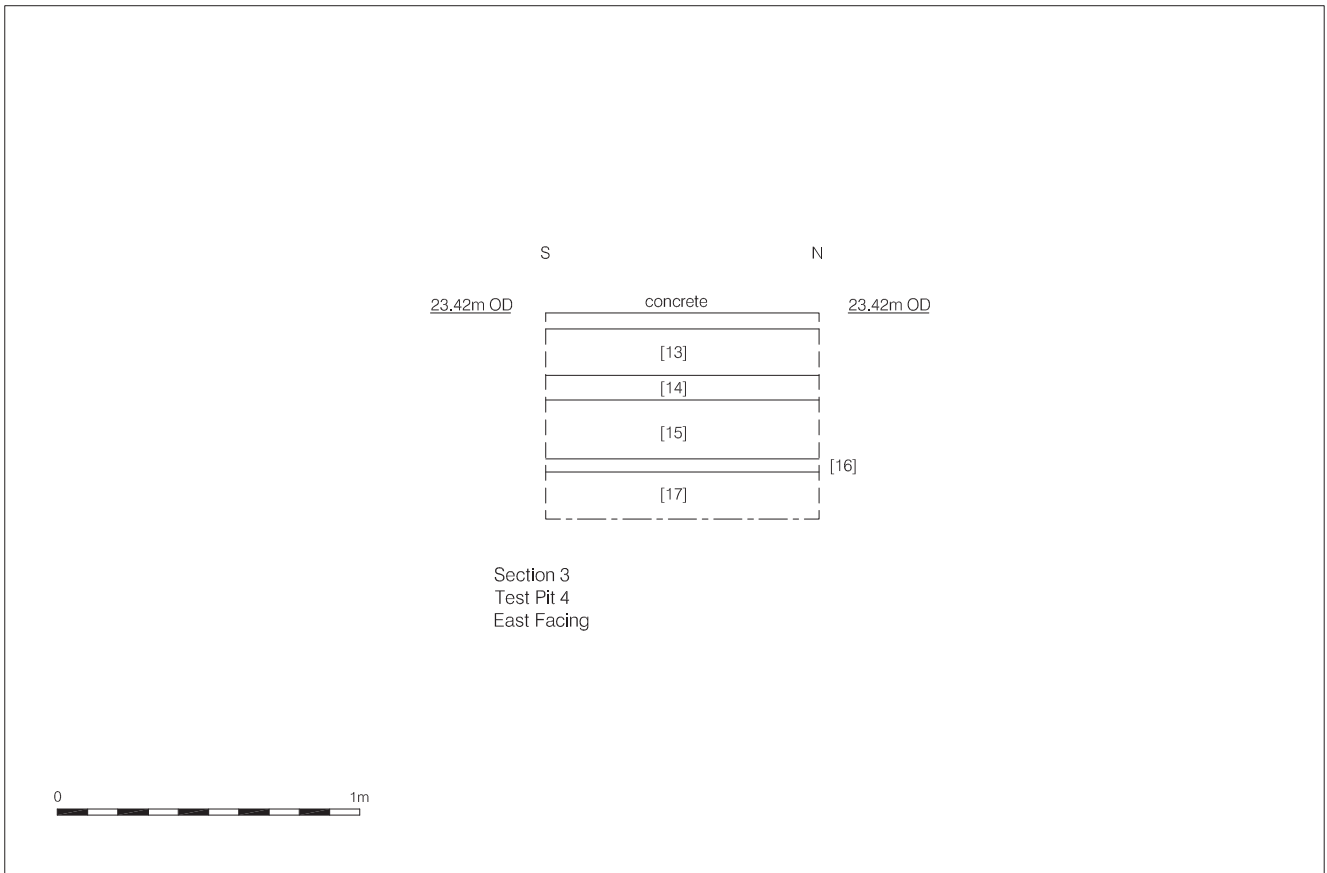
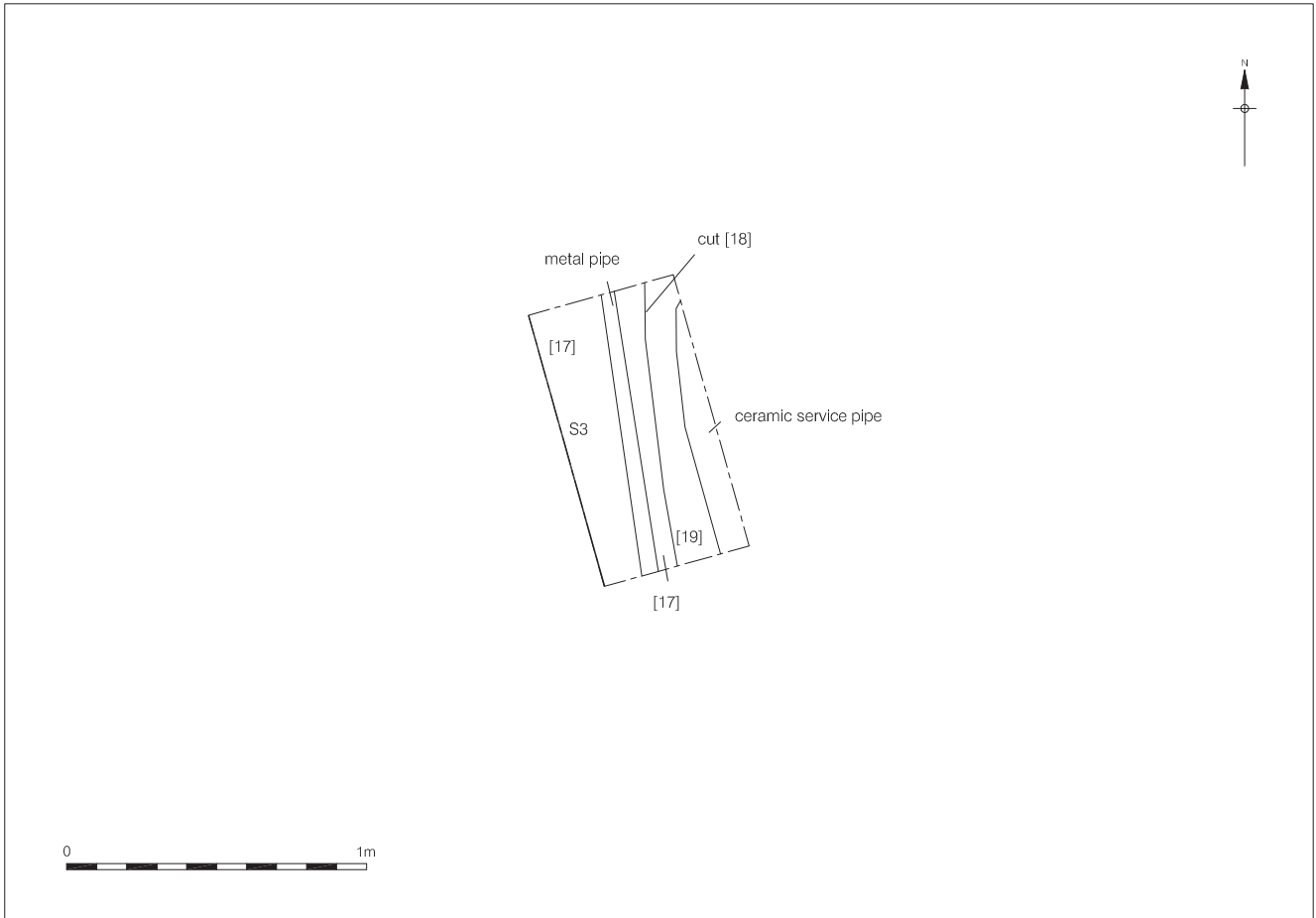
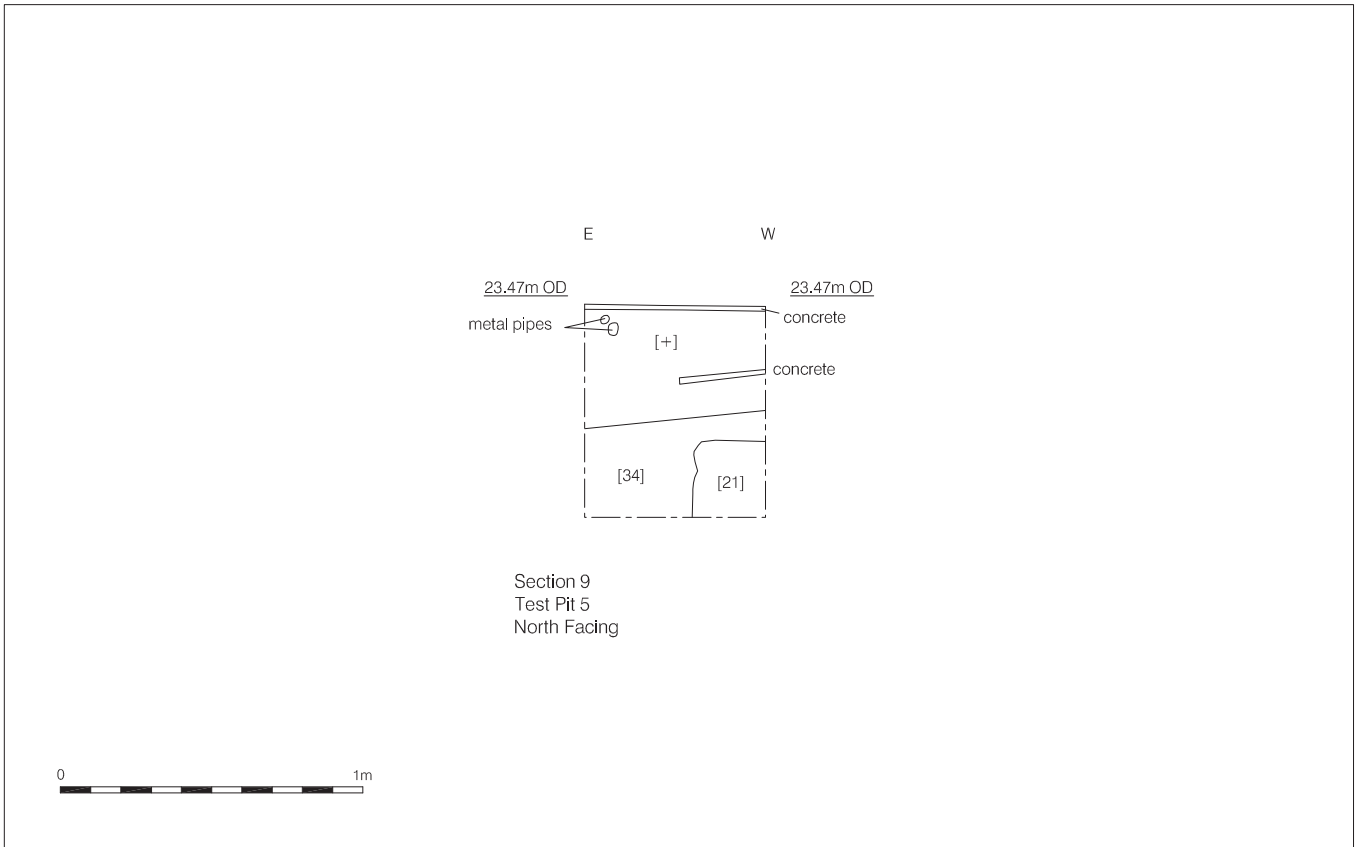
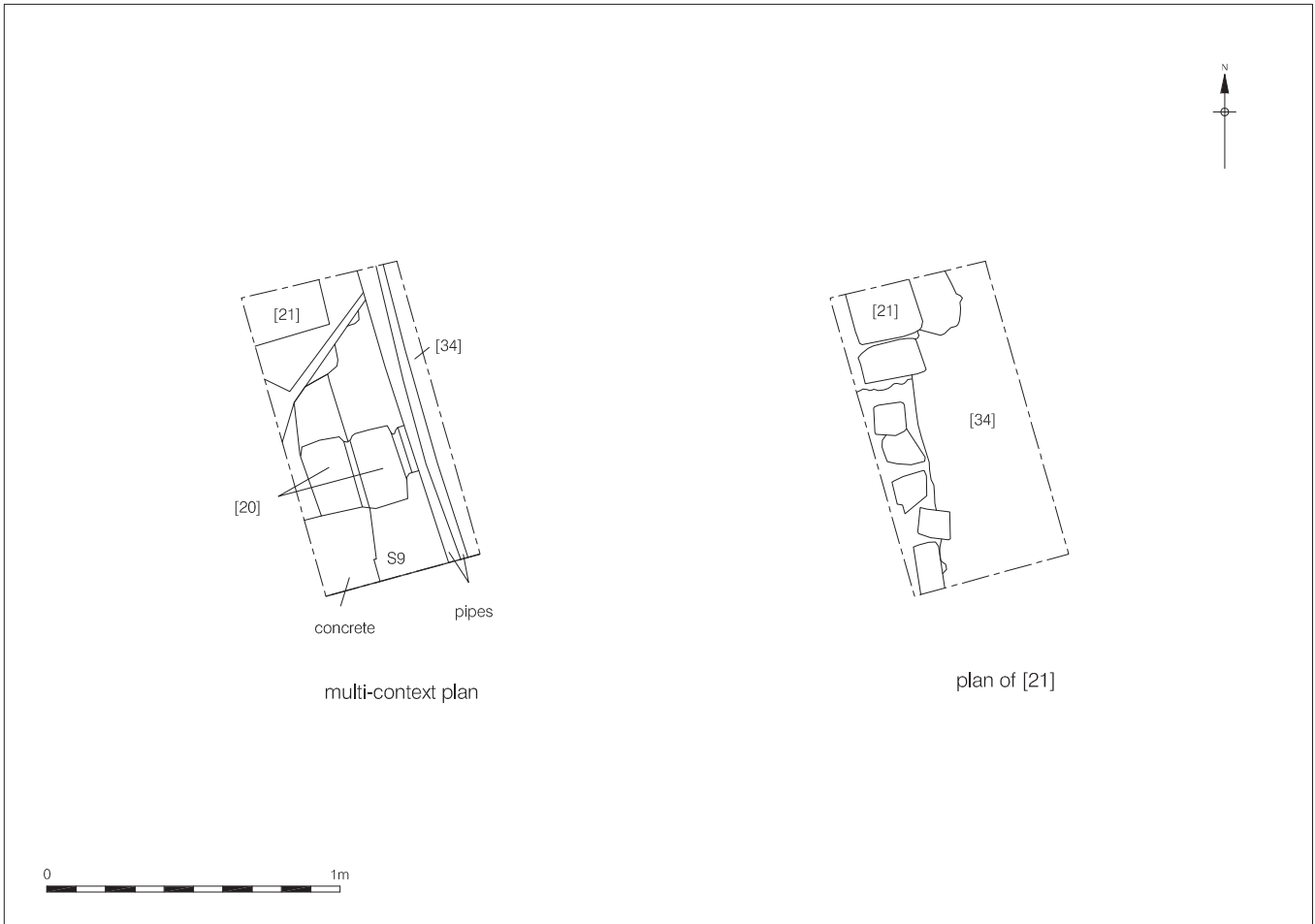
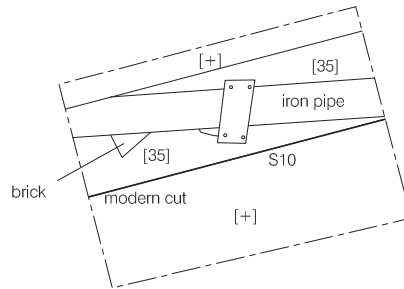
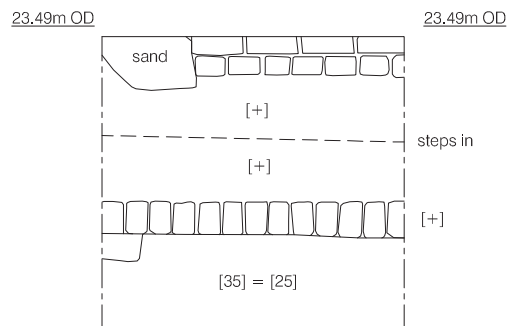


Figure 5
Test Pit 4, Section 3
1:25 at A4



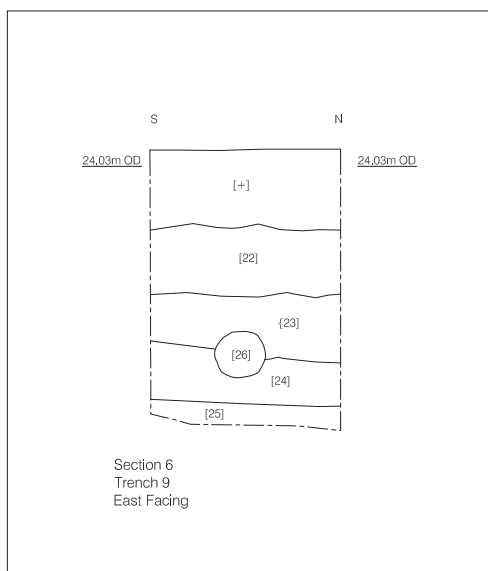
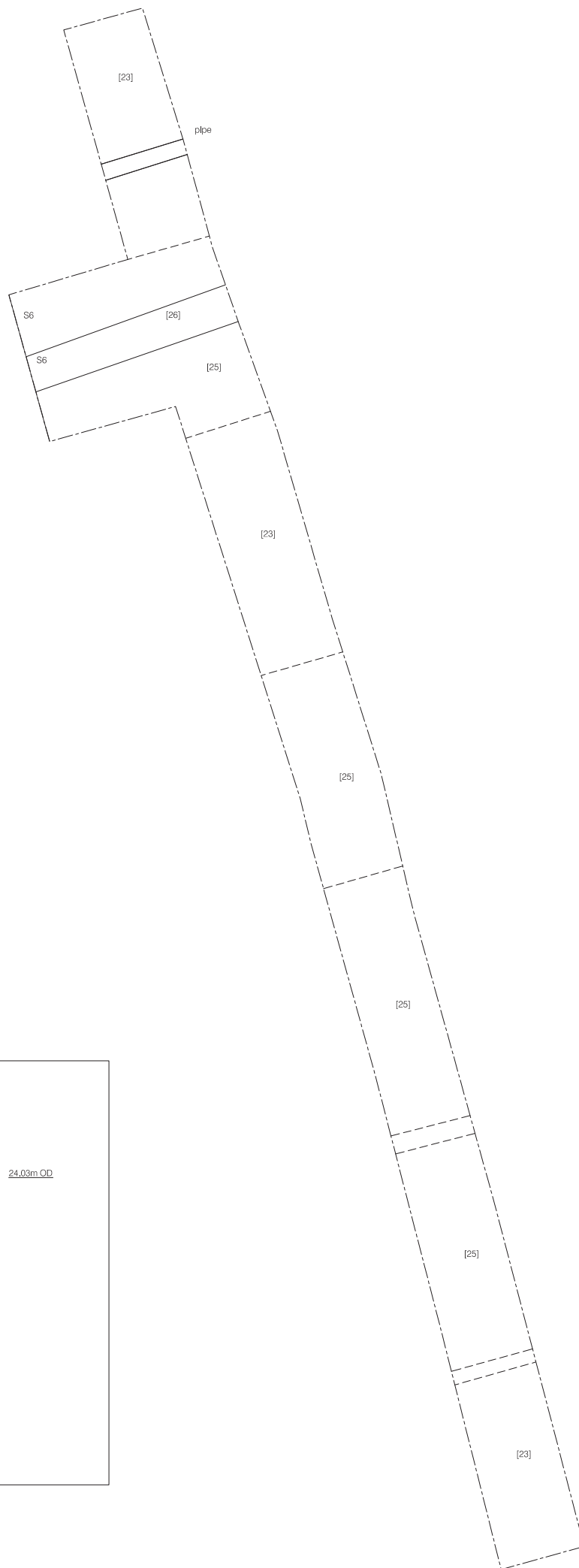


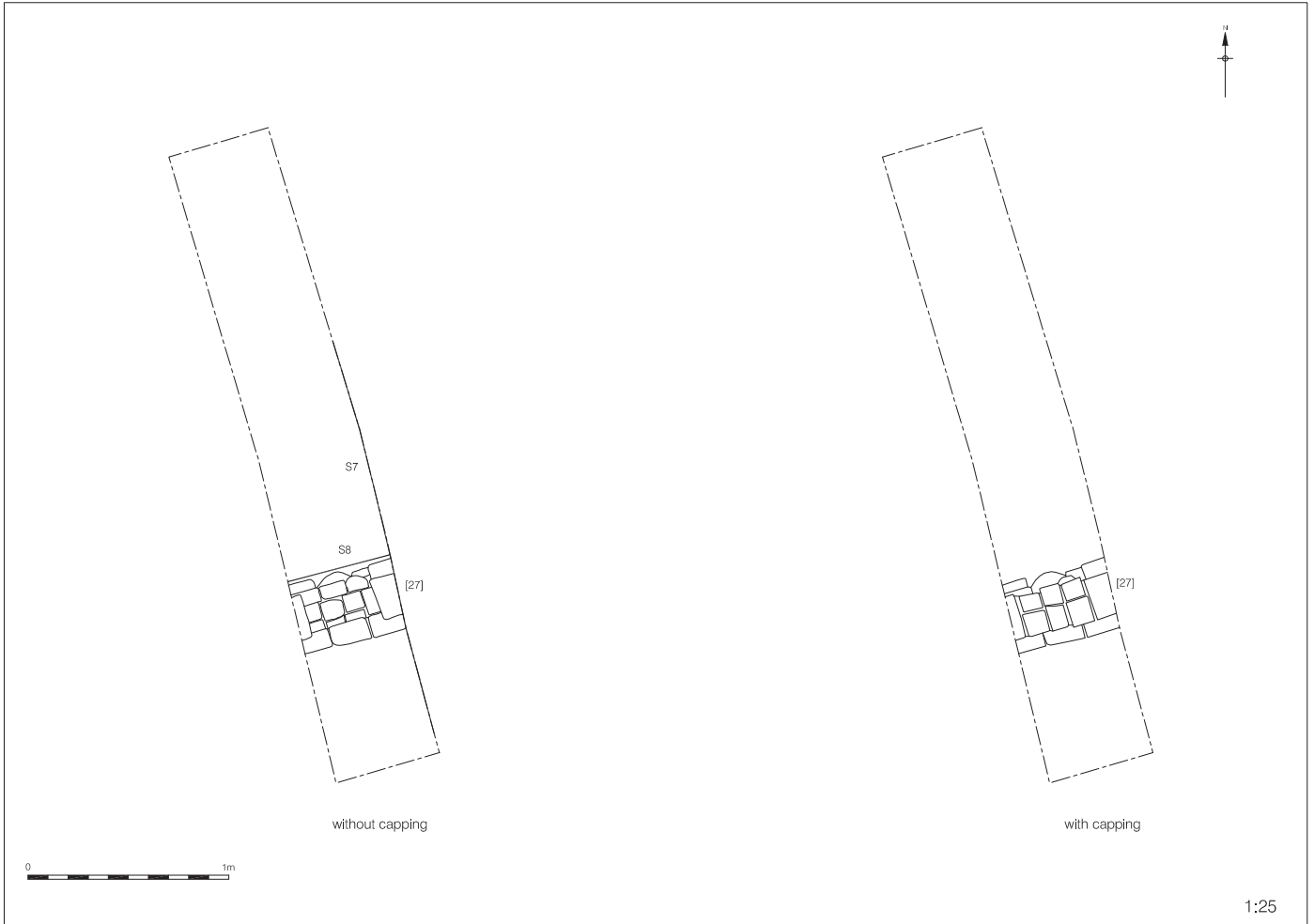
W E



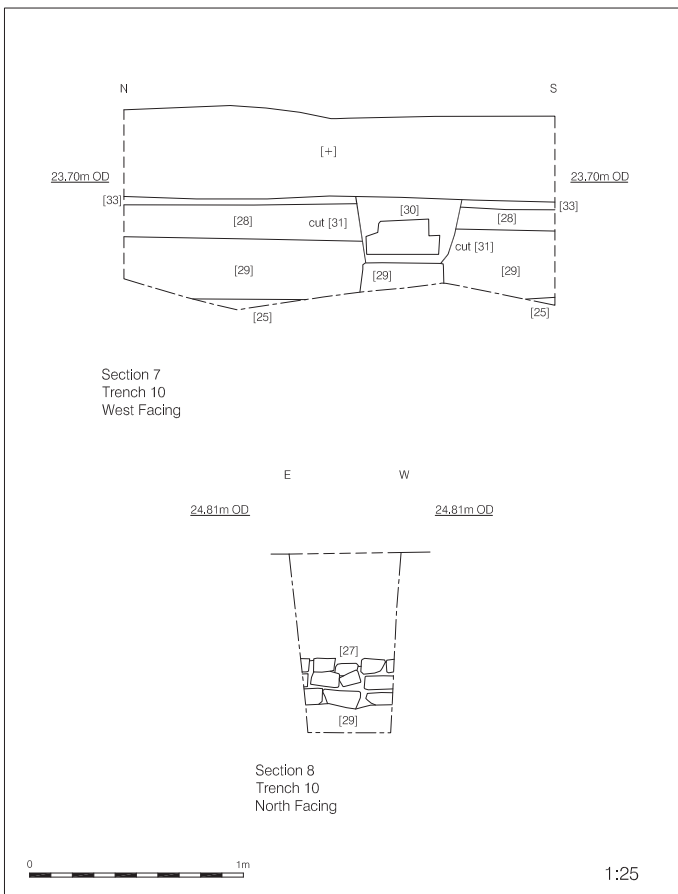
Section 10
Test Pit 8
South Facing



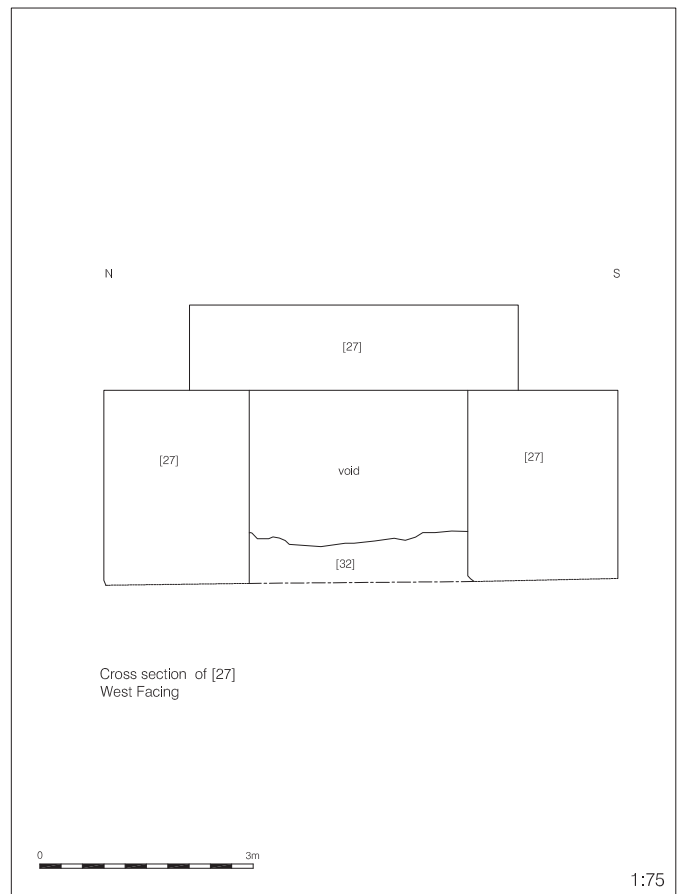




1:25



1:25



1:75

Figure 9
Trench 10, Sections 7 & 8 and Cross Section of [27]
Plan and Sections 7 & 8 1:25; Cross Section of [27] 1:75 at A3

8. ARCHAEOLOGICAL PHASE DISCUSSION

8.1. Phase 1, Natural geology.

8.1.1. The earliest deposit to be encountered on the site was a layer of greenish grey mixed with mid yellow brown clean sand, termed context [1] in TP 3, context [17] in TP 4, context [35] in TP 8 and context [25] in Trenches 9 and 10. The levels recording the top of the natural deposits were as follows: 23.03m OD in Test Pit 3a, 22.90m OD in TP 4, 22.79m OD in Test Pit 8, 22.93m OD in Trench 9 and 23.16m OD in Trench 10. These deposits were interpreted as a layer of natural sand, forming part of the Lynch Hill Gravel sequence.

8.2. Phase 2, post-medieval; 17th-18th century.

8.2.1. A brick built drain culvert was observed in the base of Trench 10. Constructed from poorly made unfrosted red and purple brick, masonry samples recovered from the feature were spot dated to between 1664 and the early 18th century. A fragment of clay tobacco pipe recovered from the internal fill of the culvert gave a spot date of 17th-18th century. The construction cut of the culvert [31] had been cut through layers [29], [28] and [33], all layers of made ground that must pre-date the culvert, possibly dating to the early 17th century.

8.3. Phase 3, post-medieval; 19th century.

8.3.1. In TP 2, a large mass of dumped brick rubble was observed, termed context [8] and samples taken from this context gave a latest date of 1850-1900 (other brick samples included in this dump layer gave a spot date of early 18th century) and a clay tobacco pipe stem recovered from this context was also dated to the 19th century. Layer [8] was overlain by various 19th and possibly 20th century ground make-up layers; [11], [10] and [9] respectively.

8.3.2. In TP 5 a north-south aligned section of wall [21] was part overlain by re-used peg tiles [21]. While the brick samples recovered from wall [21] had an early spot date of mid 17th century, the bonding material was coarse Roman cement which can only be 19th century in date; therefore the bricks have been re-used. The peg-tile [20] gave a broad date range of 1700 to 1900, with the latter date being more likely.

8.3.3. In Trench 9, the principal feature was a cast iron pipe [29]. Presumed to be a drainage pipe, its cast iron construction would suggest a 19th century date.

8.4. Phase 4, post-medieval; modern.

8.4.1. In TPs 3a and b, and TP 4, the archaeological sequence in was dominated by modern service pipes and the footings to the standing walls of the Palace. The natural sand, termed context [1] in TP 3 and context [17] in TP 4, had been truncated by these modern features.

9. CONCLUSIONS AND RECOMMENDATIONS

9.1. The original research objectives of the investigation are listed below with a summary of the archaeological evidence recovered to formulate interpretations and conclusions and inform any recommendations for future work.

9.2. **General Research Objectives.**

9.3. **What is the nature and date of any surviving archaeological deposits, features or finds on the site?**

9.3.1. The investigation revealed evidence of 18th and 19th century made ground, a late 17th - early 18th century brick built culvert, a 19th century cast iron drain, and a 19th century wall.

9.4. **What evidence can be revealed of the natural strata and its' topography at the site?**

9.4.1. The earliest layers encountered on site were natural deposits of greenish grey mixed with yellow brown sand, designated as context [1] in TP 3a, [17] in TP 4, [25] in Trenches 9 and 10 and [35] in TP 8. It was roughly flat, the top being at a level of 23.03mOD in TP 3a, 22.90mOD in TP 4, 22.93mOD in Trench 9, 23.16mOD in Trench 10 and 22.79mOD in TP 8. The lower levels recorded in TP 3a and Trench 10 is presumably due to horizontal truncation by later intrusions. These deposits are interpreted as a layer of natural, riverine sand, forming part of the Lynch Hill Gravel sequence.

9.5. **Specific Research Objectives.**

9.6. **Is there any evidence of the Jacobean Mansion, the earliest phase of building at Kensington Palace?**

9.6.1. No evidence was uncovered of the Jacobean (1603-1625) phase of building at Kensington Palace.

9.6.2. In TP 5, a north-south section of brick wall [21], was thought, from the fabric and form of the bricks, to be early enough to date to the Jacobean period. However off-site analysis of the bonding material⁹ identified the mortar to be a coarse Roman cement which can only date to the 19th century. The bricks, which had a possible early to mid 17th century date, had been re-used. It is therefore likely, given its late date, that this feature is the outer wall of a rain water drain run-off structure, whose grid covers are visible on the surface, which runs parallel with and adjacent to, the western limit of TP 5.

9.6.3. In TP 2, the majority of the trench was filled with brick rich demolition rubble. Brick samples recovered from the test pit were spot dated to 1850-1900. A short section of intact wall, that was initially thought to be *in-situ*, was in fact part of the general mass of dumped material, but had a probable early 18th century date. It is possible that this fragment of wall is part of an earlier structure that survives at greater depth than achieved during this investigation, but the area of the trench had been heavily disturbed at some point and it is unlikely that any remains survive intact.

⁹ Heywood, K. *pres comm.*

9.6.4. The remaining test pits only revealed evidence of modern services, and the footings of the existing standing walls of the Palace service buildings.

9.7. **Is there any evidence of a drain conduit known to exist below ground that ran east under the Palace and towards the Round Pond in Kensington Palace Garden?**

9.7.1. Evidence for a short section of a brick built drain culvert, running east-west, was uncovered in Trench 10 [27]. While only 0.42m of its length was exposed, it was seen to continue underground both east and west. A historic map from 1754 by John Smith shows the water pipes and drains at Kensington Palace, including the line of a drain that runs east-west under the Palace, exiting in line with the doors to the library and continuing on east below the area of the Rose Garden and on, it is presumed, to outflow into the Round Pond in Kensington Gardens.

9.7.2. The brick built drain culvert exposed during this investigation is broadly in line with the feature portrayed on the 1754 map, although it is slightly to the south of its given position. Spot dating of brick samples taken from the culvert gives a date of between 1664 and early 18th century, and samples of the light yellow lime mortar is typical of the late 17th to 18th centuries and specifically 1664-1720s. The bricks were unfrogged, so cannot post-date 1750. A fragment of clay tobacco pipe stem recovered from the drain fill [32] gives a 17th –18th century date. It is therefore likely that the culvert uncovered during the archaeological evaluation is the same feature shown on the map. It is, however, later than the Jacobean period (ends 1625) and is therefore presumed to date to Sir Christopher Wren's modifications.

9.7.3. In Trench 9 a short section of a cast iron pipe [26] was exposed running east-west. Its function is uncertain, but its relatively large diameter, 0.25m, would suggest drainage rather than water supply. Being cast iron, it is presumed to be 19th century in date. The pipe is off the line of the culvert, being approximately 1.00m north of it and therefore seems likely to be a separate feature, rather than connected to the culvert as, for instance, a later repair.

9.7.4. Evidence for the brick culvert in Trench 10 was not present in Trench 9, and evidence for the cast iron pipe in Trench 9 was not present in Trench 10; both trenches were aligned north-south and were wide enough to pick up continuous east-west features. Therefore either one or both of these features had been truncated away at a later date, or one or both of them made a significant change in direction.

9.8. **Recommendations**

9.8.1. Any proposed ground remodelling works, particularly within the area of the Rose Garden, should take into account the discovery of the late 17th-early18th century drain culvert that is demonstrated to continue east-west approximately 0.50m below current ground level. How far it continues either east or west was not established by this current phase of archaeological investigation, particularly as no trace of it was discovered in the most easterly evaluation trench.

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Impey, E 2003. *Kensington Palace. The Official Illustrated History*. Merrell, London

Lythe, R. November 2007. *An Archaeological Evaluation in White Court, Kensington Palace, Royal Borough of Kensington and Chelsea*. PCA Unpublished report.

11. ACKNOWLEDGEMENTS

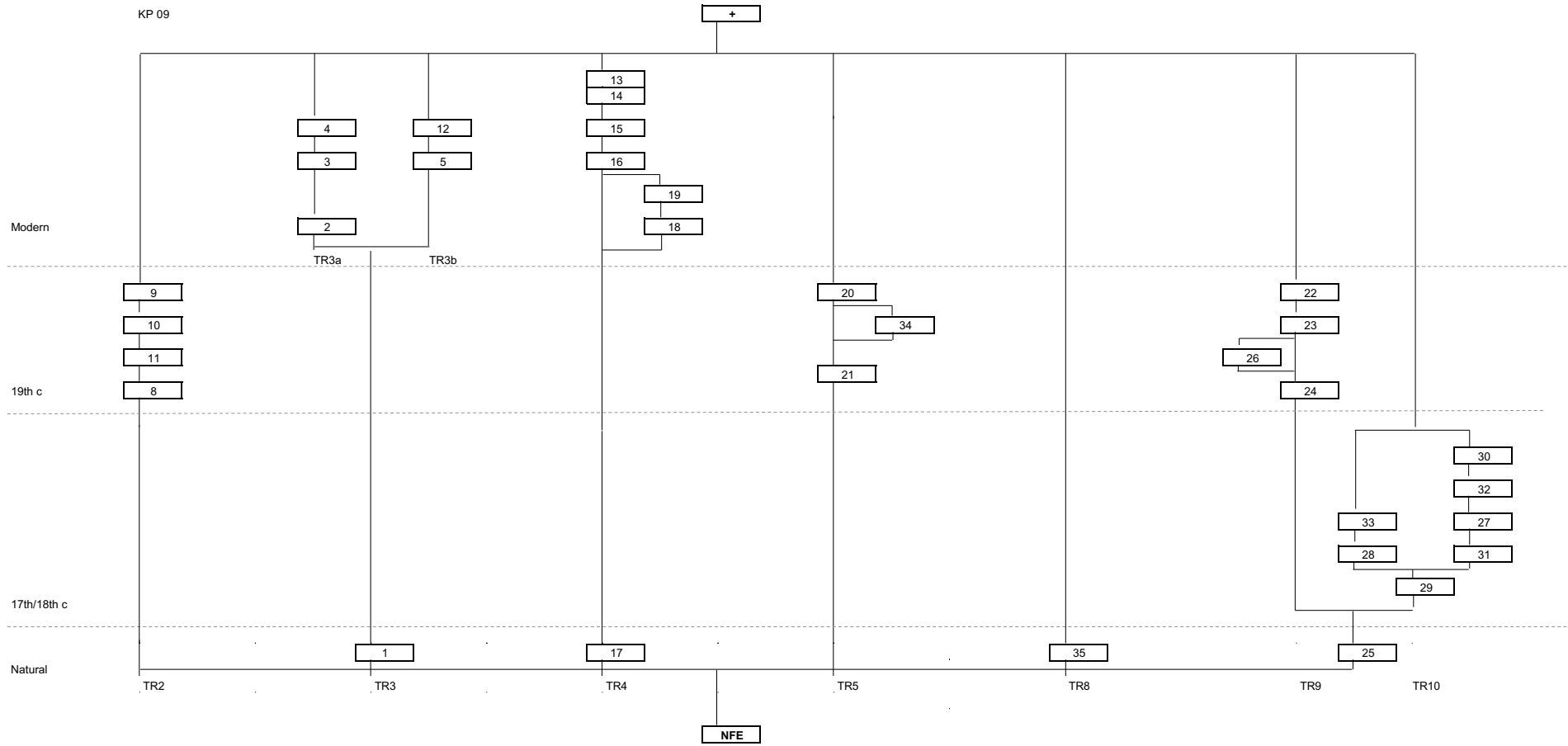
- 11.1. Pre-Construct Archaeology would like to thank Lee Prosser of Historic Royal Palaces for commissioning the work and Matt Stafford of Historic Royal Palaces for his help and advice throughout the evaluation.
- 11.2. The author would like to thank the excavation team of Joe Brooks, Richard Humphries and Andy Williams, the machine driver from L Lynch, for all their hard work.
- 11.3. Thanks also to Lisa Lonsdale for logistics, Jenny Simonson for the CAD drawings and Aidan Turner for surveying. Kevin Haywood spot dated the CBM and Chris Jarret spot dated the CTP.
- 11.4. Tim Bradley was the Project Manager who also undertook the report editing.

APPENDIX 1; CONTEXT INDEX

Context No.	Plan	Section / Elevation	Type	Description	Date
1	TR 3a	S.2	Layer	Natural sand =[17], [25], [35]	Natural
2	TR 3a	S.2	Cut	Cut for drain	Modern
3	TR 3a	S.2	Fill	Conc. bedding	Modern
4	TR 3a	S.2	Layer	Demo rubble	Modern
5	TP 3b	S.1	Layer	Concrete	Modern
6	TR 3b	N/A	Layer	Concrete	Modern
7	VOID				
8	TR 2	S.4, S.5	Layer	CBM rich dump layer	19th century
9	TR 2	S.4, S.5	Layer	Made ground	19th century
10	TR 2	S.4, S.5	Layer	Re-deposited natural sand	19th century
11	TR 2	S.4, S.5	Layer	Silty sand backfill	19th century
12	N/a	S.1	Layer	Demo. rubble	Modern
13	N/a	S.3	Layer	Demo. rubble	Modern
14	N/a	S.3	Layer	Re-deposited natural	Modern
15	N/a	S.3	Layer	Demo rubble	Modern
16	N/a	S.3	Layer	Concrete	Modern
17	TR 4	S.3	Layer	Natural sand = [1], [25], [35]	Natural
18	TR 4	N/a	Cut	Cut for service	Modern
19	TR 4	N/a	Fill	Backfill of [18]	Modern
20	TR 5	S.9	Masonry	Peg tile	19th century
21	TR 5	S.9	Masonry	Brick wall	19th century
22	TR 9	S.6	Layer	Made ground	19th century
23	TR 9	S.6	Layer	Re-deposited mixed nat. & sandy silt	19th century
24	TR 9	S.6	Layer	Re-deposited natural	19th century
25	TR 9	S.6	Natural	Natural sand =[1], [17], [35]	Natural
26	TR 9	S.6	Fe pipe	Cast iron pipe	19th century
27	TR 10	S.8	Masonry	Brick drain culvert	17 th /18 th century
28	N/a	S.7	Layer	Stony made ground	18 th century
29	N/a	S.7	Layer	Sandy made ground	18 th century
30	N/a	S.7	Fill	Of C/cut	17 th /18 th century
31	N/a	S.7	Cut	C/cut for [27]	17 th /18 th century
32	27	N/a	Fill	Fill in culvert [27]	17 th /18 th century
33	N/a	S.7	Layer	Lens of gravel	18 th century
34	TR 5	S.9	Layer	Re-deposited natural	19th century
35	TR 8	S.10	Natural	Natural sand =[1], [17], [25]	Natural

APPENDIX 2; MARTIX

KP 09



12. OASIS FORM

Project details

Project name	An Archaeological Evaluation at Kensington Palace
Short description of the project	An Archaeological Evaluation was conducted at various locations at Kensington Palace by Pre-Construct Archaeology. Five Test Pits and two Evaluation trenches were opened. The natural sands were observed in the base of Test Pits 3,4, 8 and Trenches 8 and 10. Trench 10 revealed a brick drain culvert dated to the late 17th-early 18th century, possibly part of Wren's alterations to the Palace. All other features exposed related to the 19th century or modern intrusions.
Project dates	Start: 25-03-2009 End: 03-04-2009
Previous/future work	Yes / Not known
Any associated project reference codes	KP 09 (temp) - Sitecode
Type of project	Field evaluation
Site status	Scheduled Monument (SM)
Current Land use	Other 2 - In use as a building
Monument type	DRAIN CULVERT Post Medieval
Monument type	WALL Post Medieval
Significant Finds	CERAMIC BUILDING MATERIAL Post Medieval
Significant Finds	CLAY TOBACCO PIPE Post Medieval
Methods & techniques	'Targeted Trenches' and 'Test Pits'
Development type	Public building (e.g. school, church, hospital, medical centre, law courts etc.)
Prompt	Scheduled Monument Consent
Prompt	Historic Royal Palaces
Position in the planning process	Pre-application

Project location

Country	England
Site location	GREATER LONDON KENSINGTON AND CHELSEA KENSINGTON Kensington Palace
Postcode	W8

Study area 11.03 Square metres
Site coordinates TQ 2592 8002 51.5045708081 -0.185499135731 51 30 16 N 000 11
07 W Point
Height OD / Depth Min: 22.79m Max: 23.16m

Project creators

Name of Organisation Pre-Construct Archaeology Ltd
Project brief originator Historic Royal Palaces
Project design originator Pre-Construct Archaeology Ltd
Project director/manager Tim Bradley
Project supervisor Stuart Watson
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 'Ceramics','Glass'
Digital Archive recipient Historic Royal Palaces
Digital Contents 'Survey'
Paper Archive recipient Historic Royal Palaces
Paper Media available 'Context sheet','Drawing','Matrices','Photograph','Plan','Report','Section','Survey','Unpublished Text'

Project bibliography 1

Publication type Grey literature (unpublished document/manuscript)
Title An Archaeological Evaluation at Kensington Palace, Royal Borough of Kensington and Chelsea
Author(s)/Editor(s) Watson, S.

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