An Archaeological Watching Brief: Phase II, at the Dreadnought Building, University of Greenwich, King William's Walk, London Borough of Greenwich, SE10 9HX

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CONTENTS

1 ABSTRACT 3
2 INTRODUCTION 4
3 PLANNING BACKGROUND 5
4 GEOLOGY AND TOPOGRAPHY 6
5 ARCHAEOLOGICAL AND HISTORICAL BACKGROUND 7
6 ARCHAEOLOGICAL METHODOLOGY 10
7 DETAILED ARCHAEOLOGICAL SEQUENCE 20
8 ARCHAEOLOGICAL PHASED DISCUSSION 30
9 CONCLUSIONS 38
10 ACKNOWLEDGEMENTS 39
11 BIBLIOGRAPHY 39

FIGURES

FIGURE 1: SITE LOCATION 41
FIGURE 2: TRENCH AND TEST PIT LOCATIONS 42
FIGURE 3: PLAN SHOWING ALL FEATURES INCLUDING INSET BOXES 43
FIGURE 4: PLAN OF TRENCH 9 AND TRENCH 14 (NORTH) 44
FIGURE 5: PLAN OF TRENCH 16 (NORTH) 45
FIGURE 6: PLAN OF TRENCH 16 (CENTRAL) 46
FIGURE 7: PLAN OF TRENCH 16 (SOUTH) 47
FIGURE 8: PLAN OF TRENCH 16 EAST (UPPER DETAIL) 48
FIGURE 9: PLAN OF TRENCH 16 EAST (LOWER DETAIL) 49
FIGURE 10: PLAN OF TRENCH 2 50
FIGURE 11: SECTIONS 51
FIGURE 12: PLAN SHOWING WALLS RECORDED DURING MOLAS WATCHING BRIEF 2001 52

APPENDICES

APPENDIX 1: CONTEXT INDEX 53
APPENDIX 2: CERAMIC BUILDING MATERIAL & STONE 70
APPENDIX 3: POTTERY ASSESSMENT 74
APPENDIX 4: CLAY TOBACCO PIPE 76
APPENDIX 5: OASIS FORM 79

1 ABSTRACT

1.1 This report presents the results of an Archaeological Watching Brief conducted by Pre-Construct Archaeology Limited (PCA) in and around the Dreadnought Building, University of Greenwich, King William's Walk, London Borough of Greenwich, SE10 9HX. The site is centred at National Grid Reference TQ 3836 7773.

1.2 The work was carried out from September to December 2015 following an approved Written Scheme of Investigation prepared by PCA (Bradley 2015) for CgMs Consulting.

1.3 Trenches for the temporary buildings in the south of the site revealed evidence for landscaping that had taken place when the Dreadnought Building was converted for its use as a library within the University of Greenwich in 1999.

1.4 New service trenches to the north and west of the Dreadnought Building were deeper and revealed some areas of surviving archaeology which had been previously truncated during renovation work in 1999 and by associated deep service trenches. The earliest archaeology consisted of walls dating to the 17th century, pre-dating the construction of the Dreadnought Building. Later evidence included deposits associated with the raising of the ground level of the site in the 18th century prior to the construction of the Royal Hospital Infirmary (later the Dreadnought Building) and deposits likely to be associated with the construction process itself.

1.5 The test pits excavated in the basement showed the foundations of the Dreadnought Building extended deeper in the north western part of the building for reasons at present unknown. No archaeological features or deposits predating or unrelated to the building's construction were identified in this area.

1.6 Natural sand and gravel was not recorded in the external trenches. It was recorded at differing heights in all the test pits excavated in the basement. This ranged at from 3.42m OD to 2.07m OD, illustrating particularly in the north western part of the building that the superficial geology had been significantly truncated during the construction of the Dreadnought Building in the 1740's.

2 INTRODUCTION

2.1 An Archaeological Watching Brief was undertaken by PCA at The Dreadnought Building, University of Greenwich, King William's Walk, London Borough of Greenwich, SE10 9HX from September until December 2015. The site is centred at National Grid Reference TQ 3836 7773 (Figure 1). The watching brief monitored the installation of services and additional geotechnical investigations associated with the conversion of the 18th century Dreadnought Building from its previous use as the main library for the Greenwich campus of the University of Greenwich to a new student hub.

2.2 The excavation work could be split broadly into three elements. Firstly, narrow and fairly shallow trenches to the south east of the Dreadnought Building - service trenches for temporary buildings erected in that corner of the grounds (Tr.1, Tr.2, Tr.3, Tr.4, Tr.5). Secondly, more significant trenching on the north, west and south sides of the building, reconfiguring the various services in preparation for the change of use (Tr.6, Tr.7, Tr.8, Tr.9N, Tr.9S, Tr.14, Tr.15 and Tr.16). Thirdly, a further phase of geotechnical work in the basement. This consisted of the excavation of 5 test pits in the north west of the building to investigate variations in the building's foundations (Tp.B, Tp.C, Tp.D, Tp.F and Tp.H). In addition a number of other small trenches were also excavated in various locations (Tr.10, Tr.11, Tr.12 and Tr.13). The completed works are shown on Figure 2.

2.3 The Dreadnought Building is bounded by Romney Road to the south, College Way to the north, the Royal Naval College to the east and the Stephen Lawrence building to the west. The River Thames runs approximately 300m to the north of the site.

2.4 The site is located within an Archaeological Priority Zone, as defined in the Borough's Local Development Framework Proposals Map, and is within the Maritime Greenwich World Heritage area. The site also lies within the grounds of the Tudor Greenwich Palace. As such the ground is classified as a Scheduled Ancient Monument (Scheduled Monument No: SM, HA 1410710).

2.5 The requirement for this work was a condition to the Scheduled Monument Consent for the works by the Buildings and Monuments Commission for England (Historic England).

2.6 The work was commissioned by CgMs Consulting. The Archaeological Watching Brief was undertaken by Phil Frickers and project managed by Tim Bradley, both of PCA. The works were monitored by Jane Sidell, Inspector of Ancient Monuments for Historic England.

3 PLANNING BACKGROUND

3.1 The site of the building is located within the Maritime Greenwich World Heritage area, and the site is also within the grounds of the Tudor Greenwich Palace. As such the ground is classified as a Scheduled Ancient Monument (Scheduled Monument No: SM, HA 1410710).

3.2 In accordance with Condition (c) of the Scheduled Monument Consent PCA was appointed to undertake an Archaeological Watching Brief during service trenching and geotechnical site investigations, which comprised of trenches, trial pits and boreholes located at both ground floor and basement level (Figure 2).

3.3 A Written Scheme of Investigation (Bradley 2015) detailed the methodology by which the Watching Brief would be undertaken. The primary objectives were to establish the presence or absence of any archaeological remains, and to ensure that, should significant archaeological deposits be encountered, excavation ceased and a site visit was convened to establish whether the remains should be left in situ, or whether they should be carefully recorded and removed.

3.4 The Watching Brief aimed to address the following research design objectives, set out in the Written Scheme of Investigation (Bradley 2015):

3.5 "2.1 This archaeological watching brief is designed to determine the presence or absence of surviving archaeological remains/deposits at the site and to ensure that, should significant archaeological deposits be encountered, excavation is ceased and a site visit convened to establish whether the remains should be left in situ, or whether they may be carefully recorded and removed. The fieldwork will aim to address the following objectives:-

- To determine the natural topography of the site, and the height at which it survives.
- To determine the presence or absence of prehistoric deposits / activity.
- To determine the presence or absence of Roman deposits / activity.
- To establish the presence or absence of medieval deposits / activity.
- To establish the presence or absence of post-medieval deposits / activity.
- To establish the extent of past post depositional impacts on the archaeological resource"

3.6 The works by PCA were monitored by the Inspector of Ancient Monuments, Jane Sidell of Historic England.

4 GEOLOGY AND TOPOGRAPHY

4.1 The British Geological Survey (BGS) defines the superficial deposits as Kempton Park Gravel Formation. These sand and gravel deposits formed up to 2 million years ago during the Quaternary Period from rivers depositing detrital material in channels to form river terrace deposits (BGS 2015).

4.2 The available geological maps, and the site investigation records from the previous work undertaken by the University, show ground conditions in the area generally comprise, from the ground level down:-

- Made ground – variable disturbed material (Approx. 1m-2m deep)
- River terrace deposits – Dense gravel (Approx. 12m thick)
- Lambeth group – stiff clay and gravel (Approx. 3m thick).
- Thanet sands – dense sands and clay
- Chalk

4.2.1 Historically the site was situated at the base of the river terrace in a steeply sloping area. Developments from the Roman times onwards are likely to have affected the topography, including extensive terracing of the site during the 17th and 18th centuries when the Old Royal Naval Hospital came into existence. Today the site is largely level with ground level varying between 6.20m and 5.80m OD. Between the Dreadnought Building and the Stephen Lawrence Building part of the site was raised at the close of the 20th century to c. 6.60m OD.

5 ARCHAEOLOGICAL AND HISTORICAL BACKGROUND

5.1 Tudor

5.1.1 The land around the Greenwich site had belonged to the Abbey of St. Peter at Ghent from the 10th century onwards.

5.1.2 In 1414, during the reign of Henry V, whilst England was at war with the French, property belonging to alien (foreign) priories was confiscated and taken by the Crown. Following this the Abbey of Ghent lands were given to the John of Lancaster, the King's brother. These were held by him until his death, in 1435, when they were passed to his brother Duke Humphrey of Gloucester (Dixon, 107). Duke Humphrey enclosed Greenwich Park and built 'Greenwich Tower' and Bellacourt, the manor of 'Pleasaunce' absorbing some earlier religious buildings (Maritme Greenwich, 38). When Duke Humphrey died in prison, in 1447, Greenwich along with much else of his lands passed to the Henry VI's Queen, Margaret of Anjou and was subsequently retained as Royal property.

5.1.3 Henry VII became king in 1485 and the rechristened Palace of Placentia became one of his main residences. Henry VIII was born at Greenwich in 1491 and Henry VII rebuilt the Palace from 1498 and 1504. Later Mary Tudor and Elizabeth were born at the site. Dixon notes (p.107) that even after its reconstruction in Tudor times at least one element, the Abbot's house, still existed from its time as a monastic site. Greenwich remained the principal royal palace until after the rebuilding of Whitehall in 1529 (Maritime Greenwich, 38).

5.1.4 Under Elizabeth and after Greenwich Palace was less used as a royal residence and fell into a state of disrepair. Until by the Civil War it was being used as a biscuit factory and a prisoner of war camp.

5.2 Charles II

5.2.1 The old Greenwich Palace was swept away by King Charles II to make room for the construction of a new palace. This Palace was begun in 1661, but never completed after "swingeing financial cuts" were introduced in 1663 (Thurley, 132).

5.2.2 When William and Mary came to the throne in 1689 they preferred to live at their rebuilt Hampton Court Palace. The site and the sole completed wing, the east range of King Charles Court (Maritime Greenwich, 40), were given over to the construction of the Royal Hospital for Seaman, later known as Greenwich Hospital. Originally proposed by James II in the 1680's as an equivalent of Chelsea Hospital, building of a hospital for retired seamen of the Royal Navy (Ramzan, 80) began in 1694.

5.2.3 At the south end of Greenwich Park above Greenwich Hospital are the remains of the Greenwich Park Conduit. This is the bricked up entrance to a conduit dating to the 17th century. This conduit was part of a series of tunnels bringing water to, and presumably taking waste from the new palace of King Charles II and the later Greenwich Seamen's Hospital. There is also some evidence that a similar scheme dating to the Tudor period existed to serve the then existing Greenwich Palace (Ramzan, 15).

5.3 **18th Century**

5.4 A number of maps of the area exist from the 17th and 18th centuries. Hollar (1637) shows the site from the south as woodland, whilst a Survey of Greenwich (1710) shows it as open land east of the town with a boundary on the line of the present day King William Walk. The Rocque map (1746) shows the area once more devoid of buildings, possibly functioning as an orchard or ornamental gardens.

5.5 It was 55 years before the four main principal buildings of the Hospital were completed (Dannatt, Johnson, 8). After this in 1763 a separate Infirmary was built by James 'Athenian' Stuart to replace wards used in the Royal Naval Hospital for infirmary purposes. This was built on land to the west of the main building ranges and would later become known as the Dreadnought Building. In 1808 a single storey annexe for 'helpless' patients was added to the west of the Infirmary.

5.6 The Infirmary suffered a severe fire in 1811, after which the building was reinstated and a third storey added. Later, from 1835, further extensive improvements were carried out under the direction of Joseph Kay.

5.7 **Victorian**

5.8 From 1821, three successive hulks were moored at Greenwich Reach and used as hospital ships for sick and injured merchant seamen (MacDougall, 571-573). The second of these was called the Dreadnought and gave its name to the Dreadnought Seamen's Hospital. The patients were moved ashore into the vacated infirmary of the Royal Hospital in 1870, and the last hulk broken up in 1873 (Matthews, 60).

5.9 In 1831 the central area of Greenwich, historically a mass of alleys, lanes and courtyards dating to the medieval period, was purchased by the Commissioners of the Royal Naval Hospital and the whole area redeveloped (Ramzan, 43). The market which had previously existed to the west of the Royal Hospital site was then transferred to this new location, where it remains to the present day. Following this the Western Gates of the Hospital were moved from their previous position just west of the main ranges of the Hospital (Dannatt, Johnson, 11) to their present location on King William Walk.

5.10 **20th Century**

5.11 The southern part of the Western Annexe was destroyed by incendiary bombs in 1940 and then rebuilt after the War. In 1948, the Dreadnought became a specialist unit within the newly formed National Health Service, until its closure in 1986 when a new unit was built at St. Thomas' Hospital, Westminster, to replace it (MacDougall, 576).

5.12 After 1986, The Dreadnought Building remained unused until it was handed over to the University of Greenwich. It was then converted into a library for the University in 1999.

5.13 The building is a scheduled ancient monument and is described by Historic England as:-

"Dreadnought Seamen's Hospital

Over Greenwich Palace Scheduled Monument

County / National Monument No. 1410710

Listed grade II

Historic England list entry number: 1211438

Description:-

1764-68, by James Stuart. Main South front of 3 storeys and basement, 13 windows. Stuccoed at a later date. 1-bay centre and end sections project slightly. Low pitched, hipped slate roof with separate roofs over end sections. Entablature and blocking course, 2nd floor string, rusticated quoins and rusticated centre bay to 2nd floor level. Over this a pseudo-pediment with maritime arms. 2-storey entrance arch through axis. Sash windows with glazing bars in moulded architraves with bracketed calls. Similar side elevations. The building lies within the Maritime Greenwich World Heritage Site. Scheduled Monument Consent is required where works are proposed more than 300mm below the existing built ground level."

6 ARCHAEOLOGICAL METHODOLOGY

6.1 All works were undertaken in accordance with the following documents:-

- The Written Scheme of Investigation (Bradley 2015);
- The letter of Scheduled Monument Consent (27th February 2015);
- Historic England, 2015, Guidelines for Archaeological Projects in Greater London

6.2 The service trenches were located according to Drawing 501-SKD-00-01 although alterations were made to avoid obstacles encountered during the trenching.

6.3 The test pits within the basement of the Dreadnought Building were required to extend to the undersides of the footings at basement level. Therefore they varied in depth as appropriate to individual ground conditions.

6.4 Care was taken to lift existing sandstone paving slabs in order to minimise damage to the scheduled structure. These were marked and replaced as appropriate.

6.5 Excavation was by small tracked excavator and hand tools outside, and by hand tools inside the Dreadnought Building, and was carried out by contractors under archaeological supervision.

6.6 All deposits and structures exposed during the ground reduction were recorded on *pro-forma* context sheets. Plans and sections were made as appropriate of the excavations. A digital photographic record was made of the works.

Plate 1: View of Old Royal Navel College from North of the Thames

Plate 2: The South Frontage of the Dreadnought Building

Plate 3: Emblem of the Royal Hospital

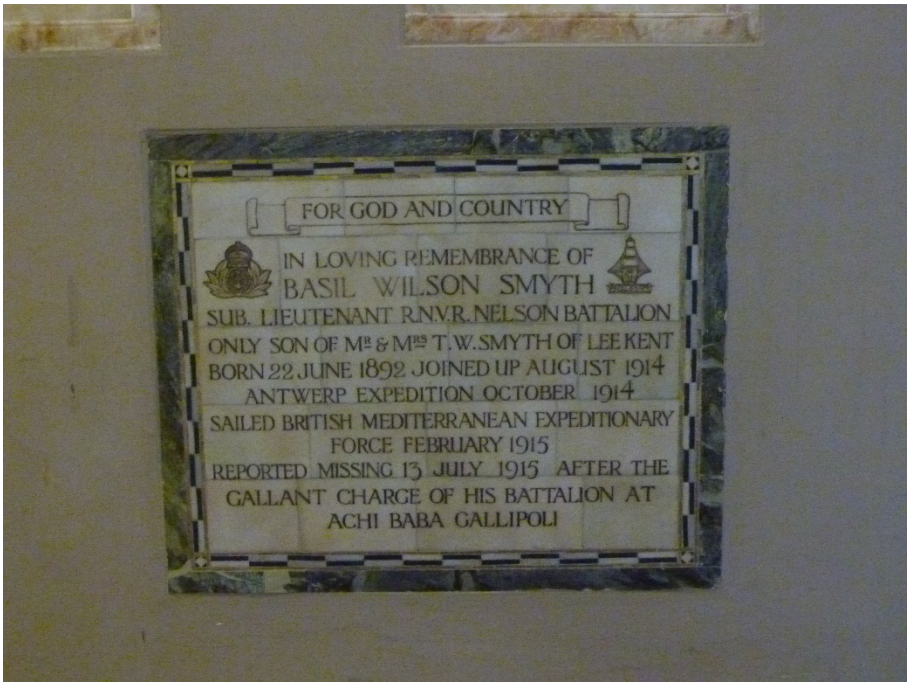

Plate 4: Bed plaque within the Dreadnought Building

Plate 5: Trench 6, Window of the North Frontage excavated

Plate 6: Dreadnought construction surface [146] in Trench 8

Plate 7: Dreadnought construction layers in Trench 6, cut by modern features

Plate 8: 18th Century culvert [177] in Trench 9

Plate 9: 17th Century wall [183] in Trench 14

Plate 10: 17th Century Wall [236] in Trench 16

Plate 11: 17th Century Wall Base [239] with adhering plaster

Plate 12: 17th Century tiled floor [248]

Plate 13: Flint Wall [202] and Chalk Wall [209] in Trench 16

Plate 14: Section 43 Flint Wall [202] excavated, Chalk Wall [209] in situ

Plate 15: Test Pit H in the basement with corner column

7 DETAILED ARCHAEOLOGICAL SEQUENCE

7.1 **Part 1: Trenches associated with services to the newly erected temporary buildings; Trenches 1, 2, 3, 4 and 5.**

7.1.1 These trenches were hand dug, narrow, averaging 0.35m, and mostly shallow (0.40m to 0.60m depth). In most cases landscaping during the renovation of the Dreadnought Building for its new function as a library for the University of Greenwich had truncated any recent deposits down to 0.40m below present ground level. Therefore archaeological deposits here were minimal.

7.1.2 The earliest contexts within these trenches were light brown silty sands [103] in Tr.1; [105] in Tr.2; [117] in Tr.3 and [128] in Tr.5; at OD heights between 5.88m and 5.59m. This deposit would appear to be an earlier phase of ground raising and was fairly clean and devoid of modern material, with only [105] having ceramic building material (CBM) collected from it.

7.1.3 Sealing [128] in **Trench 5** was a context of dark brown silty sand [127] representing a further context of dumped material which contained a high proportion of demolition debris.

7.1.4 Sealing [105], in **Trench 2**, was another sequence which predated recent activity on the site. Cut into [105] was a masonry feature [111]. This was constructed of dark red, unfrogged half bricks. The feature, truncated by the recent landscaping at its eastern end, ran diagonally across the trench in an orientation running due east-west respecting the Dreadnougtht Building, 12 metres to the north. The feature was 0.16m in width north-south less than a stretcher. The highest level for the structure was at 5.54m OD and the remnants of mortar on its upper level demonstrated that it had been demolished to this level in antiquity.

7.1.5 Further to the west in **Trench 2** the survival was higher. Sealing [111] with a highest level of 5.67m OD was a grey brown sandy silt containing brick, mortar and chalk fragments [113], once again representing demolition material being used as ground raising material. This in turn was sealed by a loose layer of light yellowish sand and flint pebbles [112]. Finally in this sequence was a layer of demolition material; a brownish grey sandy silt with mortar, brick fragments and charcoal [116]. These layers all sloped down to the west suggesting perhaps backfilling from that side.

Above this there was a general change in the character of the deposits.

7.1.6 In **Trench 2**, a cut [115] was recorded, only partially seen in the trench. The fill [114] contained CBM fragments, mortar and charcoal. Although similar to other demolition contexts nearby, this appeared modern in date and perhaps represented a modern pit or trench backfilled with demolition material.

7.1.7 Also in **Trench 2** was a cast iron water main possibly, dating back to the Victorian period. This was later fitted with a brick collar [106] of reused yellow stock bricks, possibly because of

concerns that the main may have moved at some time after its laying. This 'collar' was observed to fit round the top of the main and should also be present beneath to pin the service in place.

7.1.8 Later still, the 'collar' had been partially removed during the insertion of a modern waste downpipe. Most of the cut for this, [110], was beyond the trench excavated.

7.1.9 In **Trench 5** the earlier contexts had been cut by a modern manhole [126], one of a number in the area.

7.1.10 In **Trench 4** backfilled sand [122] was observed around a modern manhole cut [121]. As such no archaeological deposits or features were observed in this shallow (0.45m deep) trench.

7.1.11 In **Trenches 1, 2 and 5** a layer of fairly compacted dark grey brown clayey silt [102, 104 and 123] was the result of recent landscaping. In Trench 4 a grey brown sandy silt [119] probably represented part of bedding trenches seen elsewhere in that area. Sealing these four trenches was a layer of topsoil [101, 118 and 124] and grass.

7.1.12 In **Trench 3**, sealing the dumped deposit [117] were a succession of modern gravel layers relating to the modern road.

7.2 Part 2: Trenches excavated around the building for services to the new student hub; Trenches 6, 7, 8, 9 North, 9 South, 14, 15 and 16

7.2.1 These trenches were mostly machine dug and substantial in nature. Archaeological strata was recorded in all trenches.

Trench 7

7.2.2 Working from the north-east corner of the site westwards, the first trench was Trench 7. This was atypical, being only 0.65m in depth and therefore much of the stratigraphy present was recent in nature.

7.2.3 The earliest deposit in this trench in was a mid grey brown sandy silt layer containing mortar fragments [171] with a highest level of 4.93m OD. This was only seen in a manhole to the north of Trench 6 at the western end, excavated deeper than the actual trench.

7.2.4 In a second manhole, to the east of the first, excavated to only 0.70m, [171] was sealed by a layer of light yellowish sand with frequent stone chippings and with mortar in it [170]. This context was found at a level 5.11m O.

7.2.5 Stratigraphically above this and visible in the base of the main trench was a dark grey brown sandy silt [161] recorded at up to 5.34m OD. Further east in the trench at a similar height (5.30m OD) was a mid brown sandy silt to clayey silt [160].

7.2.6 Above this level material in the trench was modern, relating to the overlying modern road, except at the east end. Here the trench was cut through soft deposits and the sequence was a dark grey brown sandy silt [143], evidence of landscaping also seen to the south of the building, and above this a mid grey brown clayey silt [142],representing modern topsoil.

Trench 6

7.2.7 At the west end of Trench 7 was Trench 6, running south to the Dreadnought Building. This trench was much deeper, up to 1.75m, against the building itself at the south end. No natural deposits were recorded, but a complete post-medieval sequence was present divided by three large service trenches running east-west.

7.2.8 The earliest context stratigraphically was a loose to very loose whitish grey brown layer consisting of discarded bricks and mortar [159]. The highest level was 4.92m OD, sloping down to the south where it extended below the base of the trench. The maximum observed thickness 0.45m.

7.2.9 Overlying this deposit in Trench 6 was an orangey brown clay layer [158] with a highest level of 5.01m OD. Above this were a number of thin layers of distinctly different material appearing horizontally in section. The first was a layer of dark brown sandy silt [157]. Immediately above this was a layer of loose greyish white waste mortar [156], 60mm deep, with a top height of 5.08m OD. Sitting directly on top of this was a 60mm deep layer of compacted brick dust [155]. Sealing this was a whitish grey layer of stone chippings and silt [154] with a depth of 50mm. This context had a top height of 5.15m OD.

7.2.10 Two slightly thicker contexts were present above the previous sequence. The first was composed of light brown sandy silt and brick fragments [153], was 150mm thick with a top height of 5.29m OD. The higher was a mid to dark grey brown sandy to clayey silt [152] with inclusions of CBM, stone, charcoal etc. This layer was 100mm in thickness with a top height of 5.38m OD. Above [152] the sequence consisted of recently laid material associated with the modern road above.

7.2.11 Further south towards the Dreadnought Building, beyond a cut for a deep modern sewer, lay a further small portion of [159], almost certainly *in situ*. Here the context was overlain by a layer of yellowish brown sandy silt [138], in places up to 0.55m thick, sloping down almost vertically on its southern edge. The top of this layer was 5.02m OD, similar to the top of [158] further north.

7.2.12 Stratigraphically above [138] was a deep deposit of moderately compacted mid brown sandy silt [136]. The boundary of [136] with [138] was recorded as a cut [141], although in reality [136] represented a succession of dump layers piled up against the wall of the Dreadnought Building and seen against the pre-existing steeply sloping edge of [138]. The maximum thickness of this context was 1.15m the base was not observed.

7.2.13 Also sitting above [138], but poorly observed due to more recent truncations, was a thin layer of compacted brick dust [137]. This context was only 20mm thick with a highest level of 5.04m OD. The context was composed of very similar material to [155], further to the north in the trench, and only slightly lower in height.

7.2.14 Sealing [136] was a thin but defined layer [133]. This was only 20mm thick, sloping down slightly from south to north, formed of sandy silt and mortar. Recorded at 5.29m OD in height at its southern end, it fell to 5.05m OD at the northern end.

7.2.15 Stratigraphically the next context was a masonry wall [135]. Built up against the north wall of the Dreadnought Building this contained both yellow stock bricks and earlier reused red bricks. The feature measured 1.00m east-west by 0.85m north-south and was 0.45m high. Sitting upon this was a capping of York Stone [134] up to 0.15m in thickness, which brought the top of the feature up to present ground level.

7.2.16 Later than the brick feature [134] and physically covering context [133] were a number of layers. The earliest of these was composed of dark grey brown sandy silt [132] and had a maximum of depth of 0.15m. Physically above this was a context of very loose brick fragments [130] up to 0.20m in thickness and with a highest level of 5.43m OD. Again this was sealed by a context of mid greyish brown sandy silt [131], also 0.20m thick.

7.2.17 Above [131] were modern deposits. Context [131] was truncated by a vertical cut [140] on its northern side. This was for a ceramic sewer pipe and was backfilled with a grey brown sandy silt [139]. Topping this area was a layer of dark grey sandy silt [129] part of modern make up associated with the recent groundworks.

7.2.18 At the north end of Trench 6 was another area of stratigraphy sandwiched between two modern deep pipe trenches. The earliest layer in this sequence was a layer of dark grey brown sandy silt [166], 0.28m in thickness with a top height of 5.01m OD. The base of this context was not seen. It was similar to [171] seen further north at the extreme western end of Trench 7.

7.2.19 Above context [166] was a thin layer of moderately compact light yellow sand [165] with some mortar and stone fragments. This layer was 50mm thick with a top height of 5.04m OD. Immediately above this was a layer of compacted red brick dust [164]. This was 70mm in depth, with a highest level of 5.10m OD. Sealing [164] was a furtherr layer of compacted light yellow sand [163] similar to [165], 70mm in thickness with a top height of 5.14m OD. This was also similar in character to [146] to the south in Trench 6 and [170] in Trench 7.

7.2.20 The last context in this sequence was a mid grey brown sandy silt [162]. Containing significant demolition material, this layer was 150mm deep and had a highest level of 5.32m OD. Above this, contexts related to the overlying modern road.

Trench 8

7.2.21 Running westward from Trench 6 was Trench 8. This trench was over 47metres in length east-west, and in places it was up to 1.2 metres deep. For much of the western length this trench followed the line of a service trench excavated in 1999 and therefore archaeological survival was mostly at the eastern end.

7.2.22 The earliest deposit in a deep section of the trench towards the eastern end was a loose whitish grey layer of mortar and brick fragments [169], which was the equivalent of [159] in Trench 6 at the slightly higher level of 5.06m OD. This was up to 0.35m deep but the base was not seen.

7.2.23 Above this was a moderately compact layer of mid brown sandy silt containing lumps of brown clay [168]. Much thinner at between 20 and 100mm deep this context continues the

sequence of Trench 6 with [158] a direct comparison there.

7.2.24 Directly above this was a layer of compacted mid grey brown sandy silt with frequent inclusions of flint pebbles, CBM, mortar, charcoal and stone fragments [148].

7.2.25 This in turn was sealed by a layer of compacted, light yellow fine sand with stone fragments [146]. This also incorporated some unseen mortar which acted as a binding agent. In places it was up to 250mm deep with a top height of 5.27m OD. Similar material was also seen in Trench 6 [163] and Trench 7 [170].

7.2.26 Physically sealing this context was a layer of mid brown sandy silt [145] containing CBM and chalk fragments but also coal and clinker, suggesting more modern activity.

7.2.27 Cutting [145], was a vertical cut [150]. This feature was only partly visible at the east end but further west occupied the whole trench and was filled with a grey brown sandy silt [149] and modern material including tarmac and plastic. In a deep part of Trench 8 towards the western end, a modern water pipe was observed within this cut. This was further cut by a north-south feature [151] and was filled with demolition material [147]. This was also interpreted as a modern service. These were covered by a layer of coarse sand and gravel [144], the lowest of a number of contexts associated with the modern road.

7.2.28 West of where the modern water main turned away from the trench, several contexts were observed below the modern road sequence at the western end. The earliest was a layer of mortar and sandy silt [173]. This was recorded at a top height of 5.22m and, in a deeper part of the trench, was more than 0.30m in depth.

7.2.29 Above [172] was a mid to dark grey brown sandy silt [172] up to 0.15m in depth.

Trench 9

7.2.30 The trenching now turned to the south into Trench 9 North.

7.2.31 The earliest context in the north part of Trench 9 North was a layer of mid brown clayey silt with loose grey mortar [182]. Only seen in a small area of the trench, this context had a top height of 4.60m OD.

7.2.32 Overlying [182] was a roughly constructed brick vaulted culvert [177] with an internal height of 0.42m and width 0.26m. This ran northwest to southeast and was only partly seen in the trench. This feature had been truncated and removed to the north by a service trench, excavated in 1999, crossing from east to west. It was not certain, but the culvert appeared to slope down from north-west to south-east and was blocked 1.40m beyond the southeast section.

7.2.33 No cut was evident for the culvert, with layer [181], a mid grey brown sandy silt, surrounding and covering the culvert. The context was 0.75m in depth, in all probability a number of layers, with the highest level recorded at 5.35m OD.

7.2.34 Cut into the southern edge of [181] was brick feature [178]. This ran east-west across the trench and was just a single header brick wide (110mm), had a maximum of depth of 0.35m in depth and a top height of 4.90m OD.

7.2.35 Above [178] was brick feature [180]. This appeared at first to be a foundation, but further

investigation showed it to be just a single brick deep (110mm). Therefore it now seems likely that this feature was not *in situ* but had fallen to the position where it was found, and had originally formed part of [178].

7.2.36 At the south end of Trench 9 North, above [180], cut to the north by a ceramic sewer pipe and to the south by a modern intrusion, was a context of dark grey brown clayey silt [184] with a top height of 5.23m OD. Only 0.30m in length north-south, this context was 0.40m in depth, suggesting it might be part of a now much truncated backfill.

7.2.37 Trench 9 South, immediately to the south, was an area where a number of annexe buildings had been built and then demolished. Therefore much of the trench was modern landscaping with concrete beneath. Here three brick walls were found.

7.2.38 In the north part of Trench 9 South, were two walls adjacent to each other - both ran east-west across the trench. The southernmost [176], consisting of dark red possibly unfrogged bricks, seemed to be earliest. [176] only visible in the base of the trench at a height of 5.04m OD, was 0.25m in width north-south; thin for an external wall.

7.2.39 North of [176] was another east-west wall of yellow stock bricks [174]. This was 0.35m in width and therefore probably structural. Mortar, present on top, suggested it had been demolished recently (1999?) to 5.32m OD.

7.2.40 At the southern end of Trench 9 South was a further wall [186] running slightly to east of north-south. This was damaged by later work and had been truncated by concrete at its northern end. It measured 0.65m north-south by 0.25m east-west, not the full width, and had a top height 5.24m OD. This wall is seen more fully as [183] in Trench 14 immediately to the south.

Trench 14

7.2.41 This trench was immediately to the south of Trench 9 South, but was in an area raised in the 1999 rebuilding to 6.60m OD, nearly 0.70m higher than the previous trench. At the north end of this trench was an area of archaeological survival, although further south much had been removed by rebuilding work in 2002.

7.2.42 The earliest context at this north end was a more substantial remnant of the brick wall seen in Trench 9 South [186]. This wall [183] was constructed from soft light red unfrogged bricks in a soft grey lime mortar. Like [186] it was on a slightly different alignment to the Dreadnought Building. In Trench 14 it was 1.50m in length north-south and therefore a total of 2.15m was recorded. Below the retaining wall it survived to a height of 5.35m OD. This wall was 0.41m in width and though the area was excavated to 4.68m OD, a depth of 0.70m, the base was not seen. To the south the wall extended below modern concrete intrusions, although was likely to be truncated a little further south.

7.2.43 The sequence separated either side of wall [183]. To the west was a layer of loose light grey brown silty sand [190] at a top height of 4.92m OD. Above this was a broadly similar context [189], a light grey brown sandy to clayey silt with a top height of 5.36m OD. Much of the material above this to the west had been disturbed by late brick walls and their foundations.

7.2.44 On the east side adjacent to the brick wall at the lowest level was a layer of dark brown sandy silt [192] at 4.75m OD. Above this was a layer of dark grey brown sandy silt with brick dust and small brick fragments [199] with a height of 4.88m OD. Sealing [192] was a thick layer, 0.35m, of mortar containing brick and tile fragments [191]. This context had a top height of 5.14m OD. It was considered to be very similar to layer [159] in Trench 6, and [169] in Trench 8.

7.2.45 Directly above [191] was [198], a dark grey brown sandy silt recorded at a height of 5.25m OD. Physically above [198] was a mixed layer of greyish white mortar and yellowish sand [197] between 100 and 130mm deep with a top height of 5.35m OD. Above this was a layer of brick demolition debris, brick dust and brick fragments [196]. This averaged 0.20m in depth and had a top height of 5.55m OD.

7.2.46 This tight sequence of layers was cut by a vertical feature [193] running in from the northern section. This was observed to be tunnelled into wall [183] at a level of 4.90m OD. Interestingly the cut did not continue beyond the wall to the west. This cut was filled with an easily recognisable soft mid brown clayey sand [185]. The top height of [193] was 5.50m, and its width was 0.80m. A depth of 0.80m was recorded but the base was not reached.

7.2.47 Above this in Trench 14 was a modern brick wall [175], of machine-made pale red frogged bricks. This had been demolished to height of 5.80m OD, presumably in 1999, leaving a single course of bricks. To the west of the wall was concrete flooring and a drainage gully showing the contemporary surface in 1999 to have been 5.75m OD.

7.2.48 Two other isolated features were found further south in this trench, [195] and [261], and material was recovered from a deep manhole at the south end [194].

7.2.49 Centrally, [195] was composed of a red brick wall. This wall measured 1.10m north-south and was 0.35m in width. It butted up against [261] on the south side, and survived to 5.90m OD in the trench. It was truncated by modern features on all sides.

7.2.50 To the south of this was a brick base of yellow stock bricks coloured yellow and purple inside [261]. This measured 0.65m north-south by 0.40m east-west and had been truncated along the eastern edge. The top height for this context was 6.02m OD.

7.2.51 At the south end of this trench a large, deep manhole was excavated. This was 2.50m deep and 1.40m north-south by 1.60m east-west. From this [194] a variety of finds were recorded from backfilled early bricks to discarded false teeth with a suggestion of concrete at the base at around 4.00m OD. The area seemed to have been truncated down to a considerable depth with perhaps a basement present.

Trench 15

7.2.52 Trench 15 was a small trench against the western side of the Dreadnought Building towards its southwestern corner. It measured 1.20m north-south by 0.80m east-west.

7.2.53 The earliest context in this trench was a mid grey brown sandy silt [188] at a level of 5.30m OD. Above this was a mid yellowish brown silty sand [187]. This was in turn sealed by a redeposited sand layer [122] which had previously been recorded in Trench 4. The trench

was completed by a modern bedding layer [119], and modern topsoil [118].

Trench 16

7.2.54 Continuing to the south beyond the central section between the Dreadnought Building and the Stephen Lawrence building was the northern end of Trench 16. This was 7.5m in length running down the west side of the Dreadnought Building and then turning to run parallel with the southern edge. The extreme north end of the trench was very disturbed.

7.2.55 Beyond that the earliest context was an east-west masonry wall [236]. This wall was made of red handmade unfrogged bricks, 0.40m in width (north-south), with a step of 0.10m on the south side. It survived to a height of 5.57m OD, and was seen to a depth of 0.60m without the base being visible. This wall was at right angles to [183] to the north, respecting the building's alignment.

7.2.56 Butting up against the north side of [236] at 90 degrees was [237]. This was also composed of light red stock bricks. It measured 3.10m in length north-south before extending into the eastern section. This was a less substantial wall, only 0.24m in width, its top height was 5.40m OD. In 1999 it had been truncated when a water main was excavated through it.

7.2.57 Abutting [237] towards its northern end on the western side and mortared against it, was a poorly constructed wall [255] composed red bricks. The top height was 5.49m OD, it was up to 0.65m in width with a possible posthole slot 100mm square towards the southern edge.

7.2.58 Later contexts [252] and [253] were mid brown silts deposited against walls [237] and [255].

7.2.59 South, beyond [236], a large cut [259] was recorded. The vertical edge was seen 4.10m to the south of [236], making [247] a fill within this feature. Stratigraphically [251] was the earliest fill in this feature. In a deeper section of the trench a dark grey to blackish brown silt [251] was seen at a height of 5.00m OD extending for a length of 1.30m towards [236]. Overlying this and seen in section was a mid whitish grey context of mortar fragments and CBM [251]. This in turn was overlain by [247], composed of dark yellowish brown silty clay and pebbles. This context had a top height of 5.57m OD. To the north, [258] also overlay [250], which was of almost identical composition and extended as far as [236]. The northern edge of the cut was not seen, but must have been in that area. Sealing both [247] and [258] was a layer of grey mortar [257], which in turn was directly overlain by [256], a loose context of brick fragments with a top height of 5.52m OD.

7.2.60 Further to the south beyond [259] was a layer of whitish grey mortar and brick fragments [246]. This context had a top height of 5.60m OD. When excavated, beneath this in the northern part was an east-west cut 0.17m in width [260], filled with mid grey mortar [249]. To the south at this level was an area of red tiles [248]. These were possibly square, measuring 0.25m, and some bricks, along with a large stone floor slab [254] 0.60m long north-south. Overall the area of flooring seen measured 1.40m north-south and extended beyond both sections. The height of this floor was 5.24m OD.

7.2.61 Above this, and from here southwards between the two buildings was [245], a dark grey brown clayey silt. Just south of here the context extended to the base of the trench. This was

a visual record of the destruction which took place when this area was bombed in World War II destroying the south end of the Western Annexe.

7.2.62 Beyond this, near the south end of the trench, was another area of survival. The earliest context here was [243]. This was a wall of red stock bricks almost entirely recorded in section, again with the slightly differing alignment to the Dreadnought Building. This was visible for 1.00m north-south, truncated at the north end and extended into section to the south. [243] was abutted, at a right angle, and mortared to wall [242]. This wall was 0.22m in width north-south, and the top height was 5.27m OD. Above this was a further area of demolition material, mortar with tile and brick fragments [244], in places up to 0.20m deep.

7.2.63 0.90m south of wall [242] was another early masonry feature [239]. This was the northeast corner of a brick base composed of soft red hand- made bricks measuring 0.90m north-south by 0.40m east-west. The north face of this feature was plastered. It survived to a height of 5.61m OD. Lying to the north of [239] was [240], a light foundation of reused brick fragments running north-south. These were un-mortared and just one course deep.

7.2.64 Overlying [240] and [239] were more mid grey mortar and brick fragments [241]. In section this was up to 0.45m deep. Above [241] was a modern layer of dumping [238] consisting of dark grey brown sandy silt.

7.2.65 Trench 16 continued to the south from here where the earliest context was a wall of flint nodules [207] running east-west across the trench. This wall was 0.40m wide north-south, and survived to 5.51m OD in height.

7.2.66 Against this wall on the south was a layer of light brown sandy silt [206]. Physically above [206] was a further layer [205], formed of dark brown sandy silt. Above this were layers of modern material.

After this the trench turned to the east but here the ground level had been raised during the recent renovations and all the excavated material seen was modern.

7.2.67 Continuing to the east was another area where the roadway was present. The earliest context in this area was a wall of sizeable chalk fragments [209] running north-south across the trench. This wall was 0.50m in width, the fragments averaging 200 x 100 x 80mm. The feature survived to 5.49m OD with 100mm above the base of the trench. The wall base was not seen.

7.2.68 Stratigraphically above [209] was a layer of light brown silty sand [204] a fairly clean context the top height of this was 5.58m OD. This was a similar soil to [105] seen before further to the east. Physically above [209] and stratigraphically above [204] was [208], a dump of brick fragments up to 0.20m deep with a top height of 5.66m OD.

7.2.69 Sitting directly upon context [208] was [202]. This was a chalk and flint nodule wall running north-south across the trench. It measured 0.65m in width east-west, was 0.30m in depth and survived to just below the tarmac in the trench at 5.95m OD.

7.2.70 Stratigraphically later than [202] was layer [200] a dark grey silty sand which extended over much of the base of this trench further east and was seen in section up to a height of 5.88m OD. Only [203], a dump of medieval tile and pan tiles, was later than [200]. Although this was early material it had clearly been dumped at a later date, and survived to 5.92m OD against the west side of wall foundation [202].

7.2.71 2.60m to the east of [202] was another wall [201], running north-south across the trench. This feature was quite substantial 0.57m in width and stood 0.30m high in the trench with a top height of 5.62m OD. It was cut into context [204] and sealed by dump layer [200].

7.3 Part 3: Test Pits within the basement; Test Pits B, C, D, F and H

7.3.1 These test pits were hand dug in the north-west portion of the basement. In all cases the test pits were excavated until the base of the foundation wall had been found. The sequences were similar even though the depths were not. Test Pit H at present has not been finished due to the presence of a large brick culvert in the centre of the vault excavated.

7.3.2 Natural coarse gravels were found in Test Pit H [215] at a height 3.42m OD, in Test Pit B [218] at 3.25m, in Test Pit C [223] at 2.72m, in Test Pit F [226] at 2.80m. Natural coarse sand was found in Test Pit D [213] at a height 2.07m OD.

7.3.3 Above this in two Test Pits; D [212] and F [231], was a thin layer of mortar fragments.

7.3.4 These natural layers were then sealed in all test pits by a yellowish to dark brown silty sand; TPB [216], TPC [222], TPD [211], and TPF [225]. This is backfill against the wall foundations of the Dreadnought Building. The depth of this deposit varied with the depth of the foundation; TPB (0.70m), TPC (0.90m), TPD (1.70m), TPF (0.60m).

Additionally in Test Pit C was a light brick foundation [221] just below the concrete floor, 0.25m below present ground level.

Additional contexts were also found in Test Pit F. Here against the southern wall was another brick structure [229], 0.18m wide for the length of the test pit. Also in this trench was an extra backfill layer [230] of coarse rounded gravel at a height of 3.17m OD, a redeposited natural with a small amount of red brick fragments within it. Sealing this was placed a mortared brick layer [228].

7.4 Other Trenches; Trench 10, 11, 12 and 13.

7.4.1 Trenches 10, 11, 12 and 13 were exploratory trenches looking for electricity cables. Only modern deposits and backfill was found in these trenches.

8 ARCHAEOLOGICAL PHASED DISCUSSION

8.1 **Part 1: Trenches associated with services to the newly erected temporary buildings; Trenches 1, 2, 3, 4 and 5.**

8.1.1 As noted before, the majority of archaeology revealed in these trenches was modern in nature.

8.1.2 In the bases of four of the trenches contexts [103], [105], [117] and [128] clearly predated recent work. Only [105] produced dating evidence. Fragments of early post-medieval bricks and early post-medieval tile recovered dated the context to 1600-1800. It seems likely therefore that any Victorian levels were stripped away during landscaping of the area in 1999. These contexts may well relate to ground raising activities in the 18th century either pre or post construction of the Royal Hospital Infirmary.

8.1.3 An exception to the limited sequences in these trenches was Trench 2 where [116], [112], [113] and [111] survived. These also lacked dating evidence. The earliest of these [111] was a thin masonry wall, truncated to the base of the trench from which no sample could be taken. This wall was parallel to the Dreadnought Building to the north. The bricks, although they appeared early, were fragmentary and therefore probably reused. The wall was 0.16m wide, less than a stretcher in width, and therefore unlikely to be structural in nature, more likely to represent a garden wall or the wall of a garden feature post-dating the erection of the Infirmary.

8.1.4 The sole remaining context of possible early date here was [127] in Trench 5. This context of silty sand had much in common with the underlying [128] in this trench. Fragments of post Great Fire brick from here were dated to 1600-1800 therefore joining the local basal layers as part of the 18th century landscape.

8.2 **Part 2: Trenches excavated around the building for services to the new student hub; Trenches 6, 7, 8, 9 North, 9 South, 14, 15 and 16**

8.3 This group of trenches, as with the previous, featured a top 0.50m of material relating to recent events; rebuilding of roads, landscaping of grassed areas, but because they were both wider, averaging 0.80m, and deeper, usually at least 0.80m and in one case nearly 1.80m, archaeological deposits and structures were encountered.

8.4 **17th Century**

8.5 The earliest archaeology recorded here was a group of walls and foundations which did not respect the Dreadnought Building alignment, being at angle slightly to east of this. These walls predated the Dreadnought Building.

8.6 One of these, numbered [183] and [186], had been previously observed further south during the rebuilding of the Stephen Lawrence Building in 2002. This was a substantial structural wall 0.41m in width recorded to a maximum depth of 0.70m and continuing beyond the base,

of the trench. Including the portion seen in the previous excavation this was 15.15m from north to south and truncation at the northern end meant it had continued further in antiquity. The wide shallow unfrogged red bricks used in this were dated to 1600-1700.

8.7 The other walls in this group, present in Trench 16, consisted of [236], a wall running east-west built much more roughly but with a similar width. This was dated from 1700-1900 from a less conclusive sample. Other contexts were [239] and [243], further south in Trench 16. [239] was either a wall running north-south with a minimum width of 0.40m (no western edge was seen) or part of a brick base. The northern face had plaster still attached. This wall was composed of wide red bricks with chaff marks dated to 1700-1800. Wall [243], slightly to the north of this, was a north-south wall of post Great Fire red bricks only partly seen in the trench and dated similarly to 1700-1900.

8.8 Sited centrally between these features was a tile, brick and stone surface [248] and [254]. This showed the contemporary floor height was 5.24m OD, whilst the edges in the tiles showed this surface to have the same orientation as the other walls discussed here.

8.9 Mortared against these walls were a number of supplementary smaller walls, sometimes clearly later in date.

8.10 Mortared against the eastern side of [243] was [242], a wall also of post Great Fire bricks and roughly contemporary in date. Against the plaster of [239,] bricks of [240] had been placed. This feature makes little sense as a wall, as it was so close to [243]. The bricks must have been placed there at a later date to fulfil an unknown function.

8.11 Few contemporary archaeological layers of this date were recorded, mostly because the trenches did not extend deep enough to expose these. The sole exception was the north end of Trench 14. Here a sequence of layers was observed built up against wall [183]. The two earliest deposits to the east of the wall [199] and [192] contained no dateable finds.

18th Century

8.11.1 Sealing the early contexts in Trench 14 was a thick (0.35m) layer of dumped material [191]. Much of this consisted of mortar with brick and tile fragments which survived to a height of 5.14m OD. Contexts containing this material had been recorded elsewhere; [169] in Trench 8 and [159] in Trench 6. In both cases the depth of these contexts was similar although the bases were not seen. A variety of finds were recovered. From [191] came a clay tobacco pipe with an earliest date of 1730 and pottery dating to between 1680 and 1846. From [169] red post-medieval brick fragments dating to 1700-1800, and from [159] shallow and wide Tudor, Stuart and Narrow post Great Fire bricks with similar dates. Heights were also similar to [191]; 5.06m in Trench 8 and 4.92m in Trench 6.

8.11.2 Further south above the walls already discussed was a thick layer of loose demolition material [241], [244] and [246]. Finds from [244] were reused post-medieval red bricks dating from 1700-1900, and [246] which produced narrow post Great Fire bricks of 1700-1900. So this was a mix of demolition from the walls present being levelled, and material imported from

nearby. A small wall recorded running across from east to west north of the floor [248], and presumably contemporary with the other walls above, had been robbed out [260] and backfilled with mortar [249]. A considerable amount of mortar was present so it would seem, where possible, bricks were reclaimed for re-use.

8.11.3 In Trenches 6 and 8, above the demolition material, was dark orangey brown silty clay through to sandy silt [138], [158 and [168]. This seemed to act as a capping for the loose material below.

8.11.4 At the north end of Trench 6 a dump layer of sandy silt with mortar [166] and [171] was seen. Similar material was recorded in the eastern part of Trench 8 [148], this time sitting on the clay capping [168]. Heights on the contexts [166] and [171] were 5.01m and 4.93m OD, and their depths were 0.28m and 0.20m respectively. Context [148] was higher, at 5.21m, but then it was sitting on [168].

8.11.5 In Trench 14, above the demolition material [191], was a layer of dumped domestic waste [198] which perhaps served a similar purpose.

8.11.6 Much work seems to have been done to raise the ground level on the site in advance of the construction of the Infirmary and it is suggested the material above was part of that scheme.

8.11.7 Above the ground raising activities evidence of the construction process of the Hospital Infirmary built in 1763 was evident. In Trench 6, in particular, there were several sequences of thin discreet layers illustrating this taking place. Above the clay [158] was a thin trample layer of sandy silt [157] and sitting on this was a layer of mortar waste [156] 80mm in depth. Further to the north in the trench was a layer of light yellow sand with some mortar and stone chippings [165] sitting on layer of dumping [166].

8.11.8 To the south [156] was in turn sealed by a 60mm layer of compacted brick dust [155] and this was replicated in other parts of the trench; towards the building [137] and further north in the trench [164], all these contexts were slightly different but likely the result of the same process of preparing bricks before they were used in the basement.

8.11.9 Above [155] in Trench 6 was a compacted layer of stone chippings and silt [154] (60mm in depth). Further to the north in the trench this was visible as a light yellow sand with some mortar compacting it and containing stone chippings [163]. This was seen in the manhole at the north end of the trench as [170] where it was 180mm in depth. The deposit continued westward into Trench 8 as [146] where the maximum depth was 250mm and it was very compact in this area. A sample was taken of the chippings in [146], identifying the chippings as Portland Stone fragments. It should be noted the Infirmary building had a stone plinth at ground level and all the material found may be the result of stone dressing in this area of site.

8.11.10 In Trench 14 was a succession of thin layers containing similar material; sand, mortar and some stone chippings. These were not numbered individually but grouped as [197]. The total depth of this was 100-130mm.

8.11.11 Other contexts relating to the 18th century were recorded in Trench 16. To the central south of the Infirmary was a chalk foundation 500mm wide [209] recorded running north-south across the trench. Only surviving 100mm high in the base of the trench this had a top height

of 5.49m OD. It was at right angles to the Infirmary suggesting it may be contemporary. This may have been the base to a standing wall or building. Further to the west, just south of the space between the Infirmary and the Western Annexe, was a minor flint wall running north-west to south-east [207]. This was 400mm in width and brick fragments from this feature (post-medieval red with grey clinker mortar) were dated to 1700-1850.

8.11.12 Sealing [207] was a layer of light brown sandy silt [206], while further east, butting up against [209] was [204] a layer of similar light brown silty sand. From [204] came post-medieval red brick fragments dating the context to 1600-1800. These contexts fit in with other basal layers [103,] [105], [117] and [128] seen to the south east of the Infirmary.

8.11.13 Cutting the demolition material mentioned before in Trench 16, there was evidence of a large, possibly linear, feature crossing the trench. This was shown by a vertical cut [259] to the north edge of [246]. The opposing northern edge was not seen but it is suggested it might be just to the south of standing east-west brick wall [236]. A number of contexts likely to be fills could be seen. The earliest [251] was of dark silt, but the base of the cut, or this fill, was not seen. Stratigraphically above [251] was demolition material [250], and above this was [247], a loose yellowish brown silty clay, clearly a fill. This was mirrored by [258] to the north. Sealing [247] and [258] were two layers of demolition [256] and [257]. Context [257] was the lower, and made up of mortar. Above that [256], consisting of brick fragments, was the latest fill and survived to 5.52m OD. Post Great Fire brick fragments from this context dated it to 1700-1900. The feature measured at least 4.10m across north-south and had a minimum depth of 1.00m. Its function remains unknown.

8.11.14 Above the construction layers [197] in Trench 14 was a layer of demolition [196], mostly brick fragments of uncertain origin. Cutting this was a vertical edged feature [193] which had been backfilled with a distinctive mid brown clayey sand [185]. The width was 0.80m and maximum depth present, not the base, was also 0.80m. The feature roughly tunnelled into wall [183]. The apex of this cut was 4.90m OD. The cut however was not visible on the western side of the wall even though this area had been cleared down to a level of 4.76m OD. This feature has been suggested as the cut for an unseen culvert but otherwise its purpose remains unclear.

8.11.15 It would seem therefore the two contexts, [189] and [190], seen to the west of wall [183], were later backfills. Both contexts contained post-medieval pottery with a wide date range and clay tobacco pipes dating 1700-1740, but may have been dumped later in the 18th century.

8.11.16 In Trench 9 North, the earliest context seen, [182], was a layer of loose mid brown clayey silt. This may have been yet more material used in ground raising on the site. Above layer [182] was a brick culvert [177]. This culvert ran from northwest to southeast and had an internal height of 0.42m and width of 0.26m. It consisted of narrow frogged and unfrogged post Great Fire bricks dated to 1700-1900. No cut was found for the culvert, it was surrounded by [181], backfilled around and over it. It is possible, considering the top height of this culvert as it runs towards the Infirmary, that it may have been a slightly later addition to the original building.

19th Century

8.11.17 In 1811 the Infirmary suffered a severe fire. The building was reinstated and a third storey added to be used as accommodation for staff. Seventy years after its construction, major renovation works started from 1835.

8.11.18 In Trench 6, evidence of these major changes was recorded. Previously the basement had been open to the light with full length windows and a sloping edge up to the surrounding ground level. Soil was now piled up against the walls of the Infirmary. The major part of this infill was context [136], a series of layers with a depth of 1.15m.

8.11.19 To allow light into the basement, light-wells were constructed around the basement windows and these partly bricked up. In association with this, above [136] a construction surface [133] was found from which the light-well [135] of narrow post Great Fire bricks dated 1780-1900 had been built. Sitting upon these was a capping of York Stone [134] to bring the feature up to the general ground level around the building.

8.11.20 Stratigraphically above [134] was a dump layer [132], and on top of this was [130], another dump layer, but with a specific purpose. From [135] a short (0.20m) drain led water away from the light-well to the north, and this emptied into [130], a very loose collection of brick fragments. Dating from these post-medieval red bricks gave a broad range 1800-1950. Another dump layer [131] completed the sequence, cut by a modern sewer pipe [140].

8.11.21 Further north in Trench 6 was [153], a layer of rubble brick fragments and from this, post Great Fire and early post-medieval bricks were dated to 1700-1900. This was covered by [152], with no dating evidence, but also likely to be a Victorian dump layer with a top height of 5.38m OD. Context [162] at the north end of this trench was effectively the same material, with a top height of 5.32m OD.

8.11.22 To the west of the Infirmary, in Trench 9 North, culvert [177] was cut by feature [178], a header wide wall (0.11m), running from east to west across the trench. This was composed of narrow frogged and unfrogged post Great Fire break bricks dating to 1700-1900. This had a maximum depth of 0.35m. A further 0.30m to the south was [179], just one brick, parallel to [178], and it seems likely these were respectively the north and south walls of another culvert. 1.40m into the section, southeast of the trench, culvert [177] had been blocked and looking at this in plan it seems likely this was because it had been cut by [178]. This culvert had been partially destroyed before a modern ceramic sewer, also seen in Trench 6, which had been inserted into its base - presumably this replaced the earlier channel.

8.11.23 Relating to this, above [179], was a piece of brickwork [180] of the same bricks. Originally thought to be a foundation, this was found to be 0.11m depth, and therefore was more likely to be a collapsed portion of brickwork, maybe even from the culvert itself. Above this in section was context [184]. This was a backfill which may have related to the destruction of the culvert.

8.11.24 At the north end of Trench 9 South were two walls, both running east-west, parallel to each other and both likely to be of Victorian date. The southern wall, [176], was 0.25m in width, and perhaps the earlier of the two. It was built of dark red bricks with no obvious frogs. Just to the north was [174], 0.35m in width, composed of wide machine made frogged yellow estuarine bricks dated to 1850-1900.

8.11.25 These walls were not contemporary and represent different buildings put up in the area to the west of the Infirmary. Later both were demolished to their present height, max 5.32m OD, when a concrete foundation was put in for a more recent building, now itself demolished.

8.11.26 In Trench 14, further south from the early wall [183], were two stubs of walls heavily truncated by later activity. The northern of these [195], was made of machine-made, unfrogged imitation bricks dated 1875-1950, so may have been 20th century in date. This was attached at the southern end to what might have been a base [261]. This measured 0.65m north-south by 0.40m east-west and was truncated on its eastern side. This feature was built of re-used narrow post Great Fire bricks which with its mortar was dated 1800-1900, and was therefore part of 19th century alterations in this area.

8.11.27 On the south side of the Infirmary, in Trench 16, were several walls of this period. Physically above the chalk wall [209] was a dump of brick fragments [208], and sitting upon this was a chalk and flint nodule wall [202]. This wall ran north-south and measured 0.65m in width. Although chalk and flint walls can be early in date, the position of this wall in the stratigraphy suggests this was not, and the grey brick clinker mortar used dated it to 1750-1900.

8.11.28 Approximately 2.60m to the east of [202] in Trench 16 was another brick wall [201], 0.57m wide, of narrow post Great Fire bricks with similar mortar to that used in the flint wall. This north-south wall was therefore of similar date.

8.11.29 Both these features had a dump layer [200] up against them. This context was a layer of grey brown silty sand and must have been of similar date. This deposit survived in places to 5.88m OD in this area where present ground level is higher. Up against the west side of wall [202] and cut into [200] was a dump [203] of pan tile and peg tile fragments dating to 1630-1850. These may have come from an earlier, recently demolished building. To the west in Trench 16 was a layer of dark grey brown sandy silt [205], fulfilling a similar function and probably of a similar date. This context had a top height of 5.54m OD.

8.11.30 Other archaeological deposits of similar Victorian date were found around the site. Typically these were also dark grey brown silty sands or sandy silts similar to [161] in Trench 7. In Trench 7, in the north-east part of the site, dump layers [160] and [161] were found at heights of 5.30m and 5.34m OD respectively. At the east end of Trench 8, a thin deposit [145], perhaps a levelling layer, of similar material was present with a top height of 5.41m OD, and at the western end of that trench, 40 metres away, was [173] also similar, with pottery dating to between 1820 and 1900. Above [173] was [172], also dark grey brown sandy silt, with a top height of 5.37m OD. To the west of the Infirmary, small Trench 15 had similar sandy silt [188] and above that a thin layer of silty sand [187] with a top height of 5.34m OD.

8.11.31 The Royal Hospital Infirmary, then disused, was taken over by the Dreadnought Seamen's

Society in 1870, and from then on was known as the Dreadnought Building. Stratigraphically above the material already discussed were a number of archaeological layers and features relating to 20th century and recent work which has taken place on the site.

8.12 **Part 3: Test Pits within the basement; Test Pits B, C, D, F and H.**

Natural Deposits

8.12.1 No natural layers were found in the outside trenches which were of course cut from much higher levels. However, part of the remit of the internal test pits was to find the base of the basement wall and therefore natural horizons were encountered. Natural deposits were found in all five test pits. In four, this consisted of coarse rounded loose gravels. The OD heights of these were:- TPH 3.42m [215], TPB 3.25m [218], TPC 2.72m [223], TPF [226].

8.12.2 In TPD, natural mid to deep yellow, coarse sand [213] was present at a much lower level of 2.07m OD.

18th Century

8.12.3 Stratigraphically above this were the main walls of the Infirmary buildings:- [219] TPB; [224] TPC; [220] TPD; [227] TPF; and [210] TPH. Material from [210] was identified as post-medieval red bricks and narrow frogged post Great Fire bricks typical of construction in a basement in the middle of the 18th century.

8.12.4 Additionally in TPH was a large circular brick culvert [235] running through and almost completely filling the vault in which the test pit was excavated. This was built of similar bricks to the walls and there was no visible join between the two, suggesting the culvert was integral to the construction of the main building. Geographically the culvert was central north-south in the building and seemed to be running east-west from the outside through to the open courtyard originally present in the centre of the building.

8.12.5 In TPF, attached to [227], was [229,] an additional wall constructed of similar bricks to the main building. This wall was 0.18m in width and located against the southern wall of the vault, perhaps acting as a further buttress for the building.

8.12.6 In two of the test pits were thin spreads of mortar; TPD [212] and TPF [231]. These deposits were 50mm in depth and lay directly on the natural at heights of 2.12m and 2.85m OD respectively. A sample was taken from [231] and this was found to be a hard pink shell mortar dated to 1700-1900. Probably this was material used in the building of the walls which then dropped into the trench before backfilling took place.

8.12.7 In TPF, above the mortar, was a layer of orangey brown coarse gravel and sand, redeposited natural with brick fragments [230]. This was 0.30m in depth from 3.17m OD. The brick fragments were from post Great Fire bricks dating from 1700-1900, contemporary with those

in the walls of the Infirmary.

8.12.8 Atypically in TPF, above [230], was a mortared layer of post Great Fire brick fragments [228], 70-100mm think, perhaps to help the stability of the otherwise fairly loose backfill.

8.12.9 The rest of the backfill in four of the test pits consisted of a layer of dark brown silty sand. This was [216] in TPB with a depth of 0.70m and a top height of 3.89m OD. Other contexts were :- [225], TPF, 0.60m, 3.87m OD; [211], TPD, 1.70m, 3.82m OD; and [222], TPC, 0.90m, 3.67m

8.12.10 In some cases this backfill also contained; redeposited sand and gravel natural [216], and post-medieval red brick fragments [225] dated to1600-1800; confirming this event was contemporary with the erection of the Infirmary.

8.12.11 Other alterations occurred in TPH. Originally the undercroft here had been open with quadripartite vaults onto central pillars, but at an early stage the south side of this vault had been filled in with wall [217] of light pink hand-made bricks.

8.12.12 Centrally in this vault the top of the culvert [235] had been taken off. It had then been backfilled with silty sand and rubble at its base, and mainly, silty sand [233] redeposited natural to near its top where a concreted together layer of sandy silt and brick fragments [214] had been put down to allow the flag stones above to be relaid.

8.12.13 A later context of wide, frogged, well-made, post Great Fire bricks was found in TPC [221]. This was laid onto the backfill [222] and consisted of a row of bricks one course deep below the modern concrete floor. Dating to 1750-1900 these may be original or 19th century in date, perhaps designed to support wooden floor joists. The three remaining pits were topped by flag stone floors, some of these slabs were original but abutted other imported slabs suggesting the floors had been relaid, perhaps a number of times.

9 CONCLUSIONS

9.1 Externally the site had been re-landscaped before its conversion to a library in 1999. This has resulted a layer of 0.40 to 0.50m of the modern levelling deposits across the site. As the main access heights to the 18th century building (The Dreadnought) have not changed, this process must have involved the stripping of previous upper deposits. Therefore it is not surprising that there is no evidence for any later 19th/early 20th century deposits in certain areas of the site. On the southeast side of the site, immediately below the 1999 working horizon, predominantly 18th century layers were observed.

9.2 Deep service trenches were also inserted in 1999 along the northern side of the building. This process had truncated 18th century deposits.

9.3 Between the Dreadnought and Stephen Lawrence Buildings a number of truncated wall fragments were found dating to the 17th century, predating the construction of the Dreadnought Building. These had been partially demolished in antiquity, probably in advance of construction of the present building in 1763. Towards the south end of the area between the two buildings evidence was seen of the destruction caused when the Dreadnought and the Western Annexe (predecessor of the Stephen Lawrence) were bombed in World War II.

9.4 The investigations in the basement showed that the natural topography had been significantly altered within the footprint of the Dreadnought Building itself. The basement was constructed directly into the surface of the Kempton Park Gravels. In the north western corner of the building footprint the test pits exposed very deep foundations constructed for reasons at present unclear - these footings did not reflect sub-basements within the building as post-construction they were backfilled to basement floor height. In one of instance, within Test Pit D, a natural mid to deep yellow coarse sand was seen at a height of 2.07m OD.

9.5 No evidence of activity pre-dating the post-medieval period was identified during the monitoring of the site. Within the external areas around the Dreadnought Building, whilst significant areas of truncation were observed, this was due at least in part to the limited depths of the service trenches, and the possibility of further deeper investigations revealing features and layers from earlier periods cannot be discounted. It can be assumed, however, that archaeological deposits will have been almost entirely removed by the construction of the current building's basement in the 1760's.

10 ACKNOWLEDGEMENTS

10.1 Pre-Construct Archaeology Limited would like to thank Duncan Hawkins of CgMs Consulting for commissioning the work and Jane Sidell, Inspector of Ancient Monuments, for monitoring the project. PCA also thanks the staff of Darenth Construction for their help cooperation over a long period of time and Simon Ward of Wilmott Dixon for his liasion.on the basement work.

10.2 The author would like to thank Tim Bradley for his project management and Ray Murphy for the illustrations.

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Maps

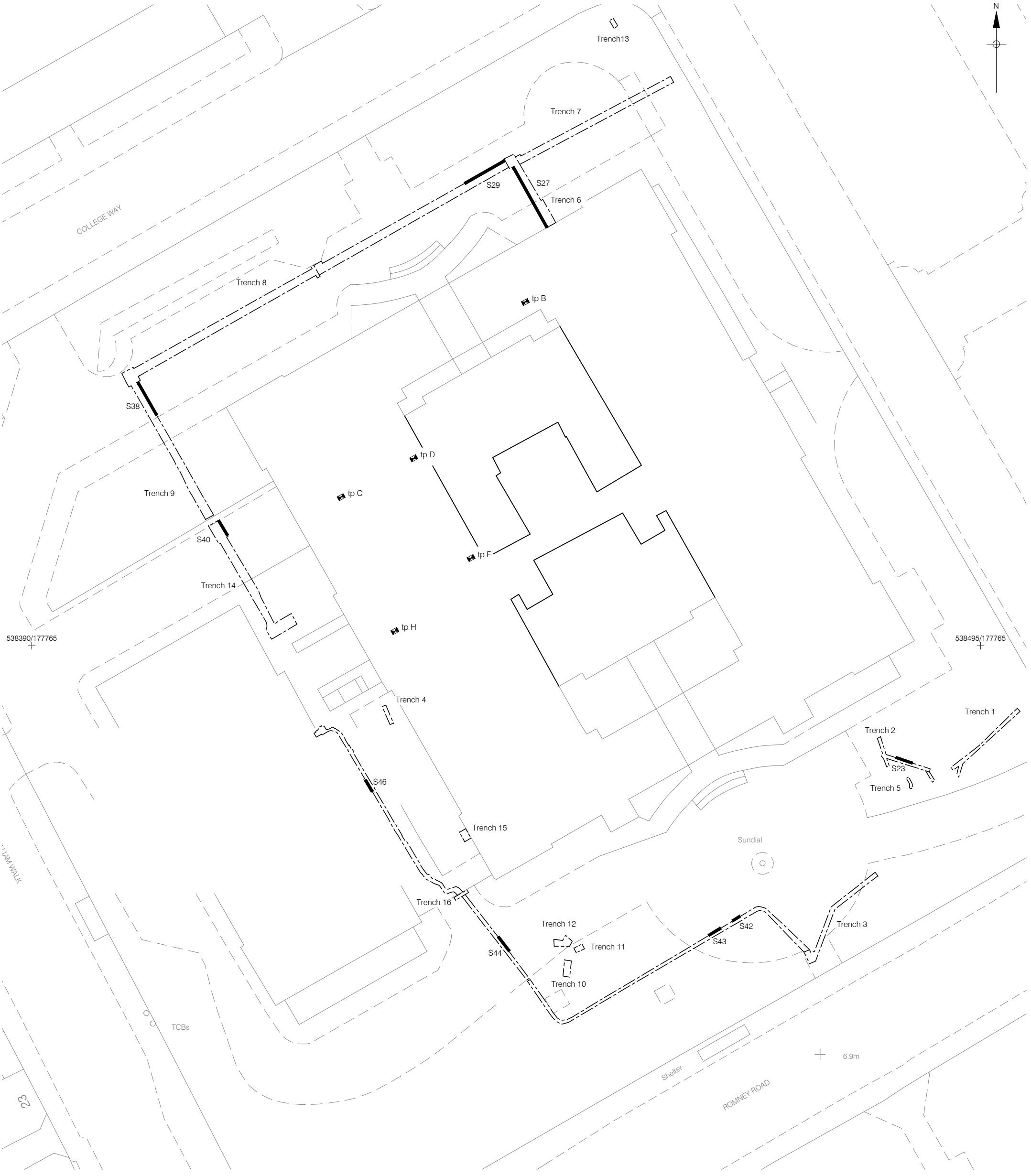
Hollar Wencelaus 1637 Panorama of Greenwich.

Rocque John 1746 An exact Survey of ... London ... and near ten miles around.

Unknown c.1710 Survey of Greenwich Plate 14A in The Court Historian vol.11, 2, (2006) edited by Philip Mansel.

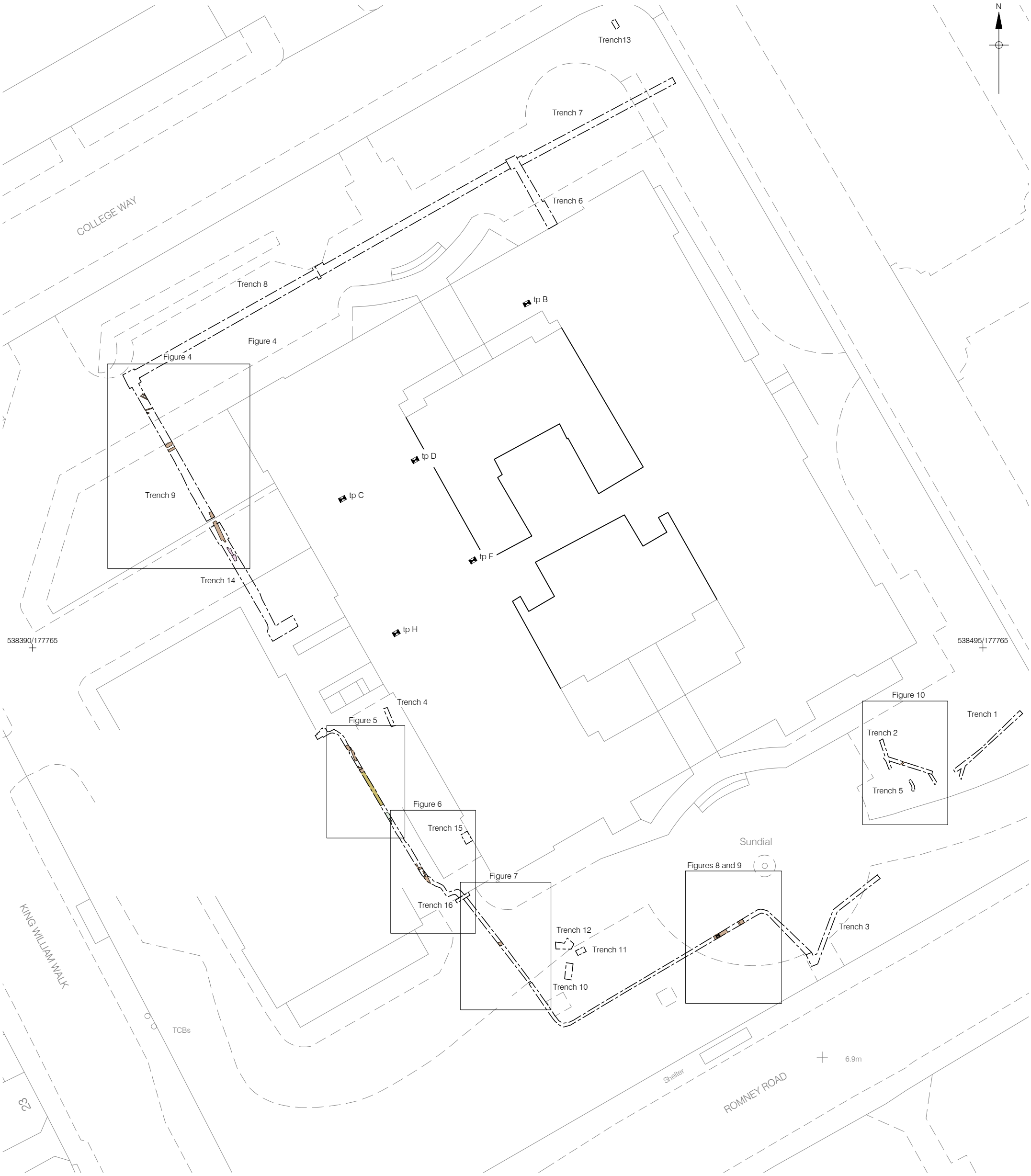
19/01/16 RM

Figure 1
Site Location
1:20,000 at A4



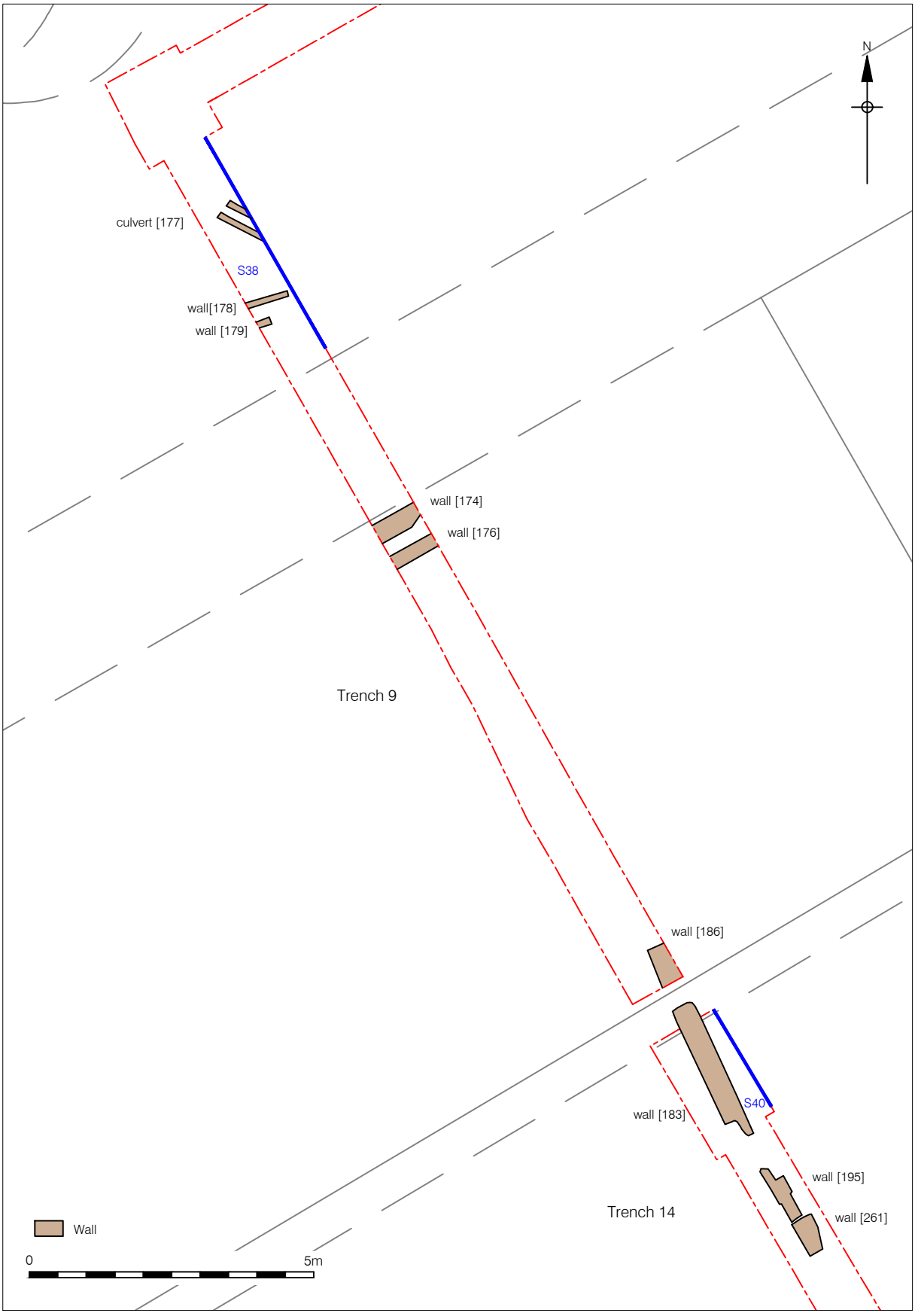
19/01/16 RM

Figure 2
Trench and Test Pit Locations
1:400 at A3



19/01/16 RM

Figure 3
Plan Showing All Features Including Inset Boxes
1:400 at A3



19/01/16 RM

Figure 4
Plan of Trench 9 and Trench 14 (north)
1:100 at A4

19/01/16 RM

Figure 5
Plan of Trench 16 (north)
1:60 at A4

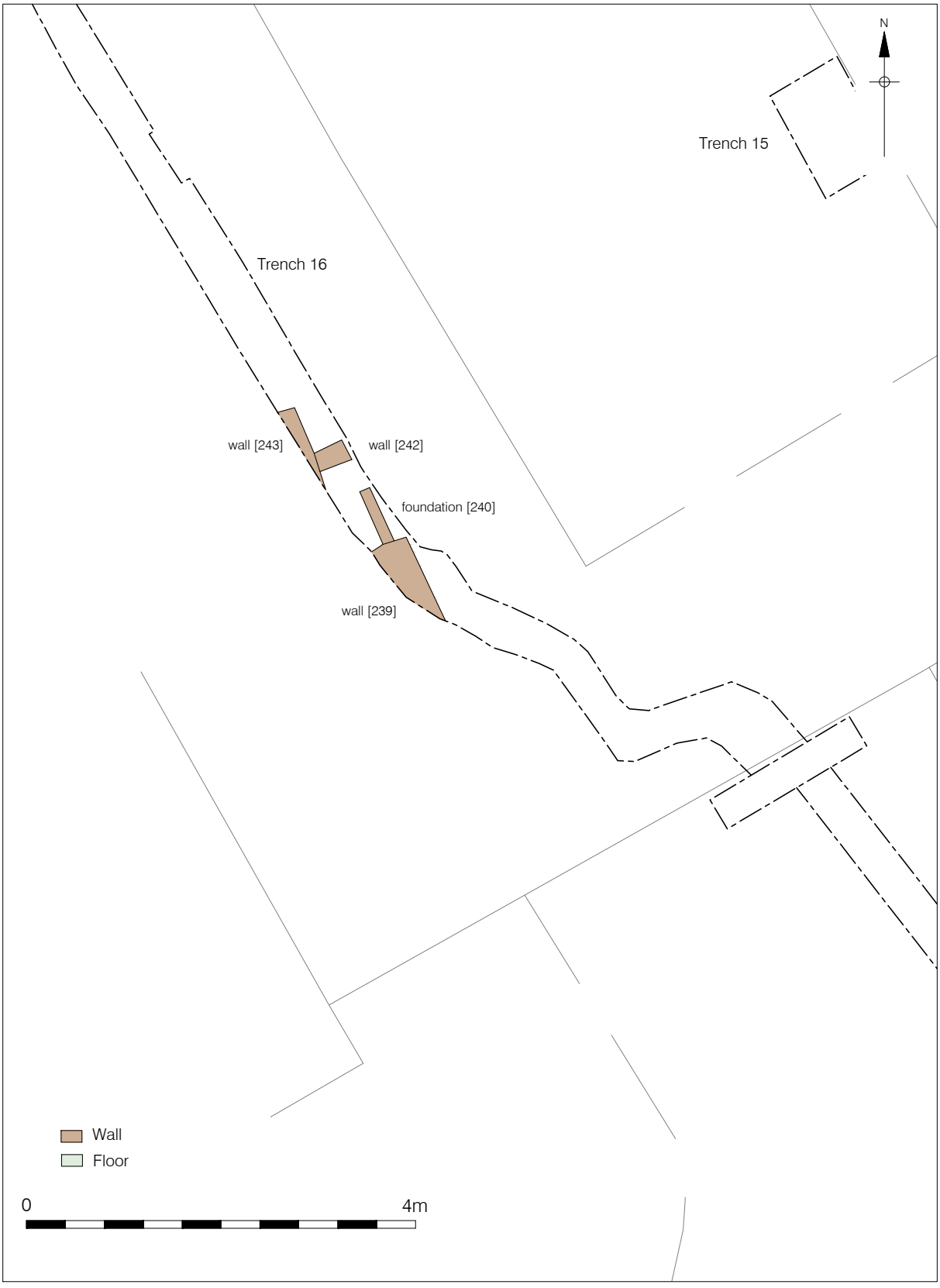


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Figure 6
Plan of Trench 16 (central)
1:60 at A4

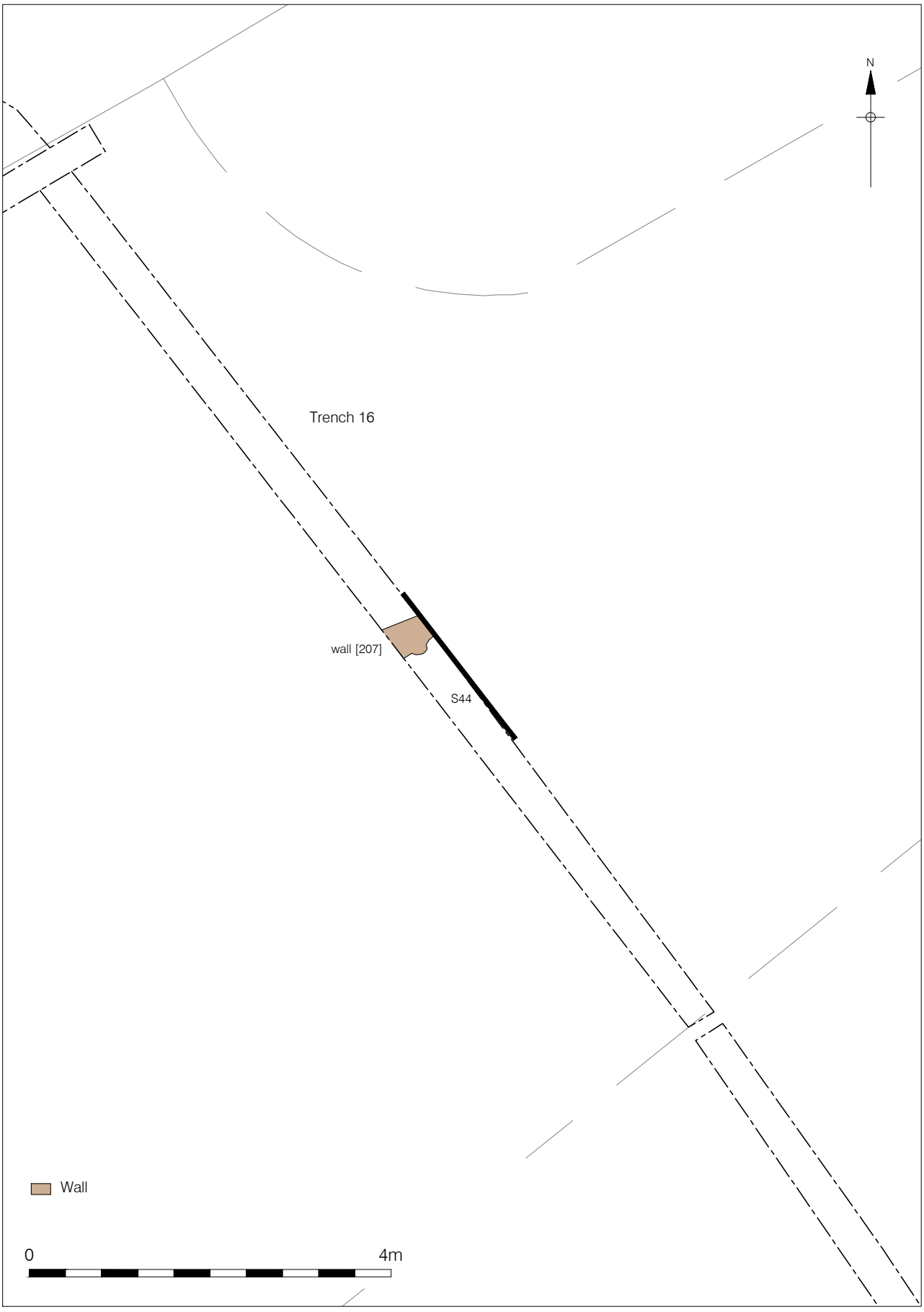

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Figure 7
Plan of Trench 16 (south)
1:60 at A4

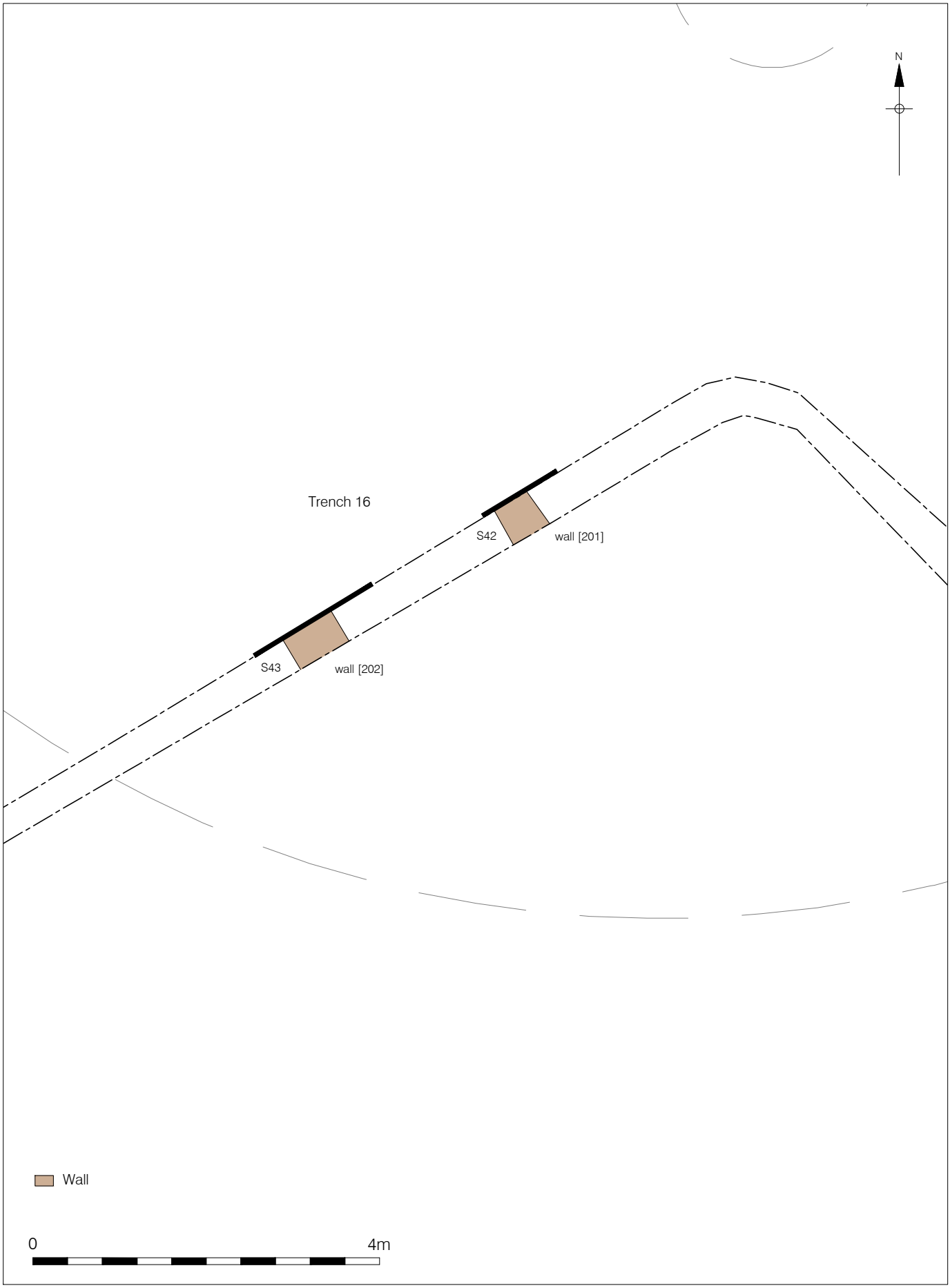

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Figure 8
Plan of Trench 16 east (Upper Detail)
1:60 at A4

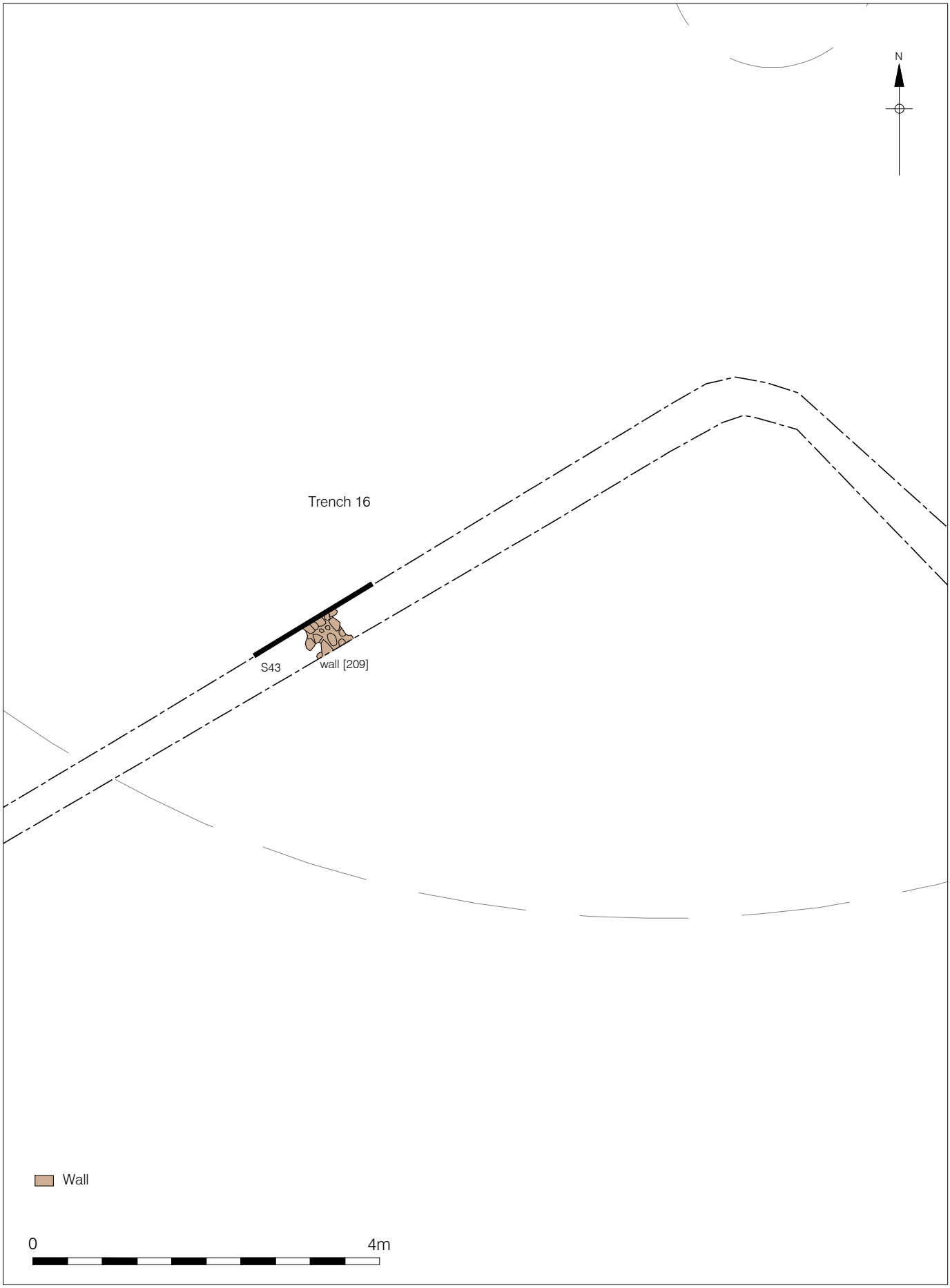

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Figure 9
Plan of Trench 16 east (Lower Detail)
1:60 at A4

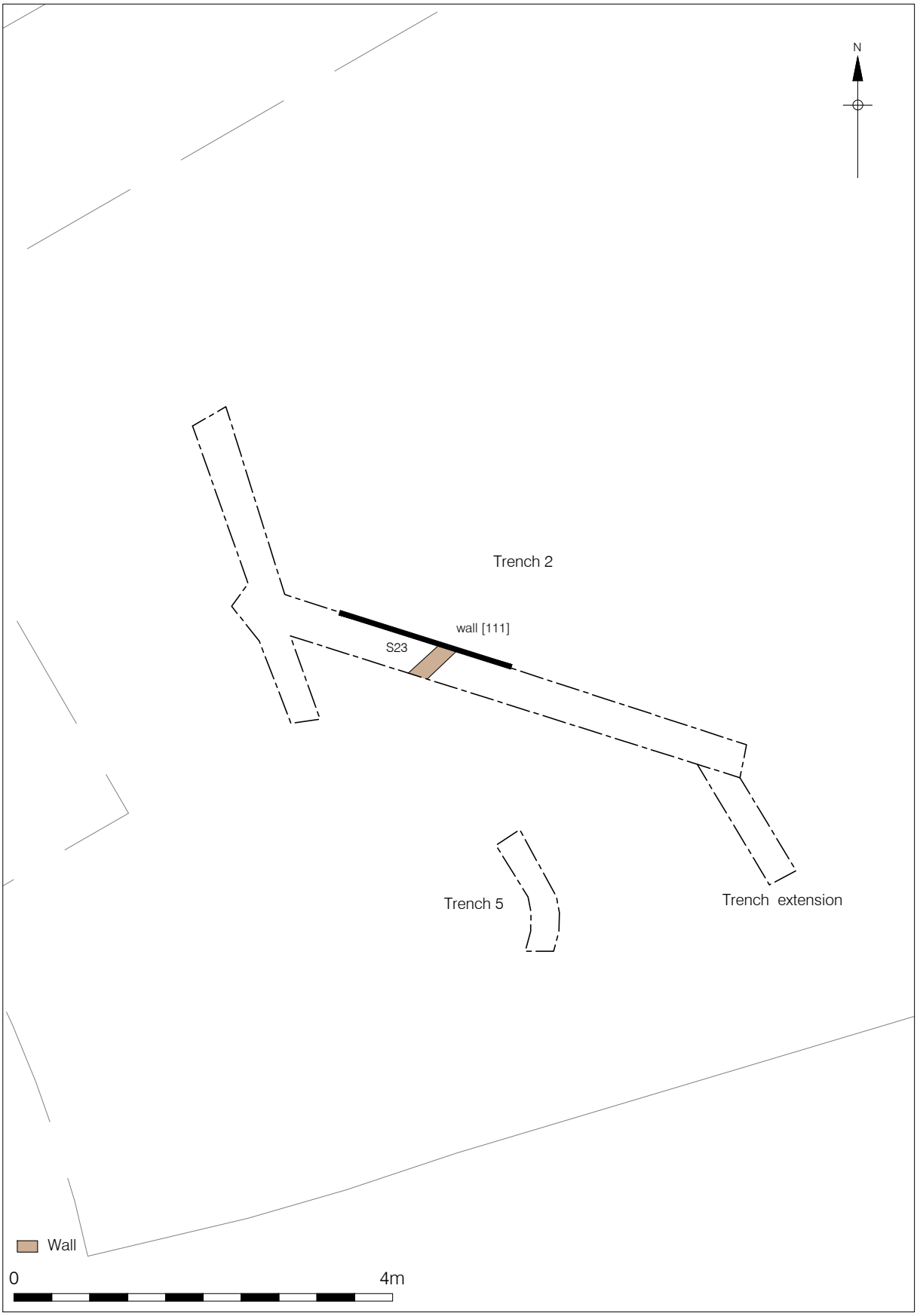

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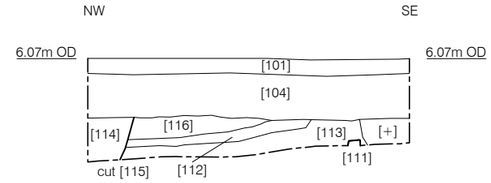
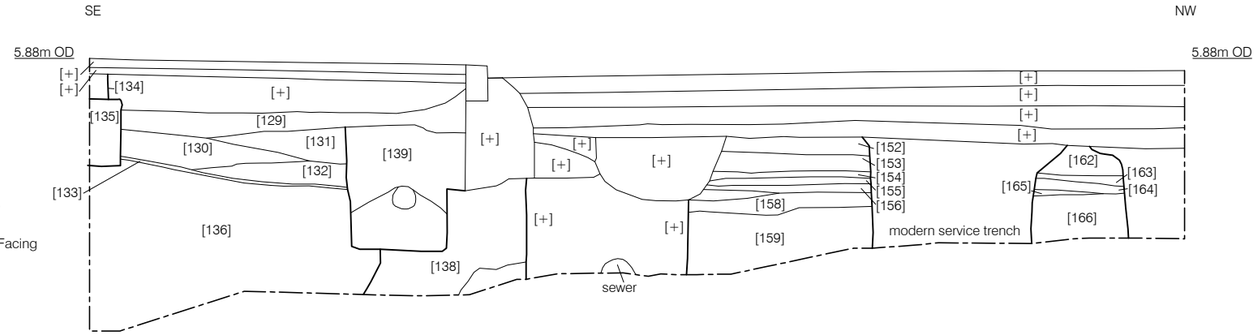
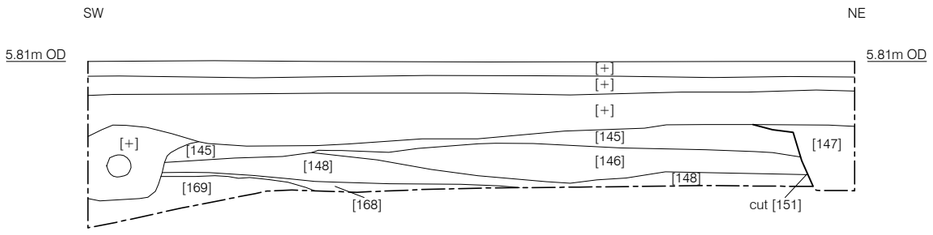
Figure 10
Plan of Trench 2
1:60 at A4



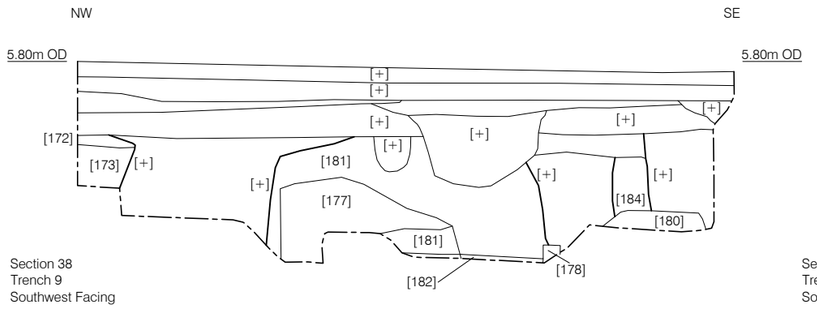
Section 23
Trench 2
Southwest Facing



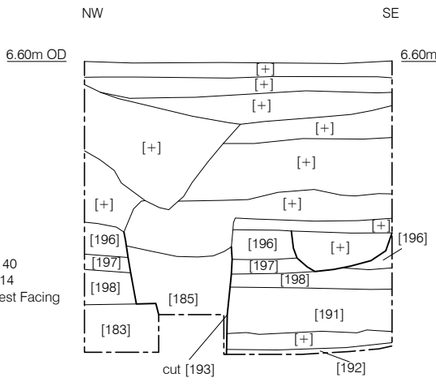
Section 27
Trench 6
Northeast Facing



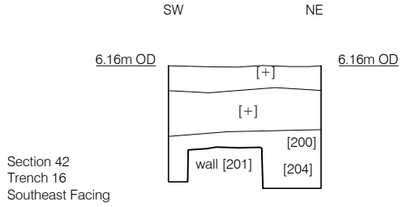
Section 29
Trench 8
Southeast Facing



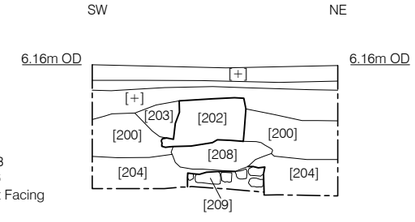
Section 38
Trench 9
Southwest Facing



Section 40
Trench 14
Southwest Facing



Section 42
Trench 16
Southeast Facing



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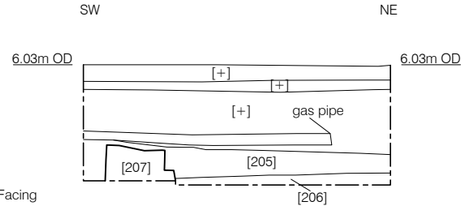
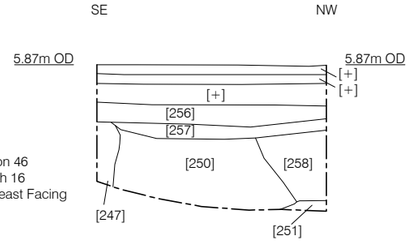
Trench 16
Southeast Facing



Section 44
Trench 16
Southeast Facing



Section 46
Trench 16
Northeast Facing

0 2m

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Figure 11
Sections
1:40 at A3

19/01/16 RM

Figure 12
Plan Showing Walls Recorded During MoLAS Watching Brief 2001
1:125 at A4

APPENDIX 1: CONTEXT INDEX

Context No.	Type	Description	Trench No.	Plan No.	Section / Elevation	Dimensions	Dimensions	Height / Thickness (m)	Highest Level m. OD	Lowest Level m. OD	Phase	Period
101	Layer	Topsoil	1; 2; 5	-	S21; S22; S23; S26	Various	-	120mm	6.33	6.01		Late 20th C
102	Layer	Recent Landscaping	1	-	S21	N-S 0.30m	E-W 9.60m	300mm	6.33	6.1		Late 20th C
103	Layer	Make up Layer	1	Tr.1	S21	N-S 0.30m	E-W 7.10m	50mm	6.33	5.75		18th C?
104	Layer	Recent Landscaping	2	Tr.2	S22, S23	N-S 4.80m	E-W 0.30m	250mm	6.33	5.91		Late 20th C
105	Layer	Make up Layer	2	-	S22, S23			100mm	5.63	5.5		18th C?
106	Masonry	Water Main Support	2	Tr.2	S22	N-S 0.50m	E-W 0.20m	500mm	5.71	5.21		20th C
107	Fill	Backfill of Construction Cut [8]	2	-	S22	N-S 0.15m	-	500mm	5.71	-		20th C
108	Cut	Constuction Cut for Water Main	2	-	S22	N-S 1.00m	-	500mm	5.71	5.21		20th C
109	Fill	Backfill of Modern Water Pipe, Cut[10]	2	-	S22	N-S 2.00m	E-W 0.25m	350mm	5.71	-		20th C

Context No.	Type	Description	Trench No.	Plan No.	Section / Elevation	Dimensions	Dimensions	Height / Thickness (m)	Highest Level m. OD	Lowest Level m. OD	Phase	Period
110	Cut	Constuction Cut for Modern Water Main	2	-	S22	N-S 0.75m	E-W 0.30m	350mm	5.71	5.31		Late 20th C
111	Masonry	Garden Wall	2	Tr.2	S23	N-S 0.16m	E-W 0.40m	50mm	5.54	5.5		18th C
112	Layer	Debris Layer	2	-	S23	NW-SE 1.30m	-	100mm	5.67	5.55		18th C?
113	Layer	Make up Layer	2	Tr.2	S23	NW-SE 1.65m	-	150mm	5.67	5.5		18th C?
114	Fill	Fill of Cut [115]	2	Tr.2	S23			250mm	5.69	-		20th C
115	Cut	Modern Pit or Trench	2	Tr.2	S23			250mm	5.69	5.45		20th C
116	Layer	Demolition materail	2	-	S23	NW-SE 0.95m	-	150mm	5.7	5.67		18th C?
117	Layer	Make up Layer	3	Tr.3	S24	N-S 0.30-0.40m	E-W 9.00m	50mm	5.81	5.79		18th C?
118	Layer	Topsoil	4; 15	-	S25; S39	N-S 2.25m	E-W 0.40m	100mm	5.89	-		Late 20th C
119	Layer	Bedding Layer	4; 15	-	S25; S39	N-S 2.25m	E-W 0.40m	240mm	5.79	-		Late 20th C

Context No.	Type	Description	Trench No.	Plan No.	Section / Elevation	Dimensions	Dimensions	Height / Thickness (m)	Highest Level m. OD	Lowest Level m. OD	Phase	Period
120	Fill	Fill of Cut [115]	4	Tr.4	S25	N-S 0.70m	E-W 0.40m	100m	5.55	-		Late 20th C
121	Cut	Modern Manhole	4	Tr.4	S25	N-S 0.70m	E-W 0.40m	100mm	5.55	5.46		Late 20th C
122	Layer	Recent Make Up	4; 15	Tr.4	S25; S39	N-S 1.50m	E-W 0.40m	130mm	5.56	-		Late 20th C
123	Layer	Recent Landscaping	5	-	S26	N-S 0.90m	E-W 0.30m	200mm	5.95	-		Late 20th C
124	Layer	Base for topsoil	5	-	S26	N-S 1.10m	E-W 0.30m	150mm	6.07	-		Late 20th C
125	Fill	Fill of Cut [126]	5	Tr.5	S26	N-S 0.45m	E-W 0.30m	200mm	5.77	-		Late 20th C
126	Cut	Modern Manhole	5	Tr.5	S26	N-S 4.50m	E-W 0.30m	200mm	5.77	5.57		Late 20th C
127	Layer	Make up Layer	5	-	S26	N-S 0.45m	E-W 0.30m	230mm	5.82	5.77		18th C?
128	Layer	Make up Layer	5	Tr.5	S26	N-S 0.48m	E-W 0.30m	20mm	5.59	-		18th C
129	Layer	Modern Make Up	6	-	S27	N-S 2.95m	E-W 1.00m	200mm	5.69	5.63		Late 20thC

Context No.	Type	Description	Trench No.	Plan No.	Section / Elevation	Dimensions	Dimensions	Height / Thickness (m)	Highest Level m. OD	Lowest Level m. OD	Phase	Period
130	Layer	Dump of Demolition material	6	-	S27	N-S 1.90m	E-W 1.00m	200mm	5.43	5.22		19th C
131	Layer	Dump Layer	6	-	S27	N-S 1.65m	E-W 1.00m	200mm	5.44	5.36		19th C?
132	Layer	Dump Layer	6	-	S27	N-S 1.00m	E-W 1.00m	150mm	5.22	5.16		19th C
133	Layer	Working Surface	6	Tr.6/1	S27	N-S 1.50m	E-W 1.00m	20mm	5.25	5.05		19th C
134	Masonry	Capping Stones of Light Well	6	Tr.6/1	S27	N-S 0.61m	E-W 0.99m	150mm	5.78	5.63		19th C
135	Masonry	Brick Structure of Light Well	6	Tr.6/1	S27	N-S 0.85m	E-W 1.00m	450mm	5.61	5.18		19th C
136	Layer	Dunp Layer(s)	6	Tr.6/2	S27	N-S 2.20m	E-W 1.00m	1.15m	5.23	5.05		19th C
137	Layer	Construction Debris - Brick Dust	6	Tr.6/1	S27	N-S 0.10m	E-W 1.00m	20mm	5.04	-		18th C
138	Layer	Levelling Layer	6	Tr.6/2; Tr.6/3	S27	N-S 1.05m	E-W 1.00m	680mm	5.02	-		18th C
139	Fill	Fill of Cut [140]	6	-	S27	N-S 0.65m	E-W 1.00m	850mm	5.44	-		19th C

Context No.	Type	Description	Trench No.	Plan No.	Section / Elevation	Dimensions	Dimensions	Height / Thickness (m)	Highest Level m. OD	Lowest Level m. OD	Phase	Period
140	Cut	Cut for Ceramic Sewer	6	Tr.6/1; Tr.6/2	S27	N-S 0.65m	E-W 1.00m	850mm	5.44	4.62		19th C
141	Cut	Ground Surface of Original Dreadnought Building	6	Tr.6/2; Tr.6/3	S27	N-S 0.10m	E-W 1.00m	380mm	4.73	4.35		18th C
142	Layer	Topsoil	7	-	-	N-S 2.60m	E-W 1.00m	200mm	5.87	-		Late 20th C
143	Layer	Recent Landscaping	7	-	-	N-S 0.75m	E-W 0.30m	480mm	5.75	-		Late 20th C
144	Layer	Modern Gravel Layer	8	-	S28	N-S 0.50m	E-W 3.00m	150mm	5.45	5.27		Late 20th C
145	Layer	Levelling Layer	8	-	S28; S29	N-S 0.90m	E-W 8.30m	200mm	5.41	5.26		19th C
146	Layer	Construction Debris - Stone Chippings	8	-	S28; S29	N-S 0.90m	E-W 3.20m	250mm	5.27	5.15		18th C
147	Layer	Fill of Cut [151]	8	Tr.8	S28; S29	N-S 0.90m	E-W 0.50m	200mm	5.03	-		Late 20th C
148	Layer	Levelling Layer	8	Tr.8	S28; S29	N-S 0.90m	E-W 8.30m	150mm	5.21	5.02		19th C
149	Fill	Fill of Cut [150]	8	Tr.8	S28	N-S 0.90m	E-W 37.00m	950 mm	5.26	5.21		Late 20th C

Context No.	Type	Description	Trench No.	Plan No.	Section / Elevation	Dimensions	Dimensions	Height / Thickness (m)	Highest Level m. OD	Lowest Level m. OD	Phase	Period
150	Cut	Modern Service Trench	8	Tr.8	S28	N-S 0.90m	E-W 37.00m	950mm	5.31	4.38		Late 20th C
151	Cut	Modern Service Trench	8	Tr.8	S28; S29	N-S 0.90m	E-W 0.70m	200mm	5.03	4.81		Late 20th C
152	Layer	Dump Layer	6	-	S27	N-S 0.95m	E-W 0.75m	100mm	5.38	5.35		19th C?
153	Layer	Rubble Layer	6	-	S27	N-S 1.00m	E-W 0.75m	140mm	5.29	5.25		19th C
154	Layer	Construction Debris - Stone Chippings	6	-	S27	N-S 1.05m	E-W 0.75m	50mm	5.15			18th C
155	Layer	Construction Debris - Brick Dust	6	-	S27	N-S 1.05m	E-W 0.75m	60mm	5.12	5.1		18th C
156	Layer	Construction Debris - Mortar	6	-	S27	N-S 1.05m	E-W 0.75m	80mm	5.08	5.05		18th C
157	Layer	Tread Layer	6	-	S27	N-S 0.60m	E-W 0.75m	60mm	5.03	-		18th C
158	Layer	Levelling Layer	6	-	S27	N-S 1.20m	E-W 0.75m	150mm	5.01	4.96		18th C
159	Layer	Dump Layer	6	Tr.6/3	S27	N-S 2.00m	E-W 0.75m	450mm	4.92	4.5		18th C

Context No.	Type	Description	Trench No.	Plan No.	Section / Elevation	Dimensions	Dimensions	Height / Thickness (m)	Highest Level m. OD	Lowest Level m. OD	Phase	Period
160	Layer	Dunp Layer	7	Tr.7	S30	N-S 0.85m	E-W 8.60m	150mm	5.3	5.26		19th C?
161	Layer	Dump Layer	7	Tr.7	S31	N-S 0.80m	E-W 5.40m	250mm	5.34	5.31		19th C?
162	Layer	Dump Layer	6	-	S27	N-S 0.55m	E-W 0.75m	150mm	5.32	-		19th C?
163	Layer	Construction Debris - Stone Chippings	6	-	S27	N-S 0.58m	E-W 0.75m	70mm	5.14	5.12		18th C
164	Layer	Construction Debris - Brick Dust	6	-	S27	N-S 0.58m	E-W 0.75m	70mm	5.1	5.05		18th C
165	Layer	Construction Debris - Stone Chippings	6	-	S27	N-S 0.45m	E-W 0.75m	50mm	5.04	5.01		18th C
166	Layer	Dump Layer	6	Tr.6/3	S27	N-S 0.65m	E-W 0.75m	280mm	5.01	4.99		18th C
167	Masonry	North Wall of Dreadnought Building	6	Tr.6/1	-	-	-	-	-	-		18th C
168	Layer	Levelling Layer	8	Tr.8	S29	N-S 0.90m	E-W 7.40m	20-100mm	5.09	5.01		18th C
169	Layer	Dump Layer	8	Tr.8	S29	N-S 0.90m	E-W 3.30m	350mm	5.06	4.96		18th C

Context No.	Type	Description	Trench No.	Plan No.	Section / Elevation	Dimensions	Dimensions	Height / Thickness (m)	Highest Level m. OD	Lowest Level m. OD	Phase	Period
170	Layer	Construction Debris - Stone Chippings	7	Tr.7	-	N-S 0.50m	E-W 0.85m	180mm	5.11	-		18th C
171	Layer	Dump Layer	6	Tr.6/3	-	N-S 0.95m	E-W 1.00m	200mm	4.93	-		18th C
172	Layer	Dump Layer	8; 9N	-	S36; S37; S38	N-S 9.95m	E-W 1.80m	150mm	5.37	5.28		19th C
173	Layer	Dump Layer	8; 9N	Tr.8; Tr.9N	S36; S37; S38	N-S 9.95m	E-W 1.80m	100mm	5.22	5.13		18th C?
174	Masonry	Modern Annexe Wall	9S	Tr.9S	-	N-S 0.35m	E-W 0.85m	300mm	5.32	5.04		20th C
175	Masonry	Modern Annexe Wall	14	-	-	N-S 1.10m	E-W 0.25m	60mm	5.8	5.73		20th C
176	Masonry	Victorian Annexe Wall	9S	Tr.9S	-	N-S 0.25m	E-W 0.85m	100mm	5.04	-		19th C
177	Masonry	Brick Culvert	9N	Tr.9N; 9/177	S38	NW-SE 1.10m	NE-SW 0.55m	550mm	5.08	4.54		18th C
178	Masonry	North Wall, Brick Culvert	9N	Tr.9N	S38	N-S 0.11m	E-W 0.65m	350mm	4.9	4.54		19th C
179	Masonry	South Wall, Brick Culvert	9N	Tr.9N	S38	N-S 0.11m	E-W 0.25m	70mm	4.63	-		19th C

Context No.	Type	Description	Trench No.	Plan No.	Section / Elevation	Dimensions	Dimensions	Height / Thickness (m)	Highest Level m. OD	Lowest Level m. OD	Phase	Period
180	Masonry	Brick Culvert? Fragment	9N	Tr.9N	S38	N-S 0.65m	E-W 0.65m	110mm	4.87	-		19th C
181	Layer	Dump Layer - Ground raising around culvert	9N	Tr.9N	S38	N-S 1.00m	E-W 0.85m	750mm	5.35	-		18th C
182	Layer	Dump Layer	9N	Tr.9N	S38	N-S 0.80m	E-W 0.80m	50mm	4.6	-		18th C
183	Masonry	North-South Structural Wall	14	Tr.14	S40	N-S 1.50m	E-W 0.41m	700mm	5.35	4.68		17th C
184	Fill	Backfill over [180]	9N	-	S38	N-S 0.30m	-	400mm	5.23	-		19th C
185	Fill	Fill of Cut [193]	6	Tr.6/1	S40	NW-SE 0.80m	NE-SW 0.60m	800mm	5.5	-		18th C?
186	Masonry	Structural Wall	9S	Tr.9S	-	N-S 0.65m	E-W 0.25m	250mm	5.26	4.98		17th C
187	Layer	Make up Layer	15	-	S39	N-S 1.20m	E-W 0.35m	40mm	5.34	-		19th C?
188	Layer	Make up Layer	15	Tr.15	S39	N-S 1.20m	E-W 0.35m	200mm	5.3	-		19th C
189	Layer	Dump Layer	14	-	-	N-S 1.80m	E-W 0.60m	400mm	5.26	-		18th C

Context No.	Type	Description	Trench No.	Plan No.	Section / Elevation	Dimensions	Dimensions	Height / Thickness (m)	Highest Level m. OD	Lowest Level m. OD	Phase	Period
190	Layer	Dump Layer	14	Tr.14/2	-	N-S 1.80m	E-W 0.60m	150mm	4.92	4.84		18th C
191	Layer	Dump Layer	14	-	S40	N-S 1.00m	E-W 0.40m	350mm	5.14	5.12		18th C
192	Layer	Dump Layer	14	Tr.14/2	S40	N-S 1.00m	E-W 0.45m	70mm	4.75	4.72		18th C?
193	Cut	Cut for possible (unseen) Culvert	14	Tr.14/2	S40	NW-SE 0.80m	NE-SW 0.60m	800mm	5.5	4.7		18th C?
194	Fill	Modern backfill	14	Tr.14/2	-	N-S 1.40m	E-W 1.60m	1850mm	5.93	-		20th C
195	Masonry	Brick Wall fragment	14	Tr.14/2	-	N-S 1.10m	E-W 0.35m	100mm	5.9	5.8		19th C?
196	Layer	Demolition material - Construction Debris?	14	-	S40	N-S 2.70m	E-W 1.50m	200mm	5.55	5.5		18th C
197	Layer	Construction Debris - Stone Chippings + mortar	14	-	S40	N-S 1.85m	-	130mm	5.35	5.3		18th C
198	Layer	Dunp Layer	14	-	S40	N-S 2.60m	-	200mm	5.25	5.21		18th C
199	Layer	Dump Layer	14	-	S40	N-S 1.00m	-	130mm	4.85	4.82		18th C

Context No.	Type	Description	Trench No.	Plan No.	Section / Elevation	Dimensions	Dimensions	Height / Thickness (m)	Highest Level m. OD	Lowest Level m. OD	Phase	Period
200	Layer	Dump Layer	16	Tr.16/1; Tr.16/2	S41, S42, S43	E-W 11.20m; NW-SE 5.70m	NE-SW 0.40m	400mm	5.88	5.72		19th C
201	Masonry	Brick Wall	16	Tr.16/1; Tr.16/2	S42	N-S 0.40m	E-W 0.57m	300mm	5.62	5.36		19th C?
202	Masonry	Chalk and Flint Wall	16	Tr.16/1; Tr.16/2	S43	N-S 0.40m	E-W 0.65m	300mm	5.95	5.62		19th C?
203	Layer	Tile Dump	16	-	S43	N-S 0.40m	E-W 0.25m	200mm	5.92	5.86		19th C?
204	Layer	Dump Layer	16	Tr.16/1; Tr.16/2	S42; S43	N-S 0.40m	E-W 10.60m	250mm	5.58	5.56		18th C?
205	Layer	Dump Layer	16	Tr.16/1; Tr.16/3	S44	N-S 5.60m	E-W 0.35m	200mm	5.54	5.46		19th C
206	Layer	Dump Layer	16	Tr.16/1; Tr.16/3	S44	N-S 3.70m	E-W 0.35m	200mm	5.33	-		18th C?
207	Masonry	Flint Wall	16	Tr.16/1; Tr.16/3	S44	N-S 0.40m	E-W 0.40m	250mm	5.51	5.28		18th C?
208	Layer	Dump of Brick Fragments	16	-	S43	N-S 0.40m	E-W 0.65m	200mm	5.66	-		19th C
209	Masonry	Chalk Foundation	16	Tr.16/4	S43	N-S 0.40m	E-W 0.50m	100mm	5.49	5.33		18th C?

Context No.	Type	Description	Trench No.	Plan No.	Section / Elevation	Dimensions	Dimensions	Height / Thickness (m)	Highest Level m. OD	Lowest Level m. OD	Phase	Period
210	Masonry	Dreadnought Building Walls	Test Pit H	Tp.H	-	N-S 1.00m	E-W 2.70m	200mm	-	-		18th C
211	Fill	Backfill	Test Pit D	Tp.D	-	N-S 0.70m	E-W 1.15m	1700mm	3.82	-		18th C
212	Layer	Mortar Layer	Test Pit D	-	-	N-S 0.40m	E-W 0.70m	50mm	2.12	-		18th C
213	Layer	Natural Sands	Test Pit D	Tp.D	-	N-S 0.40m	E-W 0.70m	50mm+	2.07	-		Natural
214	Layer	Levelling Layer	Test Pit H	-	-	N-S 0.65m	E-W 1.90m	250mm	3.72	-		19th C?
215	Layer	Natural Gravels	Test Pit H	-	-	N-S 0.10m	E-W 2.20m	680mm	3.42	-		18th C
216	Fill	Backfill	Test Pit B	-	-	N-S 1.00m	E-W 1.00m	700mm	3.89	-		18th C
217	leave	Partition Wall	Test Pit H	Tp.H	-	N-S 0.10m	E-W 2.20m	-	-	3.45		19th C
218	Layer	Natural Gravels	Test Pit B	Tp.B	-	N-S 0.40m	E-W 0.30m	50mm+	3.25	-		Natrural
219	Masonry	Dreadnought Building Walls	Test Pit B	Tp.B	-	N-S 0.85m	E-W 0.75m	-	-	3.25		18th C

Context No.	Type	Description	Trench No.	Plan No.	Section / Elevation	Dimensions	Dimensions	Height / Thickness (m)	Highest Level m. OD	Lowest Level m. OD	Phase	Period
220	Masonry	Dreadnought Building Walls	Test Pit D	Tp.D	-	N-S 0.95m	E-W 0.65m	-	-	2.07		18th C
221	Masonry	Floor Support	Test Pit C	-	-	N-S 0.23m	E-W 0.65m	70mm	3.73	3.66		19th C?
222	Fill	Backfill	Test Pit C	-	-	N-S 0.45m	E-W 0.60m	900mm	3.67	-		18th C
223	Layer	Natural Gravels	Test Pit C	Tp.C	-	N-S 0.45m	E-W 0.60m	50mm+	2.72	-		18th C
224	Masonry	Dreadnought Building Walls	Test Pit C	Tp.C	-	N-S 0.60m	E-W 0.70m	-	-	2.79		18th C
225	Fill	Backfill	Test Pit F	-	-	N-S 0.65m	E-W 0.70m	600mm	3.87	-		18th C
226	Layer	Natural Gravels	Test Pit F	Tp.F	-	N-S 0.20m	E-W 0.40m	450mm	2.8	-		Natural
227	Masonry	Dreadnought Building Walls	Test Pit F	Tp.F	-	N-S 1.00m	E-W 0.70m	-	-	2.32		18th C
228	Masonry	Brick Wall Support	Test Pit F	Tp.F	-	N-S 0.40m	E-W 0.65m	100mm	3.27	-		18th C
229	Masonry	Brick Wall Support	Test Pit F	Tp.F	-	N-S 0.20m	E-W 0.60m	450mm	3.69	3.24		18th C

Context No.	Type	Description	Trench No.	Plan No.	Section / Elevation	Dimensions	Dimensions	Height / Thickness (m)	Highest Level m. OD	Lowest Level m. OD	Phase	Period
230	Layer	Redeposited Natural	Test Pit F	-	-	N-S 0.30m	E-W 0.50m	320mm	3.17	-		18th C
231	Layer	Mortar Layer	Test Pit F	-	-	N-S 0.30m	E-W 0.50m	50mm	2.85	-		18th C
232	Layer	Concrete	Test Pit H	-	-	N-S 0.55m	E-W 1.20m	200mm	3.9	-		19th C?
233	Layer	Culvert backfill	Test Pit H	-	-	N-S 1.30m	E-W 0.40m	1500mm	3.67	-		19th C?
234	Layer	Culvert backfill	Test Pit H	-	-	N-S 1.30m	E-W 0.40m	50mm	2.17	-		19th C?
235	Masonry	Brick Culvert	Test Pit H	Tp.H	-	N-S 1.40m	E-W 2.30m	1600mm	3.49	-		18th C
236	Masonry	Brick Wall	16	Tr.16/1	-	N-S 0.40m	E-W 0.35m	600mm	5.57	4.97		17th C
237	Masonry	Brick Wall	16	Tr.16/1	-	N-S 3.10m	E-W 0.25m	300mm	5.4	5.1		17th C
238	Layer	Dump Layer	16	Tr.16/1	-	N-S 3.00m	E-W 2.00m	450mm	5.73	-		20th C
239	Masonry	Brick Foundation	16	Tr.16/1	-	N-S 0.90m	E-W 0.40m	400mm	5.61	5.21		17th C

Context No.	Type	Description	Trench No.	Plan No.	Section / Elevation	Dimensions	Dimensions	Height / Thickness (m)	Highest Level m. OD	Lowest Level m. OD	Phase	Period
240	Masonry	Light Brick Foundation	16	Tr.16/1	-	N-S 0.45m	E-W 0.10m	60mm	5.28	5.21		17th C?
241	Layer	Demolition Layer	16	Tr.16/1	-	N-S 1.00m	E-W 0.25m	450mm	5.63	-		18th C
242	Masonry	Brick Wall	16	Tr.16/1	-	N-S 0.25m	E-W 0.35m	100mm	5.27	5.2		17th C?
243	Masonry	Brick Wall	16	Tr.16/1	-	N-S 1.00m	E-W 0.10m	150mm	5.32	5.19		17th C
244	Layer	Demolition Layer	16	Tr.16/1	-	N-S 2.20m	E-W 0.40m	200mm	5.39	-		18th C
245	Layer	War Damage	16	Tr.16/1	-	N-S 2.80m	E-W 0.40m	500mm	5.7	-		20th C
246	Layer	Demolition Layer	16	Tr.16/1	-	N-S 3.00m	E-W 0.40m	400mm	5.6	-		18th C
247	Fill	Silty Clay Backfill	16	Tr.16/1	S46	N-S 2.00m	E-W 0.40m	550mm	5.57	-		18th C?
248	Masonry	Tile and Brick Floor	16	Tr.16/5	-	N-S 1.40m	E-W 0.35m	60mm	5.24	-		17th C
249	Fill	Robbing Backfill	16	Tr.16/5	-	N-S 0.20m	E-W 0.35m	50mm	5.24	-		18th C?

Context No.	Type	Description	Trench No.	Plan No.	Section / Elevation	Dimensions	Dimensions	Height / Thickness (m)	Highest Level m. OD	Lowest Level m. OD	Phase	Period
250	Fill	Demoltion Backfill	16	Tr.16/1	S46	N-S 1.10m	E-W 0.35m	450mm	5.45	-		18th C?
251	Fill	Silty Backfill	16	Tr.16/1	S46	N-S 1.30m	E-W 0.35m	50mm	5	-		18th C?
252	Layer	Silt Layer	16	Tr.16/1	-	N-S 0.70m	E-W 0.60m	250mm	5.45	-		18th C?
253	Layer	Silt Layer	16	Tr.16/1	-	N-S 1.40m	E-W 0.20m	200mm	5.4	-		18th C?
254	Masonry	Stone Floor	16	Tr.16/1	-	N-S 0.60m	E-W 0.15m	60mm	5.25	-		17th C
255	Masonry	Brick Wall	16	Tr.16/1	-	N-S 0.65m	E-W 0.35m	140mm	5.52	-		18th C?
256	Fill	Demolition Backfill	16	-	S46	N-S 2.20m	E-W 0.35m	130mm	4.85	4.82		18th C?
257	Fill	Levelling Layer	16	-	S46	N-S 1.45m	E-W 0.35m	100mm	5.49	-		18th C?
258	Fill	Silty Clay Backfill	16	-	S46	N-S 1.70m	E-W 0.40m	600mm	5.6	-		18th C?
259	Cut	Large Linear? Feature	16	Tr.16/1	-	N-S 4.10m	E-W 0.40m	700mm	5.62	4.92		18th C?

Context No.	Type	Description	Trench No.	Plan No.	Section / Elevation	Dimensions	Dimensions	Height / Thickness (m)	Highest Level m. OD	Lowest Level m. OD	Phase	Period
260	Cut	Robbed out wall	16	Tr.16/5	-	N-S 0.20m	E-W 0.35m	50mm	5.24	-		18th C
261	Masonry	Brick Base	14	Tr.14/2	-	N-S 0.65m	E-W 0.40m	20mm	6.02	5.8		20th C?

APPENDIX 2: CERAMIC BUILDING MATERIAL & STONE

Kevin Hayward

Context	Fabric	Form	Size	Date range of material		Latest dated material		Spot date	Spot date with mortar
105	2586 3045	Early post medieval red brick and hardlime mortar early post medieval peg tile T6 hard white lime mortar	2	1180	1800	1450	1800	1600-1800	1600-1800
127	3032; 3101	Post great fire brick fragment hard white lime mortar residual	2	1664	1900	1664	1900	1664-1900	1600-1800
130	3046	Modern post medieval red brick	1	1750	1950	1750	1950	1800-1950	No mortar
135	3032; 3035	Narrow post great fire brick and estuarine brick T6 hard white mortar	2	1664	1940	1780	1940	1780-1900	1700-1900
136	2276; 3046; 3030; 3110PM; 3100	Portland stone whit bed ashlar; post medieval peg tile and red brick and reused late medieval early post medieval brown brick hard lime mortar T9; Portland stone fragments; post medieval wall plaster	7	1480	1900	1630	1900	1630-1750	1600-1800
146	3110PM	Portland stone whit bed ashlar	2	1660	1950+	1660	1950+	1750-1900	No mortar
153	3032; 3046	Post Great Fire and early post medieval brick	3	1450	1900	1664	1900	1700-1900	No mortar
159	3046; 3034	Shallow wide Tudor Stuart and Narrow Post Great Fire Brick T6 hard white mortar	2	1450	1900	1664	1900	1700-1900	1700-1800
167	3046	Voussoir brick T6 hard white mortar	1	1450	1700	1450	1700	1600-1800	1700-1800
169	3046	Red post medieval brick fragments T6 mortar	1	1450	1700	1450	1700	1600-1800	1700-1800
174	3035	Wide machine frogged yellow estuarine brick T7 Roman Mortar hard light brown	1	1780	1940	1780	1940	1850-1940	1850-1900+
175	3034R	Modern machine frogged made imitation brick T2 hard light grey lime mortar	1	1850	1950+	1850	1950+	1875-1950	1800-1900

Context	Fabric	Form	Size	Date range of material		Latest dated material		Spot date	Spot date with mortar
177	3032	Narrow frogged and unfrogged post great fire brick T2 grey clinker mortar	3	1664	1900	1664	1900	1800-1900	1700-1900
178	3032	Narrow unfrogged post great fire brick T2 grey clinker mortar	1	1664	1900	1664	1900	1780-1900	1700-1900
180	3032	Narrow unfrogged post great fire brick T6 white hard lime mortar	1	1664	1900	1664	1900	1780-1900	1700-1900
181	2850	Green Glazed Flemish silty early post medieval floor tile	1	1450	1600	1450	1600	1450-1600	No mortar
183	3033	wide shallow unfrogged redbrick T8 soft light grey mortar	2	1450	1700+	1450	1700+	1500-1700+	1600-1700
194	3033	Poor quality red wide shallow Tudor Brick brown mortar	1	1450	1700	1450	1700	1500-1700+	1450-1700
261	3032	Reused narrow post great fire bricks coated with a light grey hard lime mortar with wood T5	2	1664	1900	1780	1900	1780-1900	1800-1900+
195	3034R	Modern machine made unfrogged imitation brick	1	1850	1950+	1850	1950	1875-1950	No mortar
201	3032; 3101	Narrow post great fire brick grey red brick clinker mortar T1	2	1664	1900	1780	1900	1780-1900	1750-1900
202	3101	Grey brick clinker mortar T1	1						1750-1900
203	2276; 2279; 3046	Red brick, pan tile, peg tile post medieval	4	1450	1900	1480	1900	1630-1850	No mortar
204	3046	Post medieval red brick	3	1450	1800	1450	1800	1600-1800	No mortar
207	3046; 3101	Post medieval red brick grey clinker mortar T2	1	1450	1900	1450	1900	1600-1800+	1700-1850
210	3032; 3046; 3101	Reused post medieval red brick narrow frogged post great fire brick t3 pink shelly hard mortar	3	1450	1900	1780	1900	1800-1900	1700-1900
211	2276; 3046; 3101	Post medieval red brick peg tile and T3 pink shelly hard mortar	1	1450	1900	1480	1900	1600-1800	1700-1900

Context	Fabric	Form	Size	Date range of material		Latest dated material		Spot date	Spot date with mortar
216	3032; 3101	Reused post great fire brick T2 mortar	1	1664	1900	1664	1900	1750-1900+	1700-1850
221	3032R 3101	Wide frogged well made post great fire brick T1 mortar	1	1664	1900	1750	1900	1850-1900	1750-1900
222	2276	Post medieval peg tile	4	1480	1900	1480	1900	1600-1900	No mortar
225	3046	Red brick post medieval	1	1450	1800	1450	1800	1600-1800+	No mortar
228	3032	Post Great fire brick with T2 mortar	1	1664	1900	1664	1900	1700-1900	1700-1900
230	3032R	Post great fire brick	1	1664	1900	1664	1900	1700-1900	No mortar
231	3101	Hard pink shell Mortar t3	1						1700-1900
233	3046	Red post medieval brick	1	1450	1800	1450	1800	1600-1800+	No mortar
236	3046 3101	Red post great fire brick T3 shelly mortar	1	1450	1900	1450	1900	1700-1900	1700-1900
237	3046 3101	Hard pink shell mortar T3 as 231 well made Victorian Red brick	1	1750	1900	1750	1900	1800-1900	1870-1900+
239	3046	Poorly made wide red brick chaff marks T2 MORTAR	1	1450	1800	1450	1800	1550-1750	1700-1800
240	3032R	Narrow post great brick T1 brick clinker mortar	1	1664	1900	1664	1900	1780-1900	1750-1900
242	3032R	post great fire brick T3 shell mortar	1	1664	1900	1664	1900	1700-1800	1700-1900
243	3032R	Post great fire brick	1	1664	1900	1664	1900	1700-1900	No mortar
244	3046; 2276	Reused Post medieval red brick T2 mortar post medieval peg tile	1	1450	1800	1450	1800	1600-1800	1700-1900
246	3032; 2276	Very narrow poorly made post great fire brick possibly a paving brick and peg tile t2 mortar attached	3	1480	1900	1480	1900	1600-1900	1700-1900
255	3032r	Post great fire brick	1	1664	1900	1664	1900	1700-1900	
256	3032	Post great fire brick red	1	1664	1900	1664	1900	1700-1900	1700-1900

Review

This sizeable building material assemblage (stone, brick and mortar) (71 fragments) from KWA15 Dreadnaught building. Greenwich Campus, consists of a mixture of early to late post medieval building material. There are a range of brick (3033; 3030; 3046; 3032; 3034; 3035) and mortar types (9 in total) showing that there were numerous extensions and rebuilds from this part of Greenwich Palace.

In keeping with the Tudor-Stuart Greenwich, there are a number of poorly made red unfrogged 3033, 3046 bricks from walls [183] [194] [225] [233] [239] suggesting earlier 16tth-18th century builds. These are bonded with softer cream-grey and brown mortars typical of earlier post medieval construction. From a similar period is a solitary example of a Flemish Glazed silty floor tile in fabric 2850 (1450-1600) contemporary with the construction of Greenwich Palace.

In the main however most bricks were post great fire narrow bricks which date from 1780-1900 with the advent of the brick tax.

There are also modern replacement red and purple bricks from [130] [175] [195] perhaps specially made to retain the overall appearance of the building.

Recommendations

The building material assemblage, retained mainly from a number of walls very much respects the post medieval development of Greenwich Palace, The variety of mortar types and brick fabrics suggest a complex building history. There are no individual items of intrinsic or artistic merit, rather the value of the

APPENDIX 3: POTTERY ASSESSMENT

Chris Jarrett

INTRODUCTION

A total of eighteen stratified sherds, representing 17 estimated number of vessels (ENV) and weighing 707g dating to the post-medieval period were recovered from the archaeological work and found in seven contexts. The material is in a good condition, indicating that it was deposited soon after breakage. The assemblage consists of sherd material with identifiable forms present. The pottery was quantified by sherd count, estimated number of vessels (ENV) and weight and was classified according to the Museum of London Archaeology (M OLA 2014). The assemblage is discussed by context as an index.

POTTERY INDEX

Context [149], considered spot date: 1580–1900

London-area post-medieval redware (PMR), 1580–1900, 1 sherd, 1 ENV, 71g, form: pipkin

Context [173], considered spot date: 1820–1980

Yellow ware with slip decoration (YELL SLIP), 1820–1900, 1 sherd, 1 ENV, 5g, form: closed (unidentified)

Context [181], considered spot date: early 18th century

London-area post-medieval redware (PMR), 1580–1900, 6 sherds, 6 ENV, 262g, forms: brazier and pipkin
London tin-glazed ware with pale blue glaze and dark blue decoration (TGW H), 1680–1800, 1 sherd, 1 ENV, 14g, form: rounded dish with early 18th-century floral decoration

Total: 7 sherds, 7 ENV, 266g

Context [181], considered spot date: Late 17th century

London-area post-medieval redware (PMR), 1580–1900, 1 sherd, 1 ENV, 47g, form: deep flared bowl

Context [189], considered spot date: late 17th century

Dutch tin-glazed ware (DTGW), 1512–1800, 1 sherd, 1 ENV, 13g, form: rounded dish (polychrome floral decoration)
Frechen stoneware (FREC), 1550–1700, 1 sherd, 1 ENV, 71g, form: pipkin
London-area post-medieval redware (PMR), 1580–1900, 1 sherd, 1 ENV, 95g, form: rounded jug (late 16th century)
London tin-glazed ware (TGW), 1570–1846, 1 sherd, 1 ENV, 5g, form: bowl (blue on white ?Chinoiserie decoration)

London tin-glazed ware with plain white glaze (TGW C), 1630–1846, 1 sherd, 1 ENV, 35g, form: ointment pot

Total: 6 sherds, 6 ENV, 319g

Context [190], considered spot date: 1580–1900

London-area post-medieval redware (PMR), 1580–1900, 1 sherd, 1 ENV, 26g, form: unidentified

Context [191], considered spot date: 1680–1846

London tin-glazed ware with plain pale blue glaze (TGW BLUE), 1680–1846, 2 sherds, 1 ENV, 20g, form: unidentified

Significance and potential of the assemblage and recommendations for further work

The assemblage has little significance at a local level and the pottery types present fit the ceramic profile for London and all of the pottery types are frequently encountered in post-medieval excavations in the region. The high occurrence of post-medieval redware (PMR) in the assemblage is undoubtedly due to the fact that this pottery type was made in Deptford and Greenwich. The only potential of the pottery is to date the contexts it was recovered from. None of the pottery requires illustrating. There are no recommendations for further work.

Reference

MOLA, 2014. Medieval and post-medieval pottery codes. Accessed January 12th, 2016. <http://www.mola.org.uk/resources/medieval-and-post-medieval-pottery-codes>.

APPENDIX 4: CLAY TOBACCO PIPE

Chris Jarrett

INTRODUCTION

A small sized assemblage of clay tobacco pipes was recovered from the site (one box). All of the fragments are in a good condition, indicating fairly rapid deposition after breakage. Clay tobacco pipes occur in seven contexts as small (under 30 fragments) sized groups. All of the clay tobacco pipes (28 fragments, of which none are unstratified) were classified by Atkinson and Oswald's (1969) typology (AO) and 18th-century bowls are according to Oswald (1975) general typology and prefixed OS with additions to the typology according to Higgins (2004). The assemblage consists of eleven bowls and seventeen stems. The bowls date to between c. 1700-1860 and all were smoked, while eight of the bowls were initialled on their heels.

SPOT DATING INDEX

Context [136], spot date: *c.*1730–1910
X1 OS10 heeled, upright bowl, thick stemmed, c. 1700–1740, initialled H P: Henry Prick, Crane Street, Greenwich, working 1704– *c*. 1730.
X 10 stems, mostly thick and thin with wide bores, except for two examples with thin stems and fine bores dated *c*. 1730–1910.

Context [148], spot date: *c*. 1730-1780

X1 damaged bowl surviving as a thin stem with a fine bore and the beginning of a spur
X2 thin stems with fine bores

Context [149], spot date: *c*. 1730-1780
X1 OS10 heeled, upright bowl, thick stemmed, dated c. 1700–1740. The heel is damaged, although it shows evidence for moulded crowns in relief on each side
X2 OS12 heeled, upright bowls, thin stemmed with fine bores, c. 1730–1780, initialled H P: Henry Prick, Crane Street, Greenwich, working 1704– c. 1730.

X1 OS12 heeled, upright bowl, thin stemmed with a fine bores, *c*. 1730–1780. On the heel the first name initial is absent, while the second initial may be part of a poorly moulded P. Possibly made by Henry Prick or a later pipe make adapting one of his moulds.
X5 stems, medium-thin thickness and fine bores.

Context [149], spot date: *c*. 1840–1880

X1 AO28S squat spurred bowl (Higgins 2004, 242), *c*. 1840–1880, decorated with leaf borders and initialled on the spur J B. Possibly made by either James (Lambert) Burstow (3), 1841-1851, Greenwich/Deptford, or Joseph Birchall (1) 1859-1871, Greenwich.

X1 AO28S squat spurred bowl, *c*. 1840–1880, decorated with leaf borders and initialled J G on the spur. Possibly made by Joseph Grout, 1849, Shadwell

Context [189], spot date: *c*.1700–1740

X1 OS10 heeled, upright bowl, thick stemmed, *c*. 1700–1740, initialled H P: Henry Prick, Crane Street, Greenwich, working 1704– *c*. 1730.

Context [190], spot date: *c*.1700–1740
X1 OS10 heeled, upright bowl, thick stemmed, *c*. 1700–1740, initialled H P: Henry Prick, Crane Street, Greenwich, working 1704– *c*. 1730.

Context [191], spot date: c.1730–1910
X1 damaged bowl with its spur missing, c. 1730–1910, The damaged bowl shows evidence for moulded decoration and on the left side of the bowl survives a vertical scroll with 'DI...'. Possibly a mid-late 18th century armorial bowl.

Significance, potential and recommendations for further work

The assemblage has little significance at a local level. The bowl types follow that for greater London and the initialled pipes relate to documented local pipe makers, such as Henry Prick working in Greenwich during the early 18th century and James (Lambert) Burstow (3) or Joseph Birchall (1) working in Deptford or Greenwich during the mid 19th century. The main potential of the clay tobacco pipes is to date the contexts they were recovered from. There are no recommendations for further work on the assemblage.

Reference

Atkinson, D. and Oswald, A., 1969, 'London clay tobacco pipes'. *Journal of British Archaeology Association*, 3rd series, Vol. 32, 171-227.

Higgins, D., 2004, The clay tobacco pipes, in G. Keevill, The Tower of London Moat; archaeological excavations 1995–9, Oxford Archaeology / Historic Royal Palaces Monograph 1, 241–57.

Oswald, A. 1975, Clay pipes for the Archaeologist, British Archaeological Reports, British series, No.14.

APPENDIX 5: OASIS FORM

Project details	
Project name	Dreadnought Building, Greenwich Maritime Campus
Short description of the project	An Archaeological Watching Brief was undertaken by Pre-Construct Archaeology Ltd at the Dreadnought Building, University of Greenwich, King William's Walk, London Borough of Greenwich. This involved the digging of service trenches for temporary buildings to the southeast of the Main Building and the digging of service trenches around the Dreadnought Building. Another phase of test pits was also excavated in the basement. This work was in advance of the conversion of the building to a new function as a student hub. Little was found in the service trenches for the temporary buildings. Strata and fragments of building foundations from the post-medieval period were encountered in the other service trenches. Natural deposits and foundation structures relating to the construction of the Dreadnought were recovered from the test pits.
Project dates	Start: 21-09-2015 End: 18-12-2015
Previous/future work	Yes / Yes
Any associated project reference codes	KWA15 - Sitecode
Type of project	Recording project
Site status	Area of Archaeological Importance (AAI)
Site status	Scheduled Monument (SM)
Site status	World Heritage Site
Current Land use	Other 2 - In use as a building
Monument type	WALLS/STRATA Post Medieval
Monument type	NONE None
Significant Finds	NONE None
Significant Finds	NONE None
Investigation type	'"Watching Brief"'
Prompt	Scheduled Monument Consent
Project location	
Country	England
Site location	GREATER LONDON GREENWICH GREENWICH Dreadnought Building, University of Greenwich, King William's Walk
Postcode	SE10 9HX
Study area	7530 Square metres
Site coordinates	TQ 3836 7773 51.481075518097 -0.007248553039 51 28 51 N 000 00 26 W Point
Lat/Long Datum	Unknown
Height OD / Depth	Min: 5.8m Max: 6.6m
Project creators	

Name of Organisation	Pre-Construct Archaeology Limited
Project brief originator	Tim Bradley
Project design originator	Tim Bradley
Project director/manager	Tim Bradley
Project supervisor	Phil Frickers
Type of sponsor/funding body	University
Name of sponsor/funding body	The University of Greenwich