55 SOUTHWARK STREET, SOUTHWARK, LONDON BOROUGH OF SOUTHWARK

ARCHAEOLOGICAL EVALUATION

DECEMBER 2013

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PRE-CONSTRUCT ARCHAEOLOGY

DOCUMENT VERIFICATION

55 SOUTHWARK STREET, LONDON BOROUGH OF SOUTHWARK

ARCHAEOLOGICAL EVALUATION

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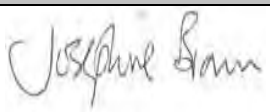
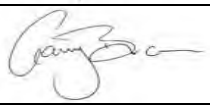
Graphics Checked by:	Josephine Brown		December 2013
Project Manager Sign-off:	Gary Brown		December 2013

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An Archaeological Evaluation at 55 Southwark Street London SE1 1RU

Local Planning Authority: London Borough of Southwark

Central National Grid Reference: TQ 3231 8012

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CONTENTS

ILLUSTRATIONS

PHOTOGRAPHS

1 ABSTRACT

1.1 The archaeological evaluation undertaken by Pre-Construct Archaeology Ltd at 55 Southwark Street was carried out in advance of the proposed redevelopment of the site. The redevelopment would entail the demolition of the existing building and construction of a mixed complex which will occupy the entire footprint of the site. The area of proposed development is a brownfield site that has witnessed a number of phases of previous development. It is located within an Archaeological Priority Zone. The proposed redevelopment of the site is subject to policies contained within the National Planning Policy Framework (NPPF), the London Plan and the London Borough of Southwark's Southwark Plan, adopted in July 2007, namely Policy 3.19 Archaeology.

1.2 Although no detailed Desk Based Assessment has been prepared for the site the archaeological potential had been amply demonstrated by the excavations undertaken on the adjacent site at 51-53 Southwark Street which lies immediately to the east. Excavations undertaken in 1996 recorded early Roman occupation dating to the mid-1st century AD and the subsequent development of a timber waterfront which lay close to the edge of an island that lay in the Thames channel at this time. Substantial timber buildings occupied the land surface created adjacent to the timber waterfront and analysis of the pottery suggested that the site had been used as a landing and redistribution centre for goods during the 2nd century AD. The excavation demonstrated the continued frequentation of the site into the 4th century (Killock 2005). Although some areas of the site at 55 Southwark Street had been impacted by the construction of modern basements there was no reason to believe that archaeological remains similar to those seen on the adjacent site did not extend over the area of the proposed redevelopment.

1.3 Following the submission and approval of a Written Scheme of Investigation (Brown, 2013) a combined scheme that entailed the removal of obstructions and the archaeological evaluation of the site commenced on the 10th of October 2013. Works on the site continued until the 15th of November.

1.4 The evaluation consisted of two large stepped trenches which covered a combined area of 375m^2 at surface level. The investigation demonstrated that significant archaeological remains relating to a number of periods were evident across the entire site footprint.

1.5 The foundations and floors of a substantial building complex dating from the 17th and 18th centuries were evident in the southwest corner of the site. It is probable that these buildings were demolished prior to the construction of the railway viaduct which lies close to the southern boundary of the site. The building remains lay above a horizon of alluvial deposits that were almost certainly deposited in the medieval period. The medieval alluvium lay against an embankment of uncertain date. The base of the embankment consisted of deposits dating to the late Roman period and although Roman material was present through the bank it is probable that this river defence was constructed or maintained during the early

medieval or medieval periods. Extensive evidence of earlier Roman occupation was evident below the embankment.

1.6 A second evaluation trench located along the eastern periphery of the site demonstrated that this area had been open ground during the 17th and 18th centuries. Numerous pits and a well dating to this period were evident though no building remains were recorded. The medieval alluvium recorded in the southwest corner of the site was also present in this area though no embankment was recorded and it appeared that flooding had taken place over a largely flat open area. A mixture of earlier riverine and man-made deposits sealed a 4th century Roman ditch. This feature had been excavated through earlier Roman deposits some of which consisted of building debris.

1.7 The watching brief conducted on the removal of a basement and associated wall foundations located in the northwest corner of the site revealed a very substantial timber structure which almost certainly dates to the Roman period. This feature could not be recorded in detail as it was only evident in the base of a foundation trench c. 5m deep which could not be entered safely. However, the depth at which this structure was evident and the style of timberwork employed strongly suggested that this timberwork dates to the early Roman period and represents a substantial waterfront structure built along the northern edge of the island located within the Thames channel.

1.8 The evaluation trenches were supplemented by several auger holes located between the two evaluation trenches.

2 INTRODUCTION

2.1 An archaeological evaluation and watching brief was undertaken by Pre-Construct Archaeology Ltd at 55 Southwark Street, London Borough of Southwark, London SE1 1RU between October 10th and November 15th 2013. Initial site preparation consisted of the breaking out of the concrete slabs and hard standing and the removal of concrete foundations associated with the engineering works which had previously stood on the site, this work was mainly confined to the southwest corner of the site. This work facilitated the excavation of the first evaluation trench.

2.2 The original Written Scheme of Investigation (Brown 2013) had envisaged the excavation of four large stepped evaluation trenches. However, the excavation of Trench 1 produced such extensive evidence of archaeological survival that, following consultation with the Southwark Council Archaeology Officer, it was decided to limit the scale of the evaluation to two trenches. This limited the impact of the evaluation on the archaeological resource present on the site which may be more fully investigated at a future date or preserved *in situ.*

2.3 The evaluation therefore consisted of two trenches though the original designations of the trenches as given in the WSI were retained; the trenches were therefore numbered Tr 1 and Tr 4. Trench 1 was located in southwest corner of the site. It measured a maximum of 22.70m east-west by 11m north-south at ground level. The stepped excavation and access ramp gave a machine trench which measured 6.50m east-west by 3.00m north-south at base. This machined area was further reduced to an area c.2m wide which was excavated by hand.

2.4 Trench 4 was located along the eastern periphery of the site and measured 15.50m north-south by 10.25m east-west and ground level and 5.20m north-south by 2.70m east-west in the base. The base of the trench was investigated by hand though the archaeological sequence was not fully excavated as the nature and extent of the archaeological survival in this area had already been demonstrated.

2.5 In addition to the evaluation trenches further information relating to the archaeological sequence was provided by two auger holes located in the centre of the site and one towards the north. Five further auger holes were commenced but excavation ceased on encountering solid obstructions.

2.6 The site is bounded by a car park adjacent to the railway viaduct which runs from London Bridge to Waterloo to the south, 57 Southwark Street to the west, Southwark Street to the north and 51-53 Southwark Street to the east. The footprint of site measures approximately 1142m² in total.

2.7 The central National Grid Reference of the site is TQ 3231 8012.

2.8 The site was given the unique Museum of London site code STW 13.

2.9 The project was monitored by Dr Christopher Constable, the Senior Archaeology Officer for the London Borough of Southwark; Gary Brown and Peter Moore acted as project managers for Pre-Construct Archaeology Limited, and the evaluation was supervised by the author.

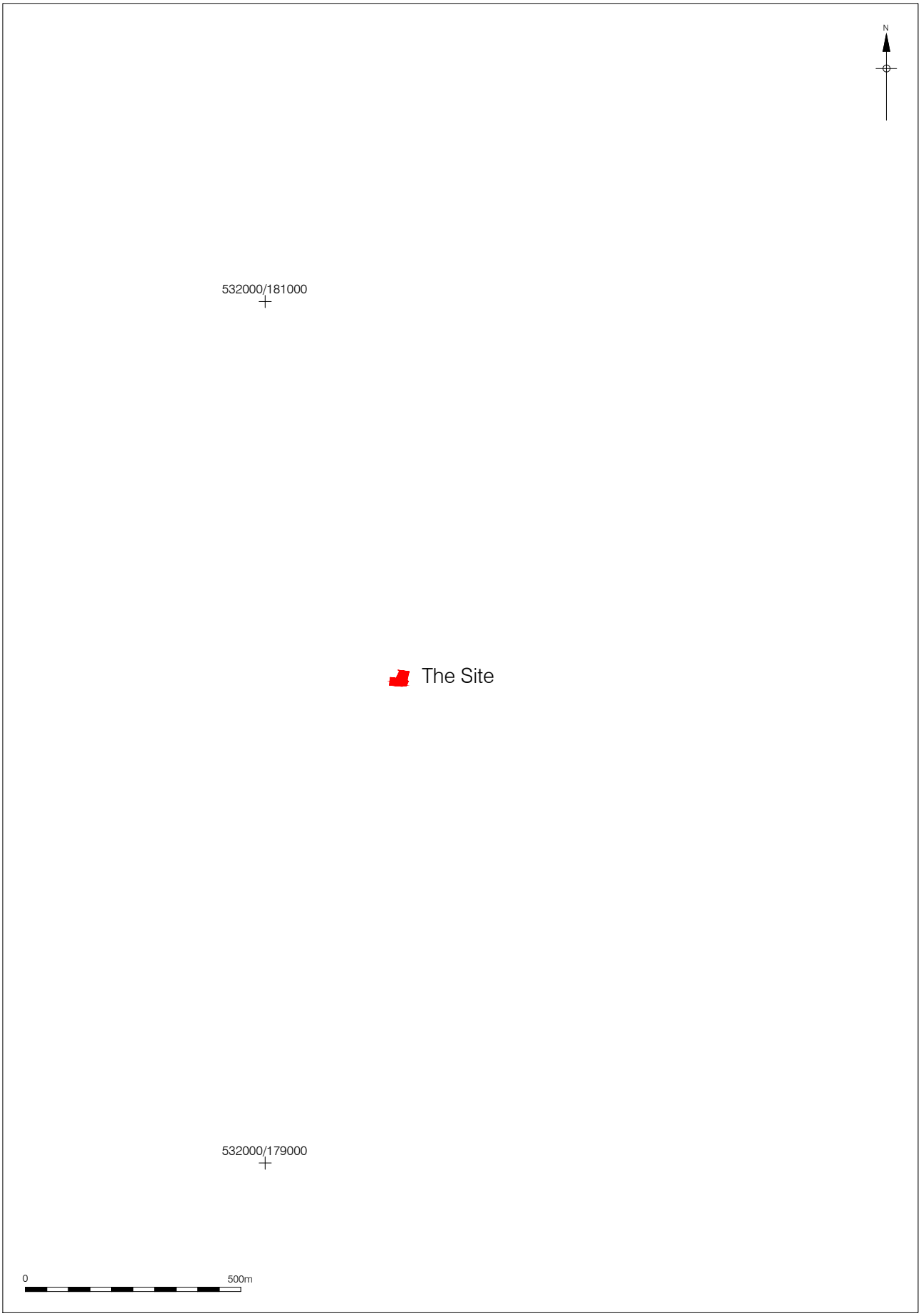

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Figure 1
Site Location
1:12,500 at A4

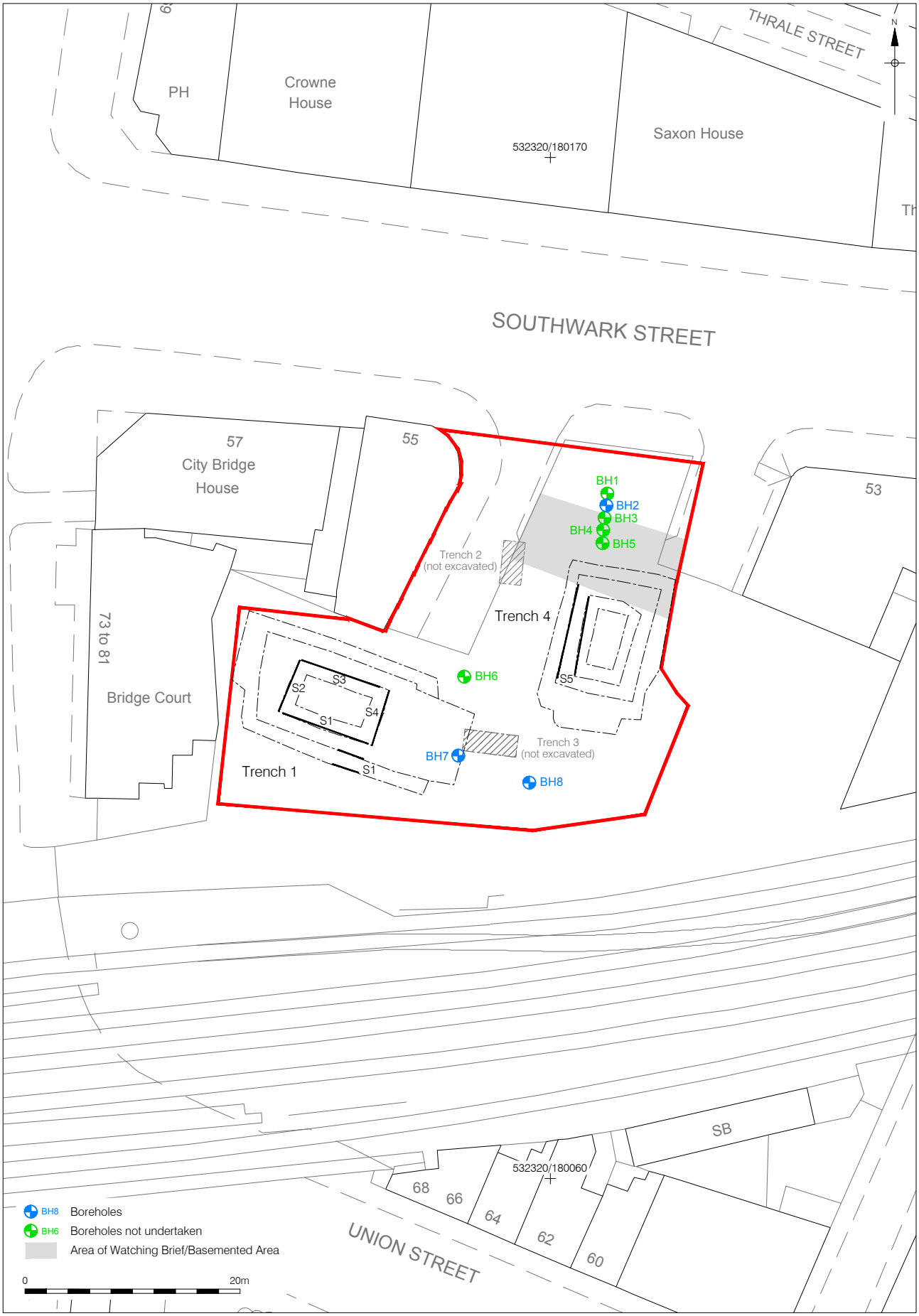

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Figure 2
Detailed Site and Trench Location
1:500 at A4

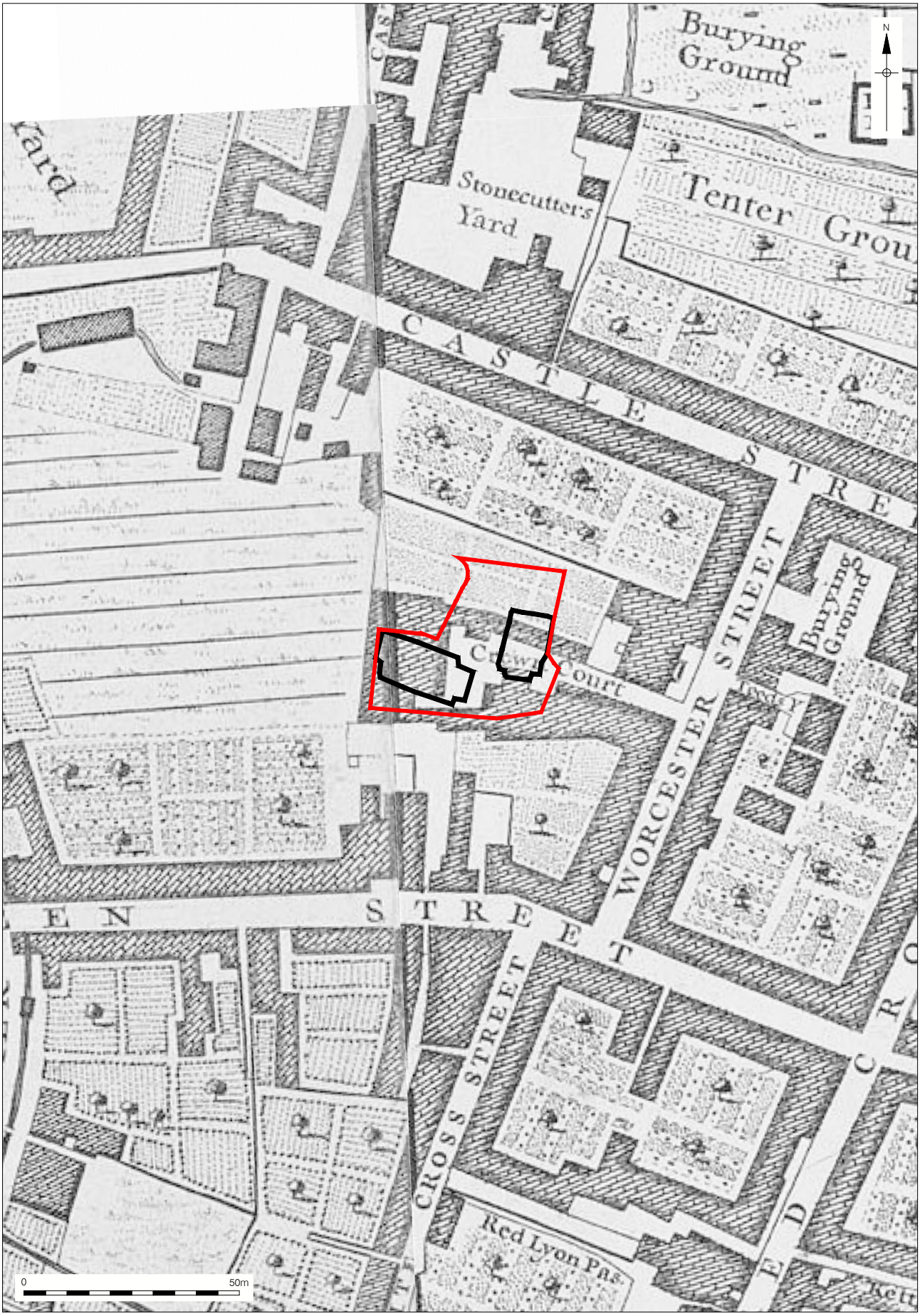

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Figure 3
Rocque's map, 1746
1:1,250 at A4

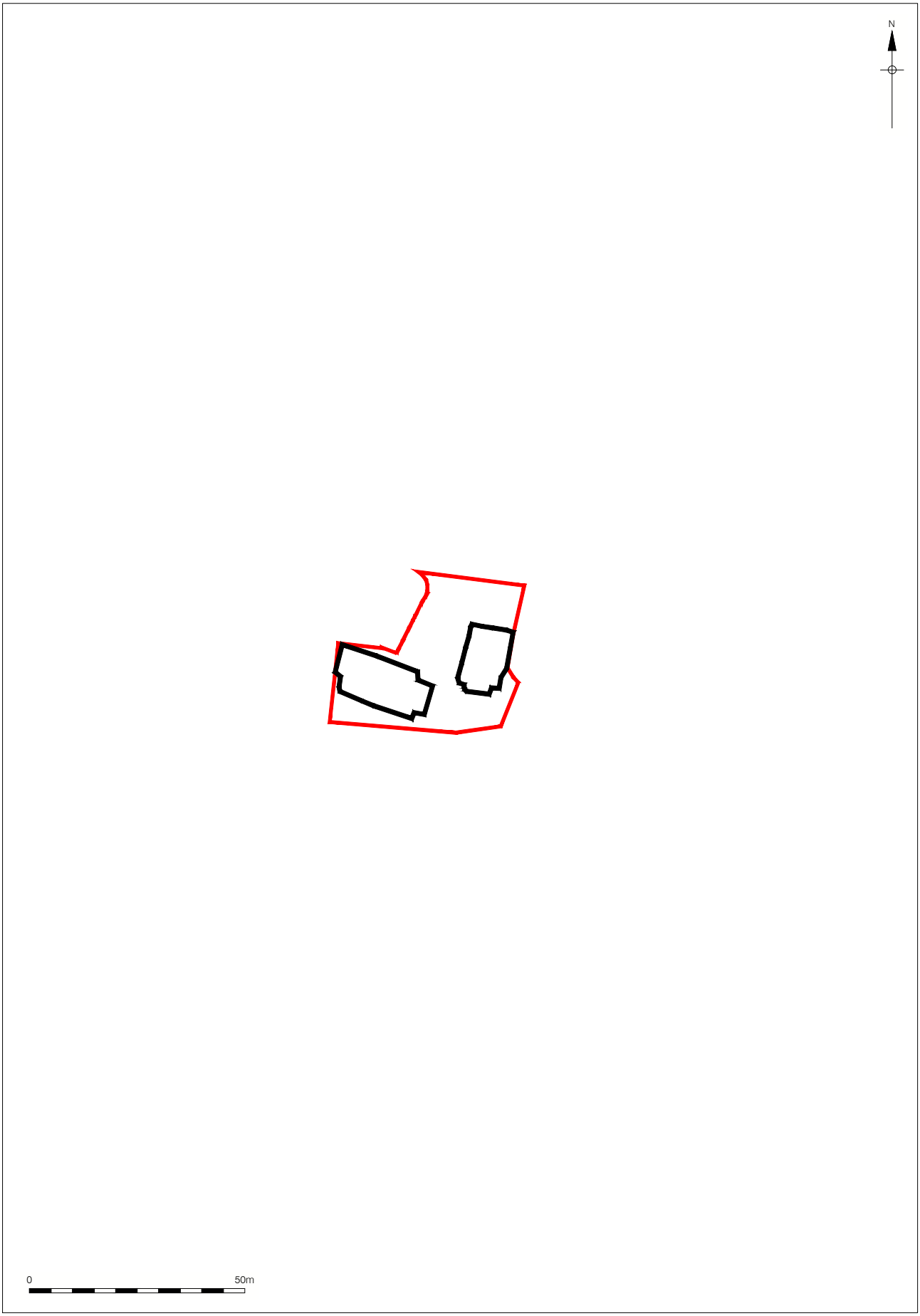

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Figure 4
Greenwood's map, 1830
1:1,250 at A4

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Figure 5
Stanford's map, 1863
1:1,250 at A4

3 PLANNING BACKGROUND

3.1 National Guidance

3.1.1 The Departments of Communities and Local Government (DCLG) issued a series of planning guidelines, the National Planning Policy Framework, in March 2012. This document superseded the previous guidance contained in Planning Policy Statement 5. The policies regarding archaeology set out in the NPPF are contained in Section 12 Conserving and enhancing the historic environment. These state:

126. Local planning authorities should set out in their Local Plan a positive strategy for the conservation and enjoyment of the historic environment (the principles and policies set out in this section apply to the heritage-related consent regimes for which local planning authorities are responsible under the Planning (Listed Buildings and Conservation Areas) Act 1990, as well as to plan-making and decision-taking), including heritage assets most at risk through neglect, decay or other threats. In doing so, they should recognise that heritage assets are an irreplaceable resource and conserve them in a manner appropriate to their significance. In developing this strategy, local planning authorities should take into account:

- the desirability of sustaining and enhancing the significance of heritage assets and putting them to viable uses consistent with their conservation;
- the wider social, cultural, economic and environmental benefits that conservation of the historic environment can bring;
- the desirability of new development making a positive contribution to local character and distinctiveness; and
- opportunities to draw on the contribution made by the historic environment to the character of a place.

127. When considering the designation of conservation areas, local planning authorities should ensure that an area justifies such status because of its special architectural or historic interest, and that the concept of conservation is not devalued through the designation of areas that lack special interest.

128. In determining applications, local planning authorities should require an applicant to describe the significance of any heritage assets affected, including any contribution made by their setting. The level of detail should be proportionate to the assets' importance and no more than is sufficient to understand the potential impact of the proposal on their significance. As a minimum the relevant historic environment record should have been consulted and the heritage assets assessed using appropriate expertise where necessary. Where a site on which development is proposed includes or has the potential to include heritage assets with archaeological interest, local planning authorities should require developers to submit an appropriate desk-based assessment and, where necessary, a field evaluation.

129. Local planning authorities should identify and assess the particular significance of any heritage asset that may be affected by a proposal (including by development affecting the setting of a heritage asset) taking account of the available evidence and any necessary expertise. They should take this assessment into account when considering the impact of a proposal on a heritage asset, to avoid or minimise conflict between the heritage asset's conservation and any aspect of the proposal.

130. Where there is evidence of deliberate neglect of or damage to a heritage asset the deteriorated state of the heritage asset should not be taken into account in any decision.

131. In determining planning applications, local planning authorities should take account of:

- the desirability of sustaining and enhancing the significance of heritage assets and putting them to viable uses consistent with their conservation;
- the positive contribution that conservation of heritage assets can make to sustainable communities including their economic vitality; and
- the desirability of new development making a positive contribution to local character and distinctiveness.

132. When considering the impact of a proposed development on the significance of a designated heritage asset, great weight should be given to the asset's conservation. The more important the asset, the greater the weight should be. Significance can be harmed or lost through alteration or destruction of the heritage asset or development within its setting. As heritage assets are irreplaceable, any harm or loss should require clear and convincing justification. Substantial harm to or loss of a grade II listed building, park or garden should be exceptional. Substantial harm to or loss of designated heritage assets of the highest significance, notably scheduled monuments, protected wreck sites, battlefields, grade I and II* listed buildings, grade I and II* registered parks and gardens, and World Heritage Sites, should be wholly exceptional.

133. Where a proposed development will lead to substantial harm to or total loss of significance of a designated heritage asset, local planning authorities should refuse consent, unless it can be demonstrated that the substantial harm or loss is necessary to achieve substantial public benefits that outweigh that harm or loss, or all of the following apply:

- the nature of the heritage asset prevents all reasonable uses of the site; and
- no viable use of the heritage asset itself can be found in the medium term through appropriate marketing that will enable its conservation; and
- conservation by grant-funding or some form of charitable or public ownership is demonstrably not possible; and
- the harm or loss is outweighed by the benefit of bringing the site back into use.

134. Where a development proposal will lead to less than substantial harm to the significance of a designated heritage asset, this harm should be weighed against the public benefits of the proposal, including securing its optimum viable use.

135. The effect of an application on the significance of a non-designated heritage asset should be taken into account in determining the application. In weighing applications that affect directly or indirectly non designated heritage assets, a balanced judgement will be required having regard to the scale of any harm or loss and the significance of the heritage asset.

136. Local planning authorities should not permit loss of the whole or part of a heritage asset without taking all reasonable steps to ensure the new development will proceed after the loss has occurred.

137. Local planning authorities should look for opportunities for new development within Conservation Areas and World Heritage Sites and within the setting of heritage assets to enhance or better reveal their significance. Proposals that preserve those elements of the setting that make a positive contribution to or better reveal the significance of the asset should be treated favourably.

138. Not all elements of a World Heritage Site or Conservation Area will necessarily contribute to its significance. Loss of a building (or other element) which makes a positive contribution to the significance of the Conservation Area or World Heritage Site should be treated either as substantial harm under paragraph 133 or less than substantial harm under paragraph 134, as appropriate, taking into account the relative significance of the element affected and its contribution to the significance of the Conservation Area or World Heritage Site as a whole.

139. Non-designated heritage assets of archaeological interest that are demonstrably of equivalent significance to scheduled monuments, should be considered subject to the policies for designated heritage assets.

140. Local planning authorities should assess whether the benefits of a proposal for enabling development, which would otherwise conflict with planning policies but which would secure

the future conservation of a heritage asset, outweigh the disbenefits of departing from those policies.

141. Local planning authorities should make information about the significance of the historic environment gathered as part of plan-making or development management publicly accessible. They should also require developers to record and advance understanding of the significance of any heritage assets to be lost (wholly or in part) in a manner proportionate to their importance and the impact, and to make this evidence (and any archive generated) publicly accessible (copies of evidence should be deposited with the relevant Historic Environment Record, and any archives with a local museum or other public depository). However, the ability to record evidence of our past should not be a factor in deciding whether such loss should be permitted.

3.1.2 The provisions set out in the new guidelines superseded the policy framework set out in previous government guidance namely Planning Policy Statement 5 (PPS 5) 'Planning for the Historic Environment'. Planning Policy Statement 5 had itself replaced Planning Policy Guidance Note 16, PPG 16, which was issued in November 1990 by the Department of the Environment.

3.1.3 Although PPG 16 has been superseded the Unitary Development Plans of most local authorities, or Local Development Frameworks where these have been adopted, still contain sections dealing with archaeology that are based on the provisions set out in PPG 16. The key points in PPG16 can be summarised as follows:

3.1.4 Archaeological remains should be seen as a finite and non-renewable resource, and in many cases highly fragile and vulnerable to damage and destruction. Appropriate management is therefore essential to ensure that they survive in good condition. In particular, care must be taken to ensure that archaeological remains are not needlessly and thoughtlessly destroyed. They can contain irreplaceable information about our past and the potential for an increase in future knowledge. They are part of our sense of national identity and are valuable both for their own sake and for their role in education, leisure and tourism.

3.1.5 Where nationally important archaeological remains, whether scheduled or not, and their settings, are affected by a proposed development there should be a presumption in their physical preservation.

3.1.6 If physical preservation in situ is not feasible, an archaeological excavation for the purposes of 'preservation by record' may be an acceptable alternative. From an archaeological point of view, this should be as a second best option. Agreements should also provide for subsequent publication of the results of any excavation programme.

3.1.7 The key to informed and reasonable planning decisions is for consideration to be given early, before formal planning applications are made, to the question of whether archaeological remains are known to exist on a site where development is planned and the implications for the development proposal.

3.1.8 Planning authorities, when they propose to allow development which is damaging to archaeological remains, must ensure that the developer has satisfactorily provided for

excavation and recording, either through voluntary agreement with archaeologists or, in the absence of agreement, by imposing an appropriate condition on the planning permission.

3.2 Regional Guidance: The London Plan

3.2.1 The over-arching strategies and policies for the whole of the Greater London area are contained within the Greater London Authority's London Plan (July 2011) which includes the following statement relating to archaeology:

Policy 7.8

Heritage assets and archaeology

Strategic

A London's heritage assets and historic environment, including listed buildings, registered historic parks and gardens and other natural and historic landscapes, conservation areas, World Heritage Sites, registered battlefields, scheduled monuments, archaeological remains and memorials should be identified, so that the desirability of sustaining and enhancing their significance and of utilising their positive role in place shaping can be taken into account.

B Development should incorporate measures that identify, record, interpret, protect and, where appropriate, present the site's archaeology.

Planning decisions

C Development should identify, value, conserve, restore, re-use and incorporate heritage assets, where appropriate.

D Development affecting heritage assets and their settings should conserve their significance, by being sympathetic to their form, scale, materials and architectural detail.

E New development should make provision for the protection of archaeological resources, landscapes and significant memorials. The physical assets should, where possible, be made available to the public on-site. Where the archaeological asset or memorial cannot be preserved or managed on-site, provision must be made for the investigation, understanding, recording, dissemination and archiving of that asset.

LDF preparation

F Boroughs should, in LDF policies, seek to maintain and enhance the contribution of built, landscaped and buried heritage to London's environmental quality, cultural identity and economy as part of managing London's ability to accommodate change and regeneration.

G Boroughs, in consultation with English Heritage, Natural England and other relevant statutory organisations, should include appropriate policies in their LDFs for identifying, protecting, enhancing and improving access to the historic environment and heritage assets and their settings where appropriate, and to archaeological assets, memorials and historic and natural landscape character within their area.

3.3 Local Guidance: Archaeology in the Borough of Southwark

3.3.1 This study aims to satisfy the objectives of the London Borough of Southwark, which fully recognises the importance of the buried heritage for which they are the custodians. The Southwark Plan, adopted in July 2007, contains policy statements in respect of protecting the buried archaeological resource. These statements are outlined below:

Policy 3.19 Archaeology

Planning applications affecting sites within Archaeological Priority Zones (APZs), as identified in Appendix 8, shall be accompanied by an archaeological assessment and evaluation of the site, including the impact of the proposed development. There is a presumption in favour of preservation in situ, to protect and safeguard archaeological remains of national importance, including scheduled monuments and their settings. The in situ preservation of archaeological remains of local importance will also be sought, unless the importance of the development outweighs the local value of the remains. If planning permission is granted to develop any site where there are archaeological remains or there is good reason to believe that such remains exist, conditions will be attached to secure the excavation and recording or preservation in whole or in part, if justified, before development begins.

Reasons

Southwark has an immensely important archaeological resource. Increasing evidence of those peoples living in Southwark before the Roman and medieval period is being found in the north of the borough and along the Old Kent Road. The suburb of the Roman provincial capital (Londinium) was located around the southern bridgehead of the only river crossing over the Thames at the time and remains of Roman buildings, industry, roads and cemeteries have been discovered over the last 30 years. The importance of the area during the medieval period is equally well attested both archaeologically and historically. Elsewhere in Southwark, the routes of Roman roads (along the Old Kent Road and Kennington Road) and the historic village cores of Peckham, Camberwell, Walworth and Dulwich also have the potential for the survival of archaeological remains.

PPG16 requires the council to include policies for the protection, enhancement and preservation of sites of archaeological interest and of their settings.

3.4 Site Specific Background

3.4.1 The study site falls within an Archaeological Priority Zone, as defined by the Southwark Unitary Development Plan:

5.1.2 Borough/Bermondsey/Riverside

This large zone incorporates the Roman and medieval settlement and the historic settlement areas of Bankside, Bermondsey and Rotherhithe. The archaeological potential of the Southwark riverside accounts for the inclusion of the strip of land parallel to the river outside of these known historical settlement areas.

3.4.2 The results of the evaluation are reported upon here.

4 GEOLOGY AND TOPOGRAPHY

4.1 Geology

4.1.1 The drift geology of the north Southwark area consists of natural sands and gravels deposited by the Thames and its forerunners. The modern river is considerably smaller than its predecessors, particularly those that were fed by vast quantities of water draining from ice-sheets located to the north of the Thames valley. The gravel terrace in north Southwark was eroded in prehistory leaving a series of islands within the river that were surrounded by tidal channels. Ground level on the islands would generally have been found at c. 1.0m to 1.5m OD during the early Roman period. The exact height of water levels in the early Roman period is the subject of some debate. Some of the models suggested for early Roman sea levels, principally based on assessment from evidence gathered on the north bank of the river, do not fit well with the findings from the south bank (See Milne, et al 1983, Killock 2005, Graham, 1978).

4.1.2 Two large islands located to the north of what is today Borough Underground station played a central role in the development of Roman London (Cowan, et al 2009 Figure 2). The northern island offered the possibility of constructing a bridge to the north bank over the shortest possible distance of any site found on this stretch of the river. Sites further to the west such as Westminster may have offered similar opportunities but these areas lacked the deep water necessary for handling ocean-going ships.

4.1.3 The subject site lies on the northern edge of what was in the Roman period the southern of the two large sand and gravel islands described above. The southern island was separated from the solid landmass to the south by a tidal waterway, known as the Borough Channel, which was connected to the Thames. The Southwark Street channel separated the south island from the smaller island to the north. The southern bank of this channel is almost certainly located within the northern part of the subject site. Smaller islands, braided river channels and mudflats surrounded the two larger islands.

4.2 Topography

4.2.1 The area surrounding the site is generally flat, though the presence of the tidal channels that were a feature of the Roman landscape is still apparent. Ground level on the southern periphery of the subject site lies at c.4.80m OD whilst the northern part of the site, located adjacent to the old channel, lies closer to 4.30m OD.

4.2.2 The modern river Thames is confined by the embankment which lies c. 500m to the north of the subject site.

4.2.3 The level of the tides is a crucial area when determining the area available at the margins of the various landmasses found in Southwark. Mean high water levels have been estimated to have been between -0.50m OD at low tide and +1.25/1.50m in AD 50, which led to the formation of extensive mudflats in the intertidal zone (Brigham 2001). It is generally accepted

that a period of marine regression, that is falling sea levels, began in the first century AD and continued throughout the later Roman period. Water levels fell consistently from the mid-1st century and by the mid-3rd century they are estimated to have been between 0.00m OD at high tide and -2.00m OD (Brigham, et al1996). However, water levels began to rise again in the early medieval period and by c.AD 1000 the height of the tide in London would have reached the same level as the peak suggested for the mid-1st century AD, tidal levels continued to rise and are still doing so today (Brigham 2001 Fig 14).

4.2.4 The effects of these climatic changes were of course bound to impact a marginal area such as Southwark and the medieval chronicles are replete with entries relating to flooding. Catastrophic flooding was recorded for the year 1014 in the Anglo-Saxon Chronicle and the same source records severe damage to London Bridge in 1097, much of the bridge being swept away (Watson et al 2001). The construction of an effective river wall was essential to the development of the land to the south of the Thames, but even when this had been achieved the timber waterfronts would have needed constant renewal and the height of the ground surfaces behind them was raised as tidal levels increased. Although the general trend was one of marine transgression there does seem to have been a time in the later medieval period when tidal levels were relatively static. A mean high water level of c 1.2m OD has been suggested for the later medieval period, higher spring tides would have reached c 1.70m OD.

4.2.5 Rising river levels and the effects of embankment on the north side of the river contributed to massive erosion along the north Southwark waterfront in the 11th century and the effects of riverine erosion continued on the south bank into the thirteenth century (Watson et al 2001). There is little doubt that the threat of flooding was a perennial problem, failures of the river wall were frequent. Even after the embankments had been built and strengthened the land in this area still required extensive work to establish and maintain drainage. Large areas could be flooded simply as the result of heavy rain.

5 ARCHAEOLOGICAL AND HISTORICAL BACKGROUND

5.1 Prehistoric

5.1.1 Pottery and worked flints found in north Southwark indicate that the area was frequented and later settled from the Mesolithic period onwards. What is now an intertidal zone would have varied in character depending on the periodic rising and falling of sea level due to climatic fluctuations. During periods with higher water levels the area would have presented many opportunities for the exploitation of natural resources such as fish, eels and game for food and reeds which would have served as building materials. In drier periods the light sandy soils would have proved attractive to early farmers. It is probable that permanent settlements were established in the area during the late Neolithic and Bronze Age as ard-marks recorded in the surface of the sands and gravels indicate the use of wooden ploughs to till the land. Numerous examples of this type of land-use have been found across north Southwark and Bermondsey from sites such as Hopton Street (Ridgeway 1999), Three Oak Lane where a very rare ard was discovered (Proctor and Bishop 2002), and Woolsey Street (Drummond-Murray et al1994). Evidence from the later prehistoric period is a little sparse. Isolated Iron Age burials are known from the area but settlement sites have proved elusive though the quantity of Iron Age pottery found in residual contexts on the Bermondsey eyot clearly demonstrates that a farmstead or small settlement must once have existed there. This may reflect the marginal nature of the area as sea levels rose throughout the later Iron Age then peaked in the early Roman period (Milne et al 1983).

5.1.2 Excavations conducted by SLAEC in the 1980s at 15-23 Southwark Street revealed features indicative of activity from at least the Beaker period (2400-1800 BC). The use of the area was also shown in the later prehistoric period by a number of Iron Age or early Roman gullies (GLHER ELO7863). Overall the evidence for this period indicates small-scale farmstead settlements with the activity concentrated on Bermondsey eyot much further to the southeast of the study site, and to a lesser extent on the two main north Southwark islands (Cowan et al 2009).

5.2 Roman

5.2.1 The Roman city of *Londinium* was located in what is today the City of London. The Roman city was connected to the south bank by a bridge that spanned the Thames from the north bank around Fish Street Hill to the more northerly of the two large islands that projected into the river at this point. The main road from the bridge proceeded south roughly along the line of Borough High Street before dividing in two around the area of St. Georges Church. To the west Stane Street extended south toward Chichester whilst to the east Watling Street proceeded south and east following the same alignment as Tabard Street (formerly Kent

Street) and Great Dover Street before joining the line of the Old Kent Road and linking London to Canterbury and the Kent coast (Margary 1973).

5.2.2 Southwark developed into a major Roman waterfront town during the 1st century AD. A foundation date of AD 50-55 has been suggested for the suburb on the basis of pottery and coins recovered (Sheldon 1978). At its peak Roman Southwark extended over an area up to 45 acres in size, approximately 15% of the size of the City. The rapid growth of Roman Southwark in the AD 50s would support the proposed early date of the bridge (Cowan et al 2009).

5.2.3 There is abundant evidence of Roman activity within the area of the study site from previous excavations, and only a small selection closest to the study area are discussed here. Excavations by SLAEC in 1980-86 at 15-23 Southwark Street c. 100m east of the study site, found a substantial Flavian era (AD 69-96) masonry building of official or public character. Later phases of Roman activity were evidenced by two phases of clay and timber buildings and masonry additions made in the mid 2nd century. Approaching the end of the Roman period the area was used as an inhumation cemetery (Cowan 1992).

5.2.4 At 51-53 Southwark Street, adjacent to the subject site, excavations by Pre-Construct Archaeology uncovered topographic features as well as several phases of Roman occupation. The topography of the site featured a sand promontory which extended roughly north-south through the central and eastern parts of the excavation. The earliest occupation phase was represented by timber posts driven into a silted up channel that may have supported a walkway, followed by a later substantial timber revetment. In a later phase large quantities of demolition rubble, including painted wall plaster, fragments of patterned mosaics and hypocaust box tiles indicated a building of some note had been demolished on or close to the site. By the late 2nd century AD a large complex of substantial timber structures was erected across the site. The abandonment and demolition of these structures was followed by large scale dumping that marked the end of Roman occupation on the site with pottery dated to AD 250-400.

5.2.5 At 100-142 Union Street, c. 150m to the southwest of the subject site, Roman activity was recorded in the form of large east-west and north-south aligned ditches and dispersed pits and a possible well. Three periods of Roman activity were identified, AD 70/90-150, AD 150-250 and AD 250-300/350. The findings indicate Roman landscape management as well as the deposition of domestic waste from a local population nearby. The Roman activity was generally located at c. 1.10m-1.30m OD. The results of the excavation demonstrated very clearly that a functional ground surface existed during the majority if not all of the Roman period (Edwards 2010).

5.2.6 The overall picture within the area of the study site, and indeed the surrounding area of north Southwark, is one of high density Roman occupation and activity dated from AD 50 until the end of the Roman period.

5.3 Saxon

5.3.1 Following the collapse of the Western Empire the walled Roman city fell in to ruins and by the mid to late seventh century the focus of Saxon occupation had shifted westwards to the Strand and Covent Garden (Cowie and Whytehead 1989). A new system of beach markets was adopted where trading was conducted directly from boats pulled up on the foreshore rather than goods being landed at a quay or wharf. Even when these markets relocated eastward in to the old Roman city trading was still initially carried out from the beach itself, rather than from the quayside (Milne and Goodburn 1990). Essentially Southwark had been a suburb of the main Roman city located north of the river and without the city, the bridge or traffic on the road network that approached it Southwark lacked the stimuli to support urban life. The area appears to have returned to being the marshy backwater that existed before the establishment of the Roman city. Very small quantities of early Saxon pottery have been recovered from Lant Street, Trinity Street and further east at Bermondsey Abbey. The Saxon minster that pre-dated the Cluniac Priory was founded there in AD 708-15 (Cowie 2002). Recent excavations of the site have recovered middle Saxon pottery but the extent of the activity related to this period is hard to judge and it may have had no impact on the area to the west.

5.3.2 The settlement around the Strand was almost certainly abandoned by the middle of the ninth century as the pressure of Viking raids increased. Direct attacks upon London were recorded for AD 842, 851 and 872. It is also probable that the trading networks which had helped Lundenwic flourish were themselves declining by the middle of the ninth century, partially at least as a result of the disruption to sea borne trade caused by piracy (Hodges and Whitehouse 1983). From the late ninth century onwards Saxon settlement shifted to the old walled Roman city. A small ecclesiastical community had probably existed following the establishment of St. Pauls in AD 604 and documentary evidence points to the existence of a Mercian palace within the City. The first market and harbour to be developed in the City was at Queenhithe, as mentioned in charters of AD 889 and 899. A large paved open area, possibly a market, was already developed at No 1 Poultry by the end of the ninth century and continued in use throughout the late Saxon and early Norman period (Treveil and Burch 1999). Within half a century Lundenwic had become Lundenburgh.

5.3.3 The re-occupation of London and Southwark has led some to conclude that a bridge must have been built after Alfred assumed control, or even earlier in the ninth century (Haslam 2010, Carlin 1996). Dual forts found on either bank of a river linked by a bridge proved to be powerful defensive positions against Viking attacks in both England and France and the reasoning behind the case for a bridge is compelling, but there is no archaeological evidence to demonstrate that a ninth century bridge was constructed (Watson et al 2001 p52) However, there is also no trace of a bridge dating to the tenth century and the suggested date for its reconstruction, some time between AD 994, when the Vikings attempted to raze London, and AD 1009 when the city repeatedly repulsed attacks, is base purely on documentary sources

(Watson 2001 p53). Whatever occurred in this period there is little doubt that the incorporation of London into Alfred's kingdom changed the fortunes of the city and probably that of Southwark. The suburb is referred to in the Burghal Hidage as *Suthringa Geweorche,* usually translated as 'the defensive work of the men of Surrey'. There seems little doubt that a fortified area was set up on the south bank in the second half of the ninth century, although it has left virtually no trace in the archaeological record.

5.3.4 The history of Southwark in the tenth century is still obscure although a mint of some importance was probably established in the period AD 991-997 (Watson 2009). Fourteen moneyers are known from the turn of the eleventh century, this number increased to twenty-two for the period AD 1017-1042 (Carlin 1996 pp13-15). Apart from often colourful tales of attacks on the bridge or the settlements on either bank very little is known of developments in the tenth and eleventh centuries. The distribution of features containing Saxo-Norman pottery suggests that the settled area extended along the waterfront from Winchester Palace in the west to Battle Bridge Lane in the east and as far south as St. Georges church (Watson 2009, Fig 1).

5.4 Medieval

5.4.1 The Domesday Survey of AD 1086, which can be considered pertinent to the earlier 11th century, lists Southwark as a port settlement that lacks a manor and therefore does not come under the direct auspices of any particular lord. The majority of the settlement appears to have been largely confined to the high ground around the bridgehead with rights to the local tolls held by Edward the Confessor and the Earl of Godwin (Watson et al 2001).

5.4.2 Although the river regime had altered considerably since the abandonment of the Roman settlement it was still a determining factor in the development of the medieval suburb. Even when the river was not directly responsible for flooding the low-lying nature of many areas that would naturally have been marshland adjacent to the river meant that they were of limited value before a river wall could be established and an effective system of drainage works developed to channel water into the Thames. The consolidation of the river frontage was hampered by rising river levels in the medieval period and the effects of quayside developments on the north bank which appears to have deflected the currents towards the Southwark foreshore, leading to widespread erosion (Watson et al 2001 pp71-72).

5.4.3 The bridge itself was almost destroyed by a flood in AD 1097 (Watson et al 2001 p61). Excavations have demonstrated that scouring was a serious problem immediately upstream of the bridge even in the late eleventh century (Watson et al 2001 pp62-71). The problem was probably amplified in the succeeding centuries as water levels rose and the river walls in the city advanced further southward. The river frontage was consolidated in Southwark during the thirteenth and early fourteenth centuries, but unlike the city the line of the river wall became static once this had been achieved (Carlin 1996 p19).

5.4.4 During the medieval period, in much the same way as witnessed during the Roman period, the development of Southwark was defined by both topographical limitations and the existence of important trade routes into London from the south and south-east (Carlin 1996). The population developed an eclectic demographic with residents from all over Europe listed in medieval records (Carlin 1996). Numerous occupational groups are listed within medieval Southwark including bakers, millers, cooks, traders, barbers, timber mongers, metalworkers, tailors, carpenters and sawyers amongst many other trades. Southwark was particularly famed, or more accurately notorious, for its inns, prisons and brothels many of which were alluded to by the authors of the day including Chaucer in the Canterbury Tales (Carlin 1996, Knight 2002).

5.4.5 By the 12th and 13th centuries the settlement was one of growth and prosperity, a prosperity which was not unnoticed by the City of London and during the following centuries, through to the 1800s, there was a series of struggles to assert and retain control of the south bank settlement.

5.4.6 There is at present little archaeological evidence from the medieval period relating directly to the site and its immediate environs. However, the site lies only slightly to the west of the core of medieval Southwark which is considered to have been focused on Borough High Street, the approach to London Bridge, and the industrial waterfront itself. The possibility that the site was re-occupied quite early in the medieval period should not be discounted.

5.5 Post-Medieval

5.5.1 The post-medieval period saw some periods of rapid population expansion in Southwark. In 1547 the population numbered c. 10,000, and had tripled by 1678, an increase that has been attributed to immigration (Reilly 1998).

5.5.2 In much the same way as the medieval period, post-medieval Southwark had something of a reputation both regarding the diversity of its population and also the colourful nature of its society. Crime in Southwark, facilitated by its numerous narrow streets and alleyways, is well documented and in 1723 an Act of Parliament was passed to clear the criminals from the area. Dickens described the residents of nearby Lant Street as “migratory, usually disappearing on the verge of quarter day (when the rent was due) and usually by night”. Indeed, activities not tolerated on the north bank flourished in Southwark, notably “pottery production and tanning”, with immigrant communities from the Low Countries contributing “to the development of the area by bringing with them new ideas and new skills” (Knight 2002).

5.5.3 Assessment of structural and artefactual evidence from Southwark indicates numerous industrial activities, including brush making, tenter-frame production, clay pipe, stoneware and delftware manufacture, metalworking, glassmaking and tanning. In many ways the location of industries, particularly during the 17th and 18th centuries, was influenced by the large amount of available space with easy expansion facilitated by the proximity of open marshland and

fields. Water was also abundant in the Southwark and Bermondsey areas and would have been required in large quantities for industries such as tanning and cloth-making. Tenter fields are a prominent feature of early maps of the area.

5.5.4 Despite the strength of industry throughout the post-medieval period the presence of traded items, which feature heavily in the assemblages of post-medieval Southwark sites, attest to the continued importance of Southwark's location at the centre of trade routes in and out of London (Knight 2002).

5.5.5 Even after the river embankments to the north had been built and strengthened the hinterland still required extensive work to establish and maintain drainage (Carlin1996 p36). Large areas could be flooded following heavy rains and the area to the northwest of the site, known as Paris Garden, was largely uninhabited and occupied by a dense willow thicket up until the late 16th century (Carlin 1996, p32).

5.5.6 By the mid 18th century Southwark's development continued, but was still concentrated more to the east of the town. At this date the western part of Southwark was still relatively undeveloped in comparison, and much of the land was given over to tenter grounds, parcels of open land where washed woven cloth was stretched on frames called tenters to dry after fulling, one of the major occupations of the area. Rocque's 1746 map shows a variety of developments over the study site (Figure 3). Castle Street to the north, some of which survives today as Thrale Street, had developed frontages on both the north and south sides as did Worcester Street (modern O'Meara Street) which lay to the east of the site. A large complex of buildings set around an alleyway and courtyard, Castle Court, extended westward from Worcester Street into an area that was open ground lying to the rear of the surrounding street frontages. Queen Street, now part of Union Street to the south, had also been urbanised with some tenements running back from the frontage. However, large areas of open ground area still evident in the immediate environs of the site; some of these are clearly small market gardens and possibly orchards.

5.5.7 Although parts of the wider surrounding area may have changed dramatically by the time of Horwood's 1792-1799 map (not reproduced) the site is shown as open ground. The street pattern had become denser to the east of Great Guildford Street with the addition of new roads such as America Street and Keppel Street. However, the complex of buildings set around a courtyard shown on Rocque's map as Crown Court had been demolished.

5.5.8 By the time of Greenwood's map of 1830 the street pattern close to the site had been radically altered by the construction of Bridge Street which led north to Southwark Bridge or Queen Street Bridge as it was originally known (Figure 4). This new large thoroughfare created the distinctive triangular junction and open space where it met Queen Street, modern Union Street. This triangular piazza still exists today; it was known as Flat Iron Square in the late 19th century. A curved terrace of houses had been erected with the northern part of the frontage on Bridge Street and the southern part facing onto Queen Street. A large number of the smaller properties shown on Horwood's map appear to have been demolished and were

replaced with a new development, Southwark Square, which consisted of a central courtyard surrounded by terraces or tenement buildings. The square could be accessed either from the west or south. This development essentially filled a rectangular space that stood to the rear of the developed street frontages of Castle Street to the north and Worcester Street to the east. Although the exact date of the construction of this new complex of buildings is unknown it is probable that the entire remodelling of the area around the subject site took place between 1819, when the Queen Street Bridge was opened, and 1830 when the map was published.

5.5.9 Considerable changes had taken place before the next depiction of the area shown on Stanford's map of 1863 (Figure 5). The most notable of these was the preparatory work which had taken place for the construction of modern Southwark Street. Large swathes of buildings to the north of the site had been demolished to allow for the construction of this new thoroughfare; it appears that the north side of Southwark Square had been levelled to facilitate the construction of the road. This radically altered the street layout on the northern side of the subject site but the buildings that formed the southern side of Southwark Square are still evident on Stanford's map despite the construction of the railway viaduct which ran from London Bridge to Waterloo close to the southern boundary of the site. At this stage the viaduct seems to be quite narrow, it probably only constituted a few lines and occupied relatively little space compared to later iterations.

5.5.10 The increase in the size of the railway viaduct is particularly apparent on the 1916 Ordnance Survey map (not reproduced) and there is little doubt that the buildings which had once formed Southwark Square had been demolished by this time. The status of much of the buildings on the subject site is unclear and though new buildings had begun to appear along Southwark Street to the north they certainly did not form a unified and planned street frontage.

5.5.11 The Goad Fire Insurance plan of 1966 (not reproduced) shows most of the site covered by an engineering works belonging to Henry Sykes. The one remaining building which still stands on the site today, 55 Southwark Street, does not appear to have been part of the works and was vacant in July 1966.

6 ARCHAEOLOGICAL METHODOLOGY

6.1 The archaeological evaluation was carried out in accordance with the Written Scheme of Investigation submitted to and approved by the London Borough of Southwark before works commenced (Brown 2013). However, the excavation of Trench 1 very quickly demonstrated the completeness of the archaeological resource present on the site, particularly the remains of post-medieval buildings dating from the 17th and 18th centuries. The scale of the evaluation was therefore reduced from the proposed four trenches to two to preserve *in situ* as much of the archaeological stratigraphy as possible. Should the proposed development take place this resource can be more fully recorded and better understood when seen through a coherent site-wide view or, if areas are not be impacted by the construction scheme, the resource retained.

6.2 The Written Scheme of Investigation had also envisaged that an auger transect would be undertaken close to the northern frontage of the site. The purpose of this transect was to investigate the presumed location of the edge of the Southwark Street channel. However, a backfilled basement and other obstructions occupied much of the area of the proposed transect and most of the augering could not be effected, though one location was drilled to a depth of 4.8m below ground level. A subsequent watching brief undertaken on the removal the basement and the associated foundations revealed a timber waterfront structure which almost certainly defines the edge of the channel in the early Roman period. The information gained during the watching brief effectively rendered the purpose of the auger transect redundant as the location of the channel edge and the approximate depth at which the timber structure occurs are both now known. The single auger hole effected to the north of the waterfront had in any case hit an impenetrable gravel horizon at a level that was probably higher than that of the waterfront structure and further attempts at augering would almost certainly have given the same result. Variations to the original programme as set out in the Written Scheme of Investigation were agreed with Dr Christopher Constable, Senior Archaeology Officer for the London Borough of Southwark.

6.3 Some areas of the site, particularly those in the southeast corner and central part of the site, had previously been cleared of underground obstructions (modern foundations), before the watching brief and evaluation commenced. No archaeological work was undertaken in these areas during the recently completed archaeological project. The removal of further obstructions in the southwest corner of the site, the location of Trench 1, demonstrated that modern construction had impacted the remains of 19th century buildings which had once stood on the site and removed any meaningful stratigraphy to a depth of c.2.40m below modern ground level which lies at c. 4.80m OD in this area. A similar level of truncation was evident in the location of Trench 4 though significant post-medieval remains survived to c. 2.70m OD in some areas closer to the eastern periphery of the site.

Plate 1: Trench 1 under excavation

6.4 Following the removal of obstructions the trenches were reduced to the appropriate level using a 360º mechanical excavator. The sizes of the two trenches excavated did not correspond to those originally envisaged. This resulted purely from the practicalities of the site. In the case of Trench 1 this was principally the result of the available area within the site perimeter not being as large as that shown in the WSI. As a result the trench was considerably narrower than envisaged. Trench 4 was slightly smaller than proposed because of the need to excavate safely close to the perimeter of the site and to avoid a basemented area which lay to the north. The trench could not be extended further to the south to compensate for this as there would have been insufficient space in which to operate the mechanical excavator in this area.

6.5 Trench 1 measured a maximum of 22.70m east-west by 11m north-south at ground level. The stepped excavation and access ramp gave a machine trench which measured 6.50m east-

west by 3.00m north-south at base. This machined area was further reduced to an area c.2m wide which was excavated by hand.

6.6 Trench 4 was located along the eastern periphery of the site and measured 15.50m north-south by 10.25m east-west at ground level and 5.20m north-south by 2.70m east-west in the base. The base of the trench was investigated by hand though the archaeological sequence was not fully excavated as the nature and extent of the archaeological survival in this area had already been demonstrated.

6.7 The fieldwork and reporting was carried out according to the relevant methodologies, as follows:

- Southwark Archaeology Policy and Supplementary Planning Guidance (Southwark Council undated, http://www.southwark.gov.uk/Uploads/FILE_4634.pdf);
- Archaeological Guidance Paper 3: Standards and Practices in Archaeological Fieldwork In London (GLAAS 1998);
- Archaeological Guidance Paper 4: Archaeological Reports (GLAAS 1998);
- Management of Archaeological Projects (English Heritage, 1990)

6.8 Pre-Construct Archaeology Limited is a Registered Archaeological Organisation (number 23) with the Institute of Field Archaeologists and operates within the Institute's 'Code of Practice'.

6.9 All recording systems adopted during the investigations were fully compatible with those most widely used elsewhere in London; that is those developed out of the Department of Urban Archaeology Site Manual, now published by Museum of London Archaeology (MoLAS 1994). Individual descriptions of all archaeological and geological strata and features excavated and exposed were entered onto pro-forma recording sheets. All plans and sections of archaeological deposits were recorded on polyester based drawing film, the plans being at scale of 1:20 and the sections at 1:10. The OD heights of all principle strata were calculated and indicated on the appropriate plans and sections.

6.10 A photographic record of the investigations was made using digital format only.

6.11 Levels were calculated from a Temporary Bench Mark with a value of 4.35m OD which was established using a GPS system.

6.12 The archaeological works were visited and monitored by Dr Christopher Constable, the Senior Archaeology Officer for the London Borough of Southwark.

6.13 The complete site archive including site records, photographs and finds will be deposited at the London Archaeological Archive Research Centre, (LAARC) under the site code STW 13.

6.14 Contamination consisting of elevated levels of hydrocarbons was encountered during the watching brief which covered the removal of the basement and concrete foundations in the northwest corner of the site. The contaminated area lies immediately to the north of the foundation trench which defined the southern limit of the basement with a notable

concentration toward the east end of the trench. It is recommended that the soils in this area should be tested before further work is undertaken in the area.

7 THE ARCHAEOLOGICAL SEQUENCE

7.1 Phase 1 Possible Prehistoric and Natural Deposits

7.1.1 Full excavation to natural deposits was not undertaken in either of the trenches investigated during the evaluation, principally because the nature and completeness of the archaeological resource had been amply demonstrated by the excavation undertaken. Further excavation in Trench 1 would also have been increasingly hazardous as the sandy deposits found toward the base were prone to collapse in inclement weather.

7.1.2 Excavation in Trench 1 reached a mixed horizon composed of densely packed organic lenses interspersed with lenses of sand and silty clay, layer [40]. This horizon was not excavated but fragments of Roman pottery and building material were evident within it when it was cleaned and two pieces of timberwork, one a small driven stake, were found at this level (Figure 6). This deposit, which probably formed within a riverine channel, was recorded between +0.22m and +0.40m AOD.

7.1.3 A small hand auger hole was excavated at either end of the base of Trench 1 in an attempt to reach the base of the archaeological sequence. A layer of grey sand and silt [45] was recorded in both the auger cores. Given that this layer was sealed by layer [40] which is undoubtedly Roman this layer has also been phased to that period.

7.1.4 In the eastern auger hole a deposit of sandy friable peat, [46] was sealed by the grey sandy silt layer [45]. This layer was 0.15m thick and found at a height of +0.29m OD. This shallow peat horizon sealed a moderately compact horizon of grey silt and clay [47] which was 0.40m thick and found below +0.14m OD. Layer [47] in turn sealed a deposit of loose orange sand [48] which was found at a level of -0.26m OD. Layer [48] continued to a depth of -0.61m OD which was the base of the auger hole. The auger was unable to penetrate any further at this level though it appeared that a few fragments of gravel [51] were extracted by the drill from the bottom of the hole. However, the lower part of the hole was severely waterlogged and most of the material that might have been extracted was washed out before the bit could be raised. The gravel [51] might be naturally deposited but at present it is not possible to demonstrate this.

7.1.5 The western auger hole contained a similar sequence of deposits which extended to -0.50m OD. None of the deposits described above produced any finds; this was hardly a surprise considering that they were only seen in auger holes which measured 0.07m in diameter. It is therefore impossible to ascertain a date for their deposition. Deposits [46]–[51] have been phased as possibly prehistoric or naturally deposited. They were almost certainly deposited in a riverine channel the base of which may have sloped from west to east in this area. Peat deposits are commonly found on archaeological sites in the Southwark and Bermondsey area and often date to the Bronze Age but it would extremely unwise to attribute a date to the organic horizons found in the auger holes in Trench 1 without a more extensive sampling strategy and a wider view of their context.

7.2 Phase 2 Roman

7.2.1 As stated above a mixed horizon composed of lenses of densely compacted vegetation mixed with sands and silts, layer [40] was the earliest deposit exposed across the base of Trench 1. This layer undoubtedly formed or was exposed during the Roman period as Roman material was evident within it, though none was collected during the evaluation. The undulating surface of this deposit was recorded between +0.22m and +0.40m AOD. Two small pieces of timber [41] and [42] were evident in the extreme eastern end of Trench 1. Timber [41] was found lying horizontally but might in reality be a driven post that had later collapsed within the base of the channel. The southern end of the timber continued beyond the excavation, as seen it measured 720mm long and was c. 0.10m square though it was badly decayed and it may originally have been somewhat larger.

7.2.2 The horizontal timber [41] was located immediately to the east of a small roundwood stake [42] which had been driven into the ground. The maximum diameter of this very fragmentary timber was 60mm, the top of the stake was recorded at +0.02m AOD.

7.2.3 Neither of these timber elements has been dated but they were both sealed by the extensive sand deposit [35] which extended across the entire area investigated in the base of Trench 1, which measured 6.50m east-west by 3.00m north-south. Layer [35] was possibly naturally deposited within a watercourse but it contained considerable quantities of Roman pottery, which has been provisionally dated to the period AD 160/250-300, and considerable quantities of ceramic building materials dated AD 55-80+. This obviously demonstrates that material was being discarded in this area and it is possible that the sand was dumped for levelling rather than deposited by riverine action. The surface of this deposit was almost flat; it was recorded below a level of +0.76m OD in the east and +0.79m OD in the west.

7.2.4 Excavation in Trench 4 was also limited and only a small part of the Roman sequence was sampled. A large late Roman ditch [79], which is described below, ran through most of the base of the trench and this was only partially excavated in order to collect dating evidence. However, a small area of earlier stratigraphy was exposed and some of the layers and features partially excavated. A considerable quantity of building debris [83] was evident in the southwest corner of the trench (Plate 2, below). This layer contained large fragments of burnt daub, *opus signinum* (concrete) and ceramic building material. Unfortunately no pottery was recovered from this layer but the assemblage of building material, dated AD 55-80+, might be viewed as characteristic of a high status Roman building, probably dating to the 1st or 2nd centuries AD. It was unclear from the small truncated area of this deposit that lay within the trench whether the layer represented discarded building material or demolition debris from a building that had once stood on the site. This layer was recorded at a maximum of 1.01m OD.

Plate 2: Roman demolition debris, layer [83]
Scale 0.50m

7.2.5 A substantial sub-rectangular pit [82] had been truncated by the later ditch [79] and lay to the east of layer [83]. The original depth of this feature is unknown, as excavated it measured 1.65m north-south by 1.50m east-west and was 0.30m deep. This pit also contained a considerable quantity of building material, specifically ragstone rubble but also large fragments of *opus signinum* and tile. This material may have been discarded or the pit might be interpreted as a robber cut, which would imply the presence of a large masonry structure on the site. The pottery recovered from this feature has been provisionally dated AD 50-160. The truncated top of the pit was recorded at +0.84m OD.

7.2.6 An extensive basement extended across much of the northeast corner of the site and though this had obviously destroyed a great deal of the archaeological stratigraphy which had once extended across this area site two facts were immediately apparent. Firstly the basement did not extend to the street frontage; a strip of undisturbed stratigraphy c. 5-7m wide lies between the northern limit of the basement and the street frontage. The northern frontage of Sykes engineering works would undoubtedly have had a foundation along the frontage which will have impacted some of the stratigraphy in this area but the foundation trench, if similar to those excavated during the construction of the adjacent parts of the building, is unlikely to have been more than 1.5m wide. The second important observation made in the area was the depth of the basement, the floor of which lay at approximately 3m below ground level. The construction of the basement would have impacted all of the later archaeological stratigraphy

in this area but much of the Roman levels, and possible earlier prehistoric remains, will be intact below the level of the basement.

Plate 3: Part of timber structure [90]

7.2.7 The integrity of the archaeological resource located below the basement was amply demonstrated by a remarkable find was made whilst observing the removal of the concrete foundation which had supported the southern wall of the basement. The foundation in this area was much deeper than the basement itself and the other foundations found in this area. This provided a window into the earlier stratigraphy and by remarkable good fortune the line of the modern foundation coincided with a substantial timber structure [90] which was aligned roughly east-west (Figure8 and Plate 3 above). The depth of the foundation trench prevented safe entry to the trench and at present the only record of its existence consists of digital photographs. However, observations made on site suggest that the structure was composed of a series of large squared timber baulks c 0.50m wide that were supported or held in place by upright posts.

7.2.8 The date of this timber structure is currently unknown as there was no opportunity to excavate the associated stratigraphy or even enter the trench to effect more detailed recording and recover dating material. However, the depth at which it was discovered, c. 5m below current ground level or c.-0.60m OD, demonstrated that this is almost certainly a Roman structure and one that is likely to date to the earlier part of the Roman period. The timberwork was traced over a distance of c. 5.80m east-west; the structure continued to the east beyond the limits of the foundation trench and passed beyond the northern limit of the trench to the west.

7.2.9 The alignment of structure [90] falls almost exactly along the predicted southern edge of the Southwark Street channel. It is therefore probable that this substantial timberwork represents an attempt to manage the embankment. If this interpretation is correct the nature of the material seen in the foundation trench in association with the timberwork is of some

importance. It appeared that the timber baulks were sealed by a homogenous and substantial layer of yellow sandy soil. This material might have been deposited by flooding which would suggest that the waterfront structure had failed and been overwhelmed by tidal action. Alternatively the sand might represent dumped levelling material; it is possible that the upper part of the timber structure had been demolished and a new waterfront built further to the north. A homogenous sandy layer [84] was visible in the base of Trench 4 which might equate to the material seen sealing the timber structure [90]. The top of layer [84], though partially truncated by ditch [79], was recorded at +0.98m AOD. Though it was never possible to take an accurate level on the timber structure [90] the highest level recorded on layer [84] was roughly consistent with the height of the sand seen covering the timberwork further to the north.

7.2.10 Layer [84] was truncated by the rectangular pit [82] which contained pottery provisionally date AD 50-160. Though this is a fairly wide time bracket this would suggest a relatively early Roman date for the deposition of the sand layer [84]. If the sandy deposit recorded in Trench 4 equates to the material seen sealing the waterfront structure [90] this would support the assumption that the timberwork was constructed in the early Roman period.

7.3 Phase 3 Late Roman

7.3.1 A homogenous horizon of very dark grey or black sand and gravel mixed with clay and silt [34] extended across the entire area of Trench 1; it sealed the earlier Roman layers [35] and [40]. Layer [34] contained frequent small fragments of ceramic building material many of which were heavily abraded. The pottery recovered from this layer has been provisionally dated AD 300/350-400+, it also contained a Constantinian coin dated AD 330-335. The ceramic building material recovered from this layer has been dated AD 55-160 and is clearly residual. It appears that this deposit represents an open area occupied or frequented in the 4th century AD, possibly the second half of that period. The surface of the layer was relatively flat; the highest level recorded on this deposit was 1.31m AOD.

7.3.2 Further evidence of fourth century occupation was evident in Trench 4 in the form of a shallow flat-bottomed ditch [79] which extended across the entire base of the trench (Plate 4 below). The feature was oriented NW-SE which is of interest in itself as this late Roman alignment is not consistent with those seen for the earlier Roman periods and may represent a new system of land division.

7.3.3 As seen the ditch measured 5.80m NW-SE and was 2.25m wide and a maximum of 0.43m deep. The top of the ditch had been slightly truncated during machine excavation of the trench but it was apparent in Section 5 where it was recorded at 1.21m OD.

7.3.4 The pottery recovered from the fill [78] has been provisionally dated AD 120-200 and the ceramic building materials AD 55-80+. However, it is probable that much if not all of this material is residual and derived from the earlier layer and features which it had truncated. A

second Constantinian coin dated AD 330-335 was also recovered from this fill, indicating a 4th century date for deposition.

7.3.5 Ditch [79] was only partially excavated; but might actually represent more than one feature. The base of the ditch was not flat at the point where excavation ceased and the profile of the base suggested that the feature excavated as a single ditch might represent two parallel ditches or more probably a shifting boundary that was redefined by the excavation of a new ditch. This possibility might be resolved by further excavation. As seen the ditch was very wide and flat-bottomed compared to its depth. It may originally have been considerably deeper but this might not be fully reflected by the excavation results as the top could have been truncated by later riverine erosion.

Plate 4: Fourth century Roman ditch [79]
Scale 0.50m

7.4 Phase 4 Late Roman/Early Medieval

7.4.1 The deposits and features which date to the fourth century were sealed by mixed deposits, invariably dark grey in colour, which probably represent a combination of human and riverine actions. Material was probably dumped in a marginal environment and was then reworked by tidal action. In Trench 4 this resulted in the formation of a homogenous horizontal layer [77] which contained residual Roman pottery and building material. The maximum height recorded on this layer was 2.34m OD; it was sealed by a layer of alluvium [71] which though undated had all the characteristic of the medieval alluvial deposits commonly recorded on excavations conducted in this area of Southwark. The post-medieval ground surface was established

above the level of the alluvium, all of the post-medieval pits recorded in Trench 4 truncated the alluvium (See Section 5 Figure 10).

7.4.2 The development the site in the period following the decline of Roman rule and the re-establishment of urban life in Southwark would appear to be unremarkable if the results of Trench 4 were seen in isolation. However, Trench 1 presented a very different and intriguing picture. A dense mass of brown alluvium, layers [23] and [24], was evident in the southeastern corner of the trench but this did not appear simply as a capping above earlier horizontal deposits. The base of the alluvium shelved away sharply to the east and continued below the level of excavation, to the west the alluvium appeared to be contained by a mass of dark grey material which formed an embankment (Figure 9,Sections 1-4 and Plate 5, below). The latter was formed of two distinct units as recorded in Section 1. The base of the bank was recorded as layer [31]. This deposit was formed by a mixture of dumped material and alluvial deposition (see Appendix 3). It would appear that attempts were being made to contain tidal action in this area; clearly these were at best partially successful. A second layer [30] formed the top of the bank; this was composed almost exclusively of dumped material and clearly represented a renewed attempt to contain overbank flooding.

Plate 5: Trench 1 showing possible early medieval embankment
Scale 0.50m

7.4.3 Both layers [30] and [31] contained Roman pottery assemblages which have been provisionally dated AD 50-160: layer [31] also contained ceramic building materials dated AD 55-160. These finds are clearly residual and are probably indicative of earlier Roman soils being extracted from the local area and used to form an embankment. The base of the bank

lies on the fourth century Roman layer [34] and the date at which the embankment was being built clearly must be subsequent to the deposition of this layer. It could potentially be a late Roman feature but if the original purpose of the bank was to counter tidal transgression there would seem little need for this in a period when sea and tidal levels are widely believed to have been lower than they had been in the preceding centuries.

7.4.4 As seen in Trench 1 the embankment was c. 7m wide and was aligned southwest-northeast (Figure 6). The top of the embankment was recorded at c. 2.25m OD, a level that is certainly far higher than any water level predicted for the Roman period. Environmental analysis of the alluvial deposits which rested against the embankment suggested that they were the result of frequent, possibly diurnal, deposition rather than a single large episode of flooding which might represent an exceptional event such as tidal storm surge. This is also intriguing as the alignment of the embankment and channel seen in Trench 1 do not correspond to any of the topographic models developed for the area in the late Roman or early medieval periods. It is well attested that the northern bank of the island lay close to the Southwark Street frontage and it has been assumed that once consolidated in the Roman period riverine activity would have been confined to a relatively narrow east-west aligned channel, particularly as tidal levels fell (Cowan et al 2009, Figure 12). Tidal levels rose considerably in the later medieval period and widespread inundations occurred throughout Southwark and Bermondsey. However, the results from Trench 1 suggest that a tidal channel was entering the site from the south, neither the channel or the embankment were evident in Trench 4.

7.5 Phase 5 Medieval

7.5.1 Medieval deposits were represented by the alluvial layers [71] (Trench 4) and [23] and [24] (Trench 1). Layer [71] was recorded below a level of 2.64m OD and was up to 0.60m thick. This layer was more mixed than those seen in Trench 1 and though it still retained the homogenous mid-brown composition characteristic of the medieval alluvium seen in the area it had probably picked up elements of the pre-existing stratigraphy and redeposited them when it was being laid down.

7.5.2 Layers [23] and [24] have already been discussed regarding the development of the embankment seen in Trench 1. Both essentially consisted of very dense and compact mid-brown layers of silt and clay which were apparently deposited against the embankment. The highest level recorded on the surface of the alluvial deposit [23] was 2.50m OD.

7.5.3 The landward downslope of the embankment was evident in the western end of Trench 4. The deposits capping the embankment were a mixture of overbank flooding and deliberate levelling. Layer [26] was recorded in Sections 1 and 2, it consisted of a mid yellowish grey silty sand and had probably been deposited as a result of overbank flooding washing material out from the embankment. This layer was itself partially sealed by a layer of brown silty clay [25] which appeared to be almost identical to the alluvial deposits [23] and [24] which were

recorded to the east of the embankment. However, closer examination revealed that the layer contained a number of inclusions such as flecks of tile, mortar and oyster shell which had been introduced when the material was redeposited; the bedding planes that were characteristic of the naturally deposited alluvium were also absent from this layer. Layer [25] would appear to be the result of deliberate levelling using alluvial material dug out of the channel to the east.

7.5.4 No dating evidence was recovered from any of the alluvial deposits but they were all located above layers that are known to have been deposited in the fourth century or later. All of the post-medieval features and layers recorded on the site were deposited above or cut into the surface of the alluvium. Although a precise deposition date for these deposits has not been established it is clear that they were almost certainly deposited in the medieval period.

7.6 Phase 6 Post-Medieval

7.6.1 Extensive remains of buildings dating from the late 17th century onwards were uncovered in Trench 1 which measured c. 14m east-west by 8m north-south at the level where the buildings occurred (Figure 8 & Plate 6 below). A plethora of diverse elements of differing dates were recorded, all were found between 2.30m and 2.45m OD.

Plate 6: Trench 1 complex of post-medieval buildings
Scale 1.00m

7.6.2 The earliest elements of the building complex consisted of three walls [3], [4] and [7] which had once formed parts of the same building and a brick-lined well [6] which lay to the north of them. The remains of the walls and the size of the one room which can be reconstructed suggested that a building of considerable size and some status had once been located in this

area. Walls [4] and [3] had once formed the western and northern elements of a large building. The walls each measured 0.60m or 2 feet in width, these substantial external walls could have supported a sizable superstructure of multiple storeys, particularly if the upper parts of the structure were a mixture of masonry and timber. Wall [4] had been extensively robbed out but the robber cut [22] followed the original line of the wall so precisely that there was no doubt regarding how the original elements of the building worked together. The external walls extended beyond the limits of excavation to north and south, as seen the maximum size of the building was 6.40m north-south by 6.20m east-west.

7.6.3 A third wall of somewhat slighter construction [7] formed the eastern side of the room defined by the external walls [3] and 4. The southern end of wall [7] had been impacted by later activity and the original north-south dimension of the room could not be reconstructed, as seen it measured at least 6m. The room measured c. 4.32m east-west which would correspond roughly to 14 feet in imperial measurements.

7.6.4 Walls [3], [4] and [7] were all built from the same red unfrogged brick fabrics, wall [3] also contained blocks of re-used Reigate stone which might well have derived from a demolished medieval structure. The brick fabrics employed in the walls and greenish brown sandy mortar which bound them together date this structure to the later 17th or early 18th centuries.

7.6.5 The building clearly extended further to the east but no original features were evident to the east of wall [7]. The function of the building is at present unclear. Although the remains recorded suggest that this was an imposing structure no fireplaces were evident. The dimensions of the one room that can be partially reconstructed are larger than might be expected for living quarters of the period though the ground floor or basement could very possibly have been given over to ancillary functions or even stabling. No flooring survived, this had presumably been robbed out and re-used.

7.6.6 The robber trenches seen in the sections surrounding the trench suggested that the walls had been robbed from a higher ground surface. The well [6] which stood to the north of the building had clearly been built from a ground level that was somewhat higher than the level at which the walls were found. This would suggest that the rooms seen were basements or at least semi-interred.

7.6.7 The presence of a well (diameter 0.90m or approximately 3 feet) to the north of wall [3] suggests that the interpretation of walls [3] and [4] as external is correct, the well probably stood in an open area to the north of the building.

7.6.8 A second phase of building consisted of the rectangular circuit of walls recorded as [9] which abutted the earlier north-south wall [7] on its eastern side and walls [11] and [12] which may have once been a single wall and abutted wall [9] to the west. These new internal divisions within the existing structure, if it is presumed that this was still standing, are rather curious in their layout. The rectangular circuit formed by wall [9] abutted wall [7] to the west, there would seem to be little need to build the western wall of this room if wall [7] was still extant. It is also

unclear how this small room was accessed; a doorway might have been masked by the later brick structure [15] which lay above the southern wall of the new room. The internal dimensions of the small room enclosed by wall [9] were 3m north-south by 2.42m east-west. These distances do not transfer readily to imperial measurements corresponding to c. 9' 8" and 7' 9"respectively.

7.6.9 The apparent use of unnecessary abutting walls was also evident on the eastern side of the room defined by wall [9]. Walls [11] and [12], quite possibly originally a single structure, abutted wall [9] to the west. Given that all of these walls were constructed from identical brick fabrics and mortar, suggesting that they all relate to a single phase of building, this seems rather odd.

7.6.10 The brick fabrics employed in the walls and grey clinker mortar which bound them date these walls to the mid-late 18th centuries.

7.6.11 The building appears to have been extended to the north in this period. A fragment of a wall [5] extended to the north of the angle formed by the earlier walls [3] and [4] and continued beyond the limits of excavation. A small fragment of horizontal brickwork, possibly flooring but perhaps a base for a post, [17] was also evident adjacent to the well [6].

7.6.12 The final phase of structures represented at this level can probably be interpreted as a distinct change in usage of the building, though how much of the original structure was extant at this stage is difficult to judge. Although the use of the first phase of the building has not been definitively demonstrated basement or ground floor ancillary structures associated with residential space on the upper stories could easily be envisaged. The final phase was characterised by machine bases and fire pits that suggest manufacturing or fabrication of some sort. All of the features outlined below are likely to date to the first half of the 19th century.

7.6.13 A rectangular brick-lined pit [14] was inserted in the room defined by the rectangular circuit of walls [14]. The longest axis of this feature was orientated east-west; it measured 1.36m east-west by 0.96m north-south. The interior of the brick lining was filled with ash and cinders.

7.6.14 Another roughly rectangular shaped structure [15] was located to the south of [14] and partially overlay the southern wall of the room defined by wall [9]. This brick structure was eccentrically shaped with many internal divisions; it probably represents a machine base of some sort. Overall the feature measured 1.70m north-south by 1.20m east-west.

7.6.15 An east-west aligned brick wall [10] was evident to the east of the fire-pit [14]. This substantial wall measured 0.68m wide and extended beyond the limit of excavation to the east. Another fragment of what may be an industrial structure was evident to the south of wall [10] where part of a floor surface covered in charcoal [13] also extended eastward beyond the limit of excavation.

7.6.16 Further evidence of late occupation and remodelling of the original building was evident to the west of the structures described above. A new east-west aligned wall [8] subdivided the large

room which had been defined by walls [3], [4] and [7]. Wall [8] defined a room to the south which had once been paved with large square Flemish floor tiles. Some of these were extant in the southern part of the room where they were recorded as floor [16]. Most had been robbed out but the mortar which had once formed their bedding extended along the eastern and northern parts of the room.

Plate 7: Industrial structures Trench 1
Scale 0.50m

7.6.17 Wall [8] did not extend across the entire width of the earlier room, it measured 2.60m east-west by 0.32m north south and effectively left a doorway or entrance 1.60m wide to its west which would have allowed access to the newly created room to the north. The latter would have measured 3.80m north-south by 4.32m east-west which roughly equates to 12' 6"by 14'.

7.6.18 Two features which remained unexcavated but probably date to some point in the earlier post-medieval period were recorded to the west of the building complex described above. Features [87] and [88] might be robber cuts, both were filled with an identical mixture of lime mortar and stone chippings which are often indicative of the robbing and cleaning of the stone foundations of medieval buildings. Although the evidence is not clear-cut robber cuts [87] and [88] might be seen as forming a right angle, if this interpretation is correct it would reinforce the possibility that they once formed part of a building, most likely of medieval date. These robber trenches might be seen as the source of the Riegate stone blocks which were re-used in wall [3].

7.6.19 The evidence of post-medieval activity documented in Trench 4 was something of a contrast compared to those obtained from Trench 1. No evidence was recovered for the remains of buildings or structures with the exception of robbed out well [61] which was evident in the western section (Section 5, Figure 10). This feature was not excavated and it is therefore undated but the robber cut truncated levels that date to the 18th century. The well measured 1.90m in diameter and was recorded at a maximum height of 2.91m OD.

7.6.20 Although no building remains were recorded in this area cut features in the form of pits were relatively abundant. Two of these which might be of a relatively late date, features [54] and [56], were recorded in Section 5 at a maximum height of 3.36m OD. No finds were recovered from these features which were exposed by machine excavation of the trench. The pits truncated a ground horizon formed by a sequence of dump/levelling layers [62]-[67]. None of these layers produced any finds; the sequence of dumping had raised ground level by c. 0.45m from the previous ground surface which was formed from an extensive homogenous soil horizon recorded as layer [70].-

7.6.21 Layer [70] apparently sealed an earlier phase of pitting represented by pits [76] and [74]. No finds were recovered from pit [76]. Pit [74] contained pottery dated 1720-1760 and the bases of two wine bottles dated to the early to mid 18th century. Pit [74] measured 3.20m north-south and the top, which had been truncated my machine excavation, was recorded at 2.64m OD.

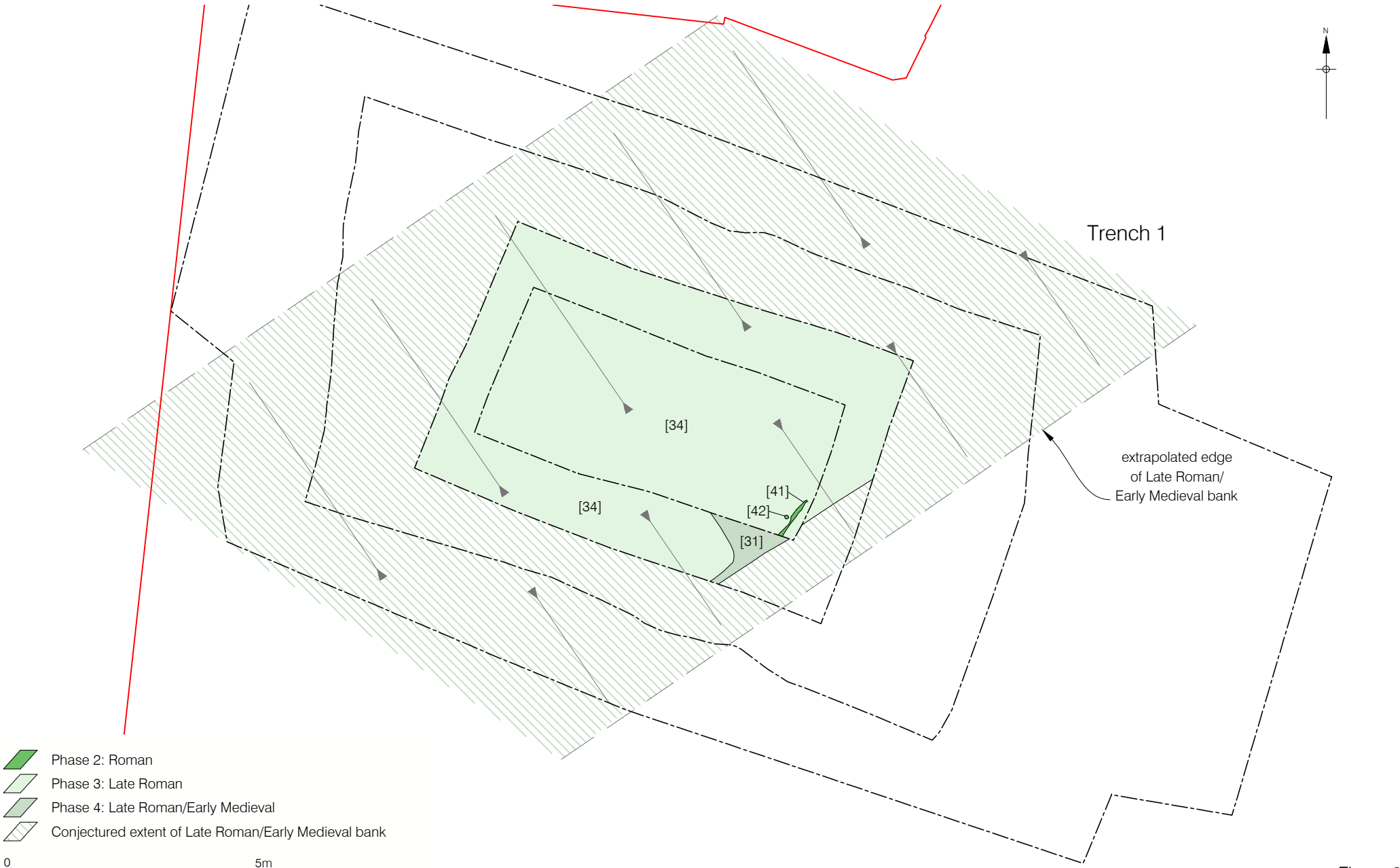
7.6.22 It is probable that pits [76] and [74]. had been truncated by machine clearance and that they had originally been cut from a somewhat higher ground surface. As seen they truncated the medieval alluvial deposit [71] but they might have been dug from the ground level represented by the homogenous soil horizon [70] the top of which lay at 2.99m OD. If the latter was the case this would reinforce the view that the floor and foundation levels recorded in Trench 1 represent basements or a semi-interred ground level.

7.6.23 Although the dating evidence collected during the evaluation from Trench 1 is sparse there seems little doubt that whilst the area of Trench 1 was covered by buildings from the late 17th century onwards other parts of the site, such as Trench 1, remained open ground.

7.7 Phase 6 Later 19th Century

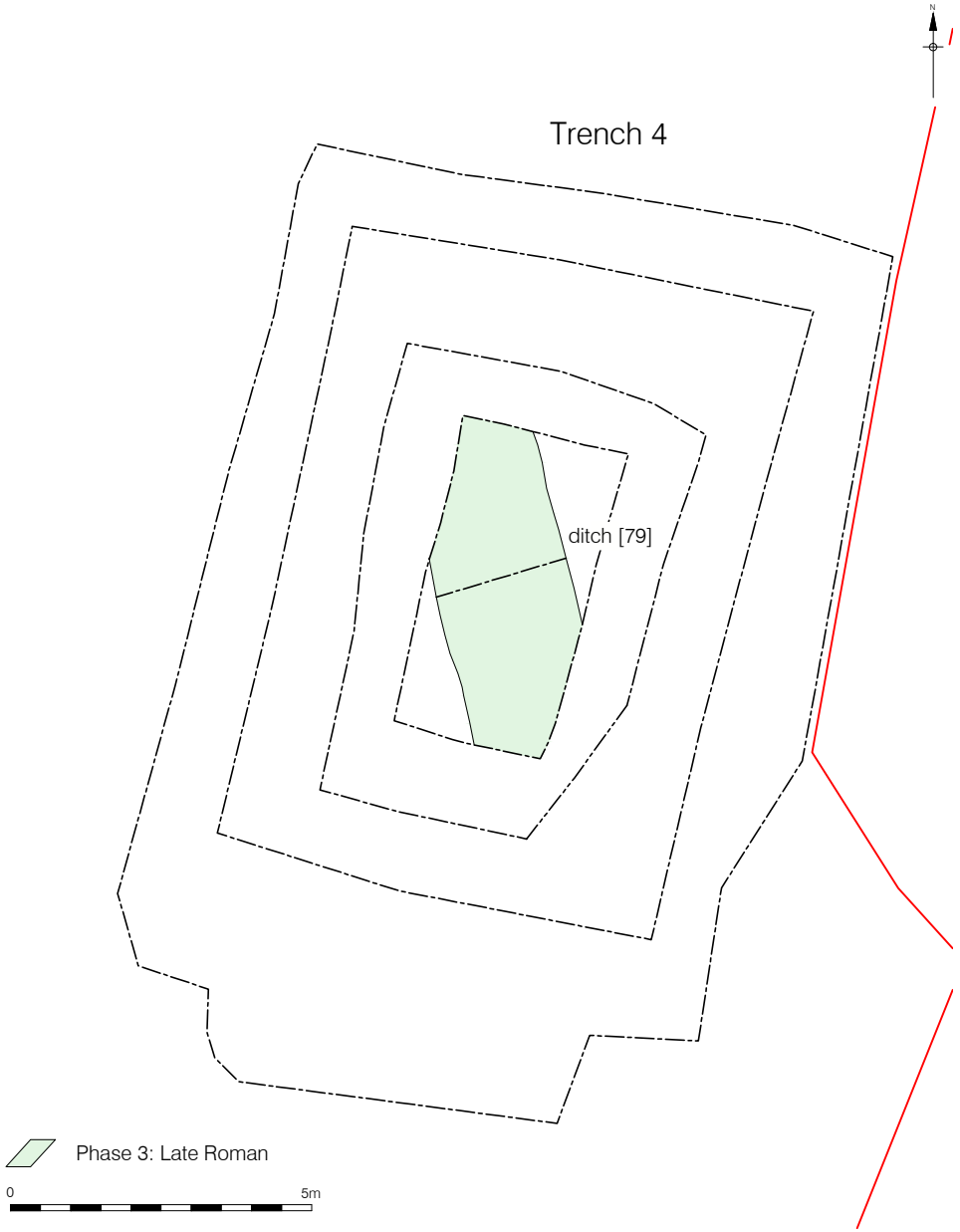
7.7.1 Fragmentary building remains dating to the Victorian period, consisting of a fragment of a floor [1] and a wall [2], were recorded in Trench 1 during the initial watching brief covering the removal modern obstructions which preceded the excavation of the trench. These were recorded between 3.35m and 3.47m OD. The remainder of the features placed in this phase consisted of later foundation trenches and robber cuts recorded in the upper levels of sections. These simply represent later intrusions in to earlier archeologically sensitive levels and are not discussed in detail in this report.

7.7.2 A watching brief was undertaken during the excavation of the rubble infill of a modern basement at the north east of the site. Despite the depth of the basement (c.3m) and its foundations (c.5m) *in-situ* archaeological remains could be demonstrated to survive below both.



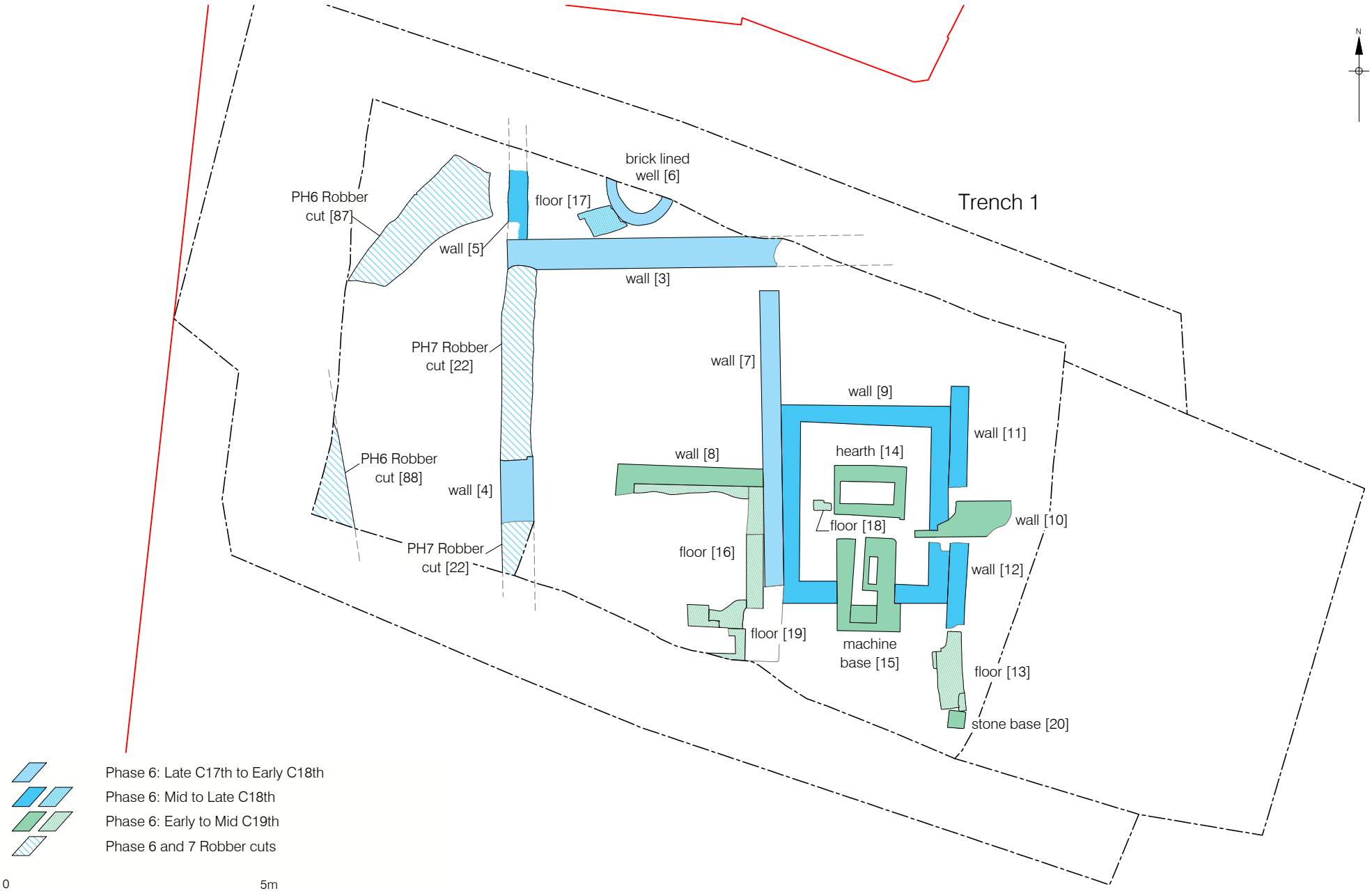
02/12/13 MR

Figure 6
Trench 1: Phases 2-4 Roman to Late Roman/Early Medieval
1:1,000 at A4



02/12/13 MR

Figure 7
Trench 4: Phases 2 and 3 Roman and Late Roman
1:1,250 at A4

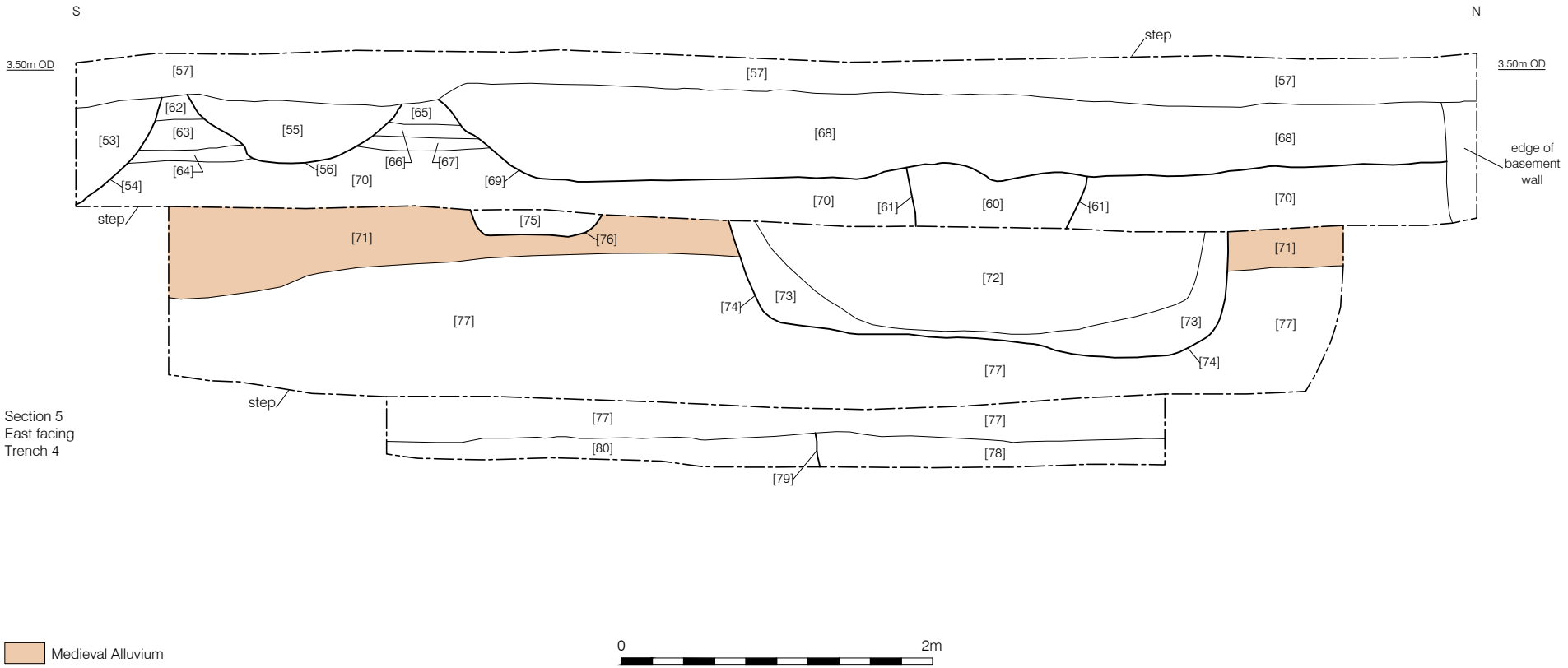


02/12/13 MR

Figure 8
Trench 1: Phase 6 Post-Medieval features
1:1,000 at A4

26/11/13 MR

Figure 9
Trench 1, Sections 1 to 4
1:40 at A3



26/11/13 MR

Figure 10
Trench 4, Section 5
1:40 at A4

8 RESEARCH REVIEW

8.1 Original Research Questions.

8.1.1 The original research aims set out in the Written Scheme of Investigation (Brown 2013) were as follows:

8.1.2 All research is undertaken within the priorities established in the Museum of London's *A research framework for London archaeology*, 2002. The general aims and objectives for the mitigation are as follows:

- The aim of the forthcoming archaeological work is to preserve 'by record' the extent of any surviving archaeological features and deposits within the site.
- Insofar as possible within the methodological constraints, the aims and objectives will be to explain any chronological, spatial or functional relationships between the structures/remains identified, and to link the archaeological results with the data already recovered in the wider area.

8.1.3 Specific research objectives include the following:

- What evidence is there for prehistoric occupation of the site?
- Can the results of the archaeological investigation contribute to our understanding of colonisation of the minor eyots in the stream channel, their consolidation and platform for permanent settlement?
- Can the mitigation develop our understanding of channel capture and revetting, and allow a better understanding of function?
- Is there evidence for high status buildings, evidence of which, particularly mosaic floor fragments, were found at the adjacent site?
- Can the site facilitate a better understanding of the fluvial regime in the late Roman period?
- What evidence is there for the medieval development of the site?
- What evidence is there for the development of the site in the post-medieval period? Can the activity dating from the 16th to 18th centuries hinted at during excavation at the adjacent site be further elucidated?

8.2 Answers to Research Questions

8.2.1 The general research aims have been met as far as they can be within the constraints of an evaluation. The record compiled is discussed in detail in this document and a discussion of the findings and their relationship to our knowledge of surrounding sites appears in the following section Conclusions.

8.2.2 In response to the specific research questions:

- The evaluation did not produce any evidence of prehistoric occupation but it should be noted that the limited excavation undertaken did not reach the base of the Roman sequence in either trench. The levels at which prehistoric occupation might have been proven were never reached.
- The site cannot give us any information regarding the colonisation the minor eyots in the stream channel as it lies on the edge of a major island.
- The evaluation demonstrated the potential of the site to give outstanding information regarding the early revetting of the Southwark Street channel and subsequent land use. Although the status of the timber structure recorded in the watching brief is as yet unproven it is most probable that it represents an early attempt to manage the tidal channel to the north. This is discussed in more detail below. The evaluation demonstrated that there is an intact sequence of deposits that spans the entire Roman period.
- Evidence of high status buildings was recovered during the excavation of Trench 4. Although the area exposed in the base of the trench was limited and much of it had been truncated by a late Roman ditch fragments of earlier building material were abundant. These included a large quantity of building stone and large fragments of *opus signinum.* The latter could be used in a number of ways but is perhaps most commonly found in London as flooring in high status Roman buildings.
- Fuller excavation of the site would undoubtedly yield a considerable amount of information regarding the development of the fluvial regime in the late Roman and other periods.
- At present the status of the site in the medieval period is still unknown. The possibility of buildings having been on the site was hinted at by the post-medieval robber trenches that were documented on the western boundary of Trench 1. Although these features were not excavated (they are still extant within the backfilled trench) the mixture of materials in the fills, lime mortar, chips of ragstone and Reigate stone, had all the characteristics one would expect from the demolition and robbing of a medieval building. The re-used Reigate stone blocks documented in the nearby late 17th wall brick wall could have derived from an adjacent building.
- The deposits that lay below the level of this putative medieval building are perhaps more interesting when discussing the status of the site in the medieval period. Marine transgressions were commonly documented in the area during this period. This is often evidenced in archaeological fieldwork where large areas that had been dry ground in the Roman period were capped by substantial depths of alluvial clays and silts. The excavation results from Trench 1 demonstrated that a substantial effort had been made to embank the edge of a tidal channel. At present the date of this embankment is unknown, the channel also follows a curious alignment that does not relate easily to the earlier Roman tidal channel to the north.

- Substantial evidence relating to the occupation of the site in the post-medieval period was obtained from both evaluation trenches. In the case of Trench 1 this comprised a complex of buildings dating from the late 17th or early 18th centuries. These continued in use, in modified forms, up until the late 18th or early 19th centuries. A fuller discussion follows in Section 9, Conclusions. The area of Trench 4 seems to have been an open area in this period. The development of the site in subsequent periods is perhaps best done by cartography as modern construction has destroyed a great deal of the later remains.

9 CONCLUSIONS AND RECOMMENDATIONS

9.1 Conclusions

9.1.1 The evaluation and watching brief undoubtedly succeeded in demonstrating the archaeological potential of the site. Despite the modern truncation which resulted from a series of changes in the land division of the area and the subsequent frequent rebuilding the majority of the archaeological stratigraphy which would once have extended across the entire site is still *in situ*. The evaluation showed that a general truncation horizon extended across the southwest corner of the site to a level of c. 2.50m OD, though some features were extant at a higher level. In the area of Trench 4 features and deposits probably dating to the 18th century survived to a level of c. 3.20m OD. Even the areas which have been impacted by basements retain considerable archaeological potential. This was made abundantly clear by the watching brief undertaken on the removal of the basement located in the northeast corner of the site. The basement itself was c. 3m deep but even truncation to c. 1.30m OD would leave the entirety of the Roman sequence as seen in the nearby Trench 4 intact. The machine excavation of the particularly deep foundation which defined the southern limit of the basement showed that archaeological features and deposits were extant more than 5m below modern ground level or -0.70m OD. Given that a very substantial timber structure which probably defines the early Roman channel bank was seen in the base of the trench, and that previous archaeological work on the adjacent site suggested that the channel shelved away very sharply to the north, it might be expected that the full archaeological sequence close to the northern frontage will extend c. 7m or possibly more below modern ground level.

9.1.2 The function of the timber structure seen in the base of the modern foundation trench is as yet unproven but the alignment of this feature suggests very strongly that it is a timber waterfront. Detailed recording could not be undertaken due to the depth of the machine excavated trench but it can be stated that the timbers exposed were of a size that is rarely seen in Roman Southwark and although they by no means resembled the massive baulks used in the quayside constructions found on the north bank they did suggest a very heavy duty structure.

9.1.3 The presence of this structure, if it is a waterfront, and the results from Trench 1 which was located in the southwestern corner of the site, also present new questions concerning the development of the site in the Roman period. The excavations undertaken at 51-53 Southwark Street suggested that after a minor early Roman presence dating to the mid-late 1st century AD a sequence of events including a marine transgression led to the establishment of a new ground surface at c. 0.80m OD. The remains of the waterfront structure clearly lie below this level though they may of course merely represent the base of a revetment. However, the stratigraphy recorded in Trench 1 demonstrated that Roman artefacts were located in what appeared to be riverine deposits at and below a level that ranged from +0.22m to +0.40m AOD. This might suggest that a sizable natural inlet projected southward from the main Southwark Street channel. The results obtained from drilling

boreholes 7 and 8 suggest that the archaeological and fluvial sequence extends c. 6m below current ground level, or -1.20m OD, which would support the theory that a channel or inlet extended southward from the main Southwark Street Channel to the north. The present topographical model of the area (Cowan et al 2009 Fig 5) also suggests the presence of an inlet. The questions posed by the findings of the recently concluded phase of works regard the management of this environment from the early Roman period onward. Was the inlet used as a quayside or was the establishment of the early waterfront designed to reclaim all of the low-lying area to the south? If the latter why was there very limited evidence of land levelling or attempts to raise ground level in the area of Trench 1?

9.1.4 A second phase of land levelling recorded at 51-53 Southwark Street raised ground level to +0.90m-1.00m OD and was linked to a second phase of timber revetting along the channel which has been dated AD 70-100. By contrast the 4th century layer [34] recorded in Trench 1 only reached 1.31m AOD. Although the area excavated in Trench 1 can be seen as a relatively small sample the evidence for multiple periods of Roman activity which would have resulted in a substantial raising of ground level seem to be largely absent. This might simply reflect a concentration on the waterfront area itself.

9.1.5 The deposits seen associated with the waterfront structure included a thick homogenous sand horizon which appeared to seal the timberwork. Two distinct possibilities were suggested by this observation. The first was that the waterfront had failed and had been overwhelmed by a high energy flooding event which had deposited the sand. Alternatively the waterfront structure might have been demolished and replaced with another located further to the north; if this was the case the sand might represent widespread land reclamation and levelling layers to the rear of the new waterfront structure. Successive phases of land reclamation were seen on the north bank of the stream at 52-54 Southwark Street and a similar sequence of channel management might be expected on the subject site (Heard 1989). A sand deposit which might be equated to that seen above the waterfront structure formed the base of archaeological sequence in Trench 4 and though unexcavated this layer probably dates to the 1st or 2nd centuries AD.

9.1.6 Borehole 2 was located to the north of the timber structure [90] and hit gravel at 4.80m below ground level or c.-0.65m OD. However, it was not possible to determine whether or not this gravel naturally deposited. A greater depth of riverine deposits might be expected in this area and there is a distinct possibility that the gravel (which could not be penetrated by the auger) had been redeposited during land levelling and raising on the landward side of a timber river wall which replaced the early structure [90] seen during the watching brief.

9.1.7 Considerable quantities of building material, some of which were indicative of high status structures, were evident in Trench 4. Some of these, including a large quantity of ragstone rubble, were found in a rectangular pit. The building material within may simply have been dumped, a phenomena seen on several nearby sites, or it might represent the robbing of a

substantial stone structure which had once stood on the site. Pottery dating suggests the pit was backfilled in the period AD 50-160.

9.1.8 A layer largely composed of building material was located to the west of the pit noted above. Only a small area of this deposit was located within the trench and no pottery was recovered to provide a firm date but the building materials were consistent with elements of a relatively high status Roman structure dating to the 1st or 2nd centuries AD. At present it has not been established whether the building material represents the demolition of a structure which was located on the site or dumping/levelling to create a new ground surface.

9.1.9 Small elements of a lightweight timber structure were recorded in Trench 1 of unknown function represents Roman activity within the stream dating to the 1st or 2nd centuries AD.

9.1.10 An interesting and pertinent observation made on the Roman pottery assemblage collected during the evaluation was that there was a high proportion of amphora for such a small assemblage. This should perhaps be seen in conjunction with interpretation of the pottery recovered from 51-53 Southwark Street which was comparable to the waterfront assemblages collected from sites in the City of London. This, taken in tandem with the site location and the existence of substantial post-built buildings adjacent to the waterfront, led to the conclusion that the adjacent site was used for the unloading and redistribution of goods from vessels moored in the channel. The presence of a substantial timber structure which follows the predicted line of the Southwark Street Channel and a pottery assemblage with an elevated proportion of amphora once again presents the possibility of a working quayside being present in this area.

9.1.11 Late Roman occupation was demonstrated by the extensive horizontal deposit [34] which extended across the entirety of Trench 1, apart from a small area truncated by the medieval channel, and the shallow ditch [79] which was recorded in Trench 4. Both contained coins dated AD 330-335. The ditch [79] was also notable as it had been cut on an alignment that does not seem to relate to earlier systems of land division.

9.1.12 The status of the site in the post-Roman period is intriguing. There is no doubt that urban life in the Roman city and its southern suburb declined and eventually failed during the fifth century but the history and archaeology of what followed is still largely unexplained. The results of the evaluation have highlighted the problems associated with this period. Rising tidal levels during the medieval period combined with the ineffectiveness or absence a river frontage led to widespread and frequent flooding. However, there is no doubt that parts of Southwark were occupied from the late Saxon period onwards though this is barely reflected in the archaeological record. The evaluation identified horizons which demonstrated medieval flooding but the identification of an embankment that was apparently built as defence against this is exceptional. The date of this embankment has not been demonstrated, largely because its presence was only evident as a result of the machine excavation of Trench 1 and the fact that the embankment was composed of redeposited soils that contained Roman pottery and building materials. The base of the embankment lay on a late Roman horizon that dates at

earliest to the 4th century but at present the date at which tidal flooding began to be a problem and attempts were made to counter it are unknown. The alignment and position of the embankment is also intriguing. The tidal channel active in the Roman period lies to the north of the site but the channel and embankment were evident in the southwest of the site and did not apparently extend into the area of Trench 1.

9.1.13 The presence of a medieval building was hinted at by two possible robber trenches identified in the extreme western periphery of Trench 1. These features were not excavated and are undated but the materials contained within them are consistent with the robbing of stone from a medieval building. Very little evidence of medieval activity was recorded during the evaluation but in the case of Trench 1 this might have been masked by the impact of the dense complex of post-medieval buildings seen in this area.

9.1.14 Extensive evidence of the increasingly urbanised landscape of Southwark was uncovered during the evaluation, particularly in Trench 1. A complex of walls, floors and later industrial features was uncovered; these were principally built of brick though one of the earliest walls, which dated to the late 17th or early 18th centuries, also contained blocks of Reigate stone which probably derived from a demolished medieval building. The alignments of the walls demonstrated conclusively that they had not formed part of Southwark Square, a development which extended across the site from the early 19th century until the building of Southwark Street around 1860 (the clearance of buildings undertaken to allow for the construction of the road is evident on Stanford's map of 1863, the road was completed in 1864). However, when the walls recorded in Trench 1 are superimposed on Rocque's map of 1746 it is clear that their alignments fit very well with the buildings shown at the western end of Crown Court, a development which extended westwards from Worcester Street (modern O'Meara Street). The dates of the earliest two phases of the buildings are consistent with buildings that could have appeared on the Rocque map.

9.1.15 The later use of the buildings represents an occasion when the archaeological a record diverges from what can be seen by the use of cartography. Horwood's map of 1799 shows that the buildings around Crown Court had been demolished and that a new frontage of small houses stood on Worcester Street, the site was apparently situated on open ground to the west of Worcester Street and south of Castle Street. However, the latest phase of structures recorded in Trench 1 has been dated to the early 19th century. It is probable that the wholesale subdivision of the original rooms evident in the early building phase, and their use for fabrication or manufacturing, represents a serious decline in the status of these buildings and they may have been ruinous when Horwood's map was surveyed but the archaeological evidence suggests that they continued in use into the early part of the 19th century.

9.1.16 Very little archaeological evidence was found for the survival of the buildings that had once formed Southwark Square. These were probably built after the remodelling of the street pattern associated with the building of Southwark Bridge which opened in 1819, the new development is shown on Greenwood's map of 1830. The remains of these buildings were

largely destroyed by later development of the site, particularly the building of the engineering works which is shown on the Goad Insurance plan of 1966.

9.2 Recommendations

9.2.1 At present no approved scheme exists for the redevelopment of the site. However, should further excavation take place it might address the following research questions:

- Is there any evidence for a prehistoric presence on the site?
- Is the timber structure seen during the watching brief a Roman waterfront? If so what was the purpose of this development, was it designed simply to manage the channel or could it have been used as a commercial quayside? What is the date of the structure?
- Do later waterfronts exist to the north of the timber structures identified during the watching brief?
- Is the site located within an inlet that extends southward from the main Southwark Street Channel?
- How did the site develop to the south of the riverine channel during the Roman period?
- Is there any evidence for changes in land use and division in the later Roman period?
- What is the date of the embankment identified in southwest corner of the site?
- Can the flooding events identified across the site be dated more closely?
- Is there any evidence of medieval occupation of the site?
- What was the extent and function of the post-medieval building complex identified in Trench 1?
- When did these buildings go out of use?
- What can the post-medieval pits identified in Trench 4 contribute to our understanding of the occupation and economy of site?

10 BIBLIOGRAPHY

Bird, J , Graham, A H, Sheldon H L and Townsend, P(Eds) 1978 *Southwark Excavations 1972-4* Joint Publication London and Middlesex Archaeological Society/Surrey Archaeological Society

Brigham, T 2001 *The Thames and Southwark waterfront in the Roman period* in Watson et al 2001 pp12-27

Brigham, T, Goodburn, D, and Tyres, I with Dillon, J 1996 *A Roman timber building on the Southwark waterfront* London Archaeological Journal 152, pp1-72

Brown, G 2013 *Land at Gagarin Square, Southwark Street, London, London Borough Of Southwark, Written Scheme Of Investigation For An Archaeological Evaluation* Unpublished PCA documents

Carlin, M, 1996 *Medieval Southwark*

Cowan, C 1992 *A possible mansio in Roman Southwark: excavations at 15 – 23 Southwark Street, 1980–86* Transactions of the London and Middlesex Archaeological Society 43 pp 3 – 191

Cowan, C, Seely, F, Wardle A, Westman, A and Wheeler, L 2009 *Roman Southwark Settlement and Economy* MoLA Monograph 42

Cowie, R 2002 *Londinium to Lundenwic: Early and Middle Saxon Archaeology in the London region* in Haynes et al 2002

Cowie, R and Whytehead, R 1989 *Lundenwic: The archaeological evidence for Middle Saxon London* Antiquity 63 pp706-18

Drummond-Murray, J Saxby, D & Watson, B 1994 *Recent archaeological work in the Bermondsey district of Southwark* London Archaeologist Vol 7 No 10 251-257

Edwards, C 2010 *100–142 Union Street, London Borough of Southwark A Post-Excavation Assessment Report* Unpublished AOC Archaeology Group report

Graham, A H 1978 *The Geology of North Southwark and its Topographical Development in the Post-Pleistocene Period* in Bird et al 1978 501-516

Haslam, J 2010 *King Alfred and the development of London* London Archaeologist Vol 12 No 8

Heard, K 1989 *Preliminary Report on Excavations at 52-54 Southwark Street, Southwark, SE 1* Unpublished Report, DGLA, Southwark and Lambeth

Hodges, R and Whitehouse, D 1983 *Mohammed, Charlemagne and the origins of Europe*

Killock, D 2005 *Roman river bank use and changing water levels at 51-53 Southwark Street, Southwark, London* Transactions of the London and Middlesex Archaeological Society 56, 27-44

Knight, H 2002 *Aspects of medieval and later Southwark: archaeological excavations (1991-8) for the London Underground Limited Jubilee Line Extension Project* MoLAS Monograph 13

Margary, I D 1973 *Roman Roads in Britain*

Milne, G Battarbee, R W Stalker, V & Yule, B 1983 *The river Thames in London in the mid 1st Century AD* Trans London Middlesex Arch Soc 34 p19-30

Milne, G and Goodburn, D 1990 *The Early Medieval Port of London AD 700-1200* Antiquity 64 pp629-630

Proctor, J and Bishop, B 2002 *Prehistoric and environmental development on Horsleydown; excavations at 1-2 Three Oak Lane* Surrey Archaeological Collections Vol 89 1-26

Reilly, L 1998 *Southwark: An Illustrated History*

Ridgeway, V 1999 *Prehistoric Finds at Hopton Street* London Archaeologist Vol 9 No 3 72-76

Sheldon, H 1978 *The 1972-74 excavations: their contributions to Southwark's* history in Bird et al

Treveil, P and Burch, M 1999 *Number 1 Poultry and the development of medieval Cheapside* Trans of the London and Middlesex Archaeological Society 50 pp55-56

Watson, B 2009 *Saxo-Norman Southwark: a review of the archaeological and historical evidence* London Archaeologist Vol 12 No 6

Watson, B, Brigham, T and Dyson, T 2001 *London Bridge, 2000 years of a river* crossing MoLAS Monograph Series 8, London

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APPENDIX 1: OASIS FORM

OASIS ID: preconst1-165936

Project details

Project name	55 Southwark Street
Short description of the project	Field evaluation comprising two large stepped trenches and watching brief. The evaluation uncovered evidence of early Roman riverbank use including a probable waterfront structure and subsequent land reclamation. Late Roman occupation was also evident as horizontal stratigraphy and a ditch. An undated (?medieval) embankment used for flood defence was also recorded. Extensive evidence of post-medieval buildings and pits
Project dates	Start: 10-10-2013 End: 13-11-2013
Previous/future work	No / Yes
Any associated project reference codes	STW 13 - Sitecode
Type of project	Field evaluation
Site status	Local Authority Designated Archaeological Area
Current Land use	Vacant Land 1 - Vacant land previously developed
Monument type	REVETMENT Roman
Monument type	DITCH Roman
Monument type	PIT Roman
Monument type	EMBANKMENT Uncertain
Monument type	WALL Post Medieval
Monument type	PIT Post Medieval
Significant Finds	POT Roman
Significant Finds	TILE Roman
Significant Finds	COIN Roman
Significant Finds	GLASS Roman
Significant Finds	POT Post Medieval
Significant Finds	GLASS Post Medieval
Significant Finds	BRICK Post Medieval
Methods & techniques	"Sample Trenches"
Development type	Urban commercial (e.g. offices, shops, banks, etc.)
Prompt	Planning condition
Position in the	Pre-application

planning process

Project location

Country	England
Site location	GREATER LONDON SOUTHWARK SOUTHWARK 55 Southwark Street
Postcode	SE1 1RU
Study area	1142.00 Square metres
Site coordinates	TQ 3231 8012 51 0 51 30 14 N 000 05 36 W Point

Project creators

Name of Organisation	Pre-Construct Archaeology Ltd
Project brief originator	Chris Constable
Project design originator	Gary Brown
Project director/manager	Gary Brown and Peter Moore
Project supervisor	Douglas Killock
Type of sponsor/funding body	Developer
Name of sponsor/funding body	Southwark Square Limited

Project archives

Physical Archive recipient	LAARC
Physical Contents	"Animal Bones","Ceramics","Glass","Metal","Wood"
Digital Archive recipient	LAARC
Digital Media available	"Images raster / digital photography","Spreadsheets","Survey","Text"
Paper Archive recipient	LAARC
Paper Media available	"Context sheet","Drawing","Matrices","Plan","Report","Section","Survey","Unpublished Text"

Project bibliography 1

Publication type	Grey literature (unpublished document/manuscript)
Title	An Archaeological Evaluation at 55 Southwark Street London SE1 1RU
Author(s)/Editor(s)	Killock, D

Date	2013
Issuer or publisher	PCA
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Entered by	Douglas Killock (dkillock@pre-construct.com)
Entered on	3 December 2013

APPENDIX 2: Roman pottery and coin spot dates

James Gerrard

Pottery

Context	Date
[30]	50-160
[34]	300/350-400+
[31]	50-160?
[35]	160/250-300
[77]	50-160
[81]	50-160
[78]	120-200

Coins

SF 1 Roman – requires cleaning for further ID.

SF 2 Constantinian. Gloria Exercitus 2 soldiers, 2 standards AD330-335

SF 8 Constantinian Gloria Exercitus 2 soldiers, 2 standards AD330-335

APPENDIX 3: Geoarchaeological summary

By David Taylor

Based on the geoarchaeological survey carried out at Trench 1, 55 Southwark Street on 25/10/2013 it is possible to make a number of conclusions:

Firstly we are looking at a fluvial system probably relating to an inlet of the former Southwark Street Channel. This is based on a series of light olive brown alluvial silty clay deposits with darker grey silt bands and laminae. These have been divided into two deposits ([23] and [24]), which serves from an archaeological point of view but from a geoarchaeological viewpoint it is possible to see that within these each band or bed represents a different deposition phase. This is atypical for fluvial systems where alluvial deposits are constantly being laid down by the flow of moving water. This sequence is seen in both the southern and western sections; however the eastern section has been heavily disturbed by a construction cut for a post-medieval wall that sits above these deposits.

Further to this it is possible to determine that there has been an attempt to manage this fluvial system through a manmade bank, although it must be stated that a lack of dating evidence means that it difficult to determine when this system was managed. The management of the bank has a number of clear phases. Context [31] is a mixture of alluvial clay deposits and anthropogenic deposits which is indicative of a failed attempt to manage the watercourse, which has then flooded the immediate area. Above this [30] is a purely anthropogenic deposit which consists of a dark brownish grey silty sand that has been dumped to build up a higher bank. However [26] in the south-western corner of the trench suggests that even this higher bank has been breached as there is a build up of banded sandy deposits where sand has washed out of the bank.

The north western part of Trench 1 may show the back edge as there has been an attempt to level the bank with redeposited alluvial deposits, these are very mixed and don't show any of the characteristics that you would expect of natural alluvium.

APPENDIX 4: Post-medieval pottery and glass spot dates

Chris Jarrett

Pottery

[73] – 1720-1760

Glass

[73] – early to mid 18th century

APPENDIX 5: Building materials spot dates

Kevin Heyward and Berni Sudds

Context	Date range of the material		Latest dated type		Total No	Total weight	Context considered date
0	50	400	50	400	1	895	-
1	1450	1940	1770	1940	2	5200	1770 – 1940
2	1666	1900	1666	1900	1	2200	1800 – 1900
3	1450	1725	1664	1725	5	41250	1664 – 1725
4	1450	1725	1664	1725	3	4953	1664 – 1725
5	1666	1900	1666	1900	1	1799	1666 – 1900
6	1450	1725	1664	1725	3	4150	1664 – 1725
7	1450	1900	1666	1900	6	8200	1664 – 1725
8	1666	1900	1666	1900	2	2050	c. 1800 – 1850
9	1450	1900	1666	1900	4	6250	1750 – 1800/25
10	1666	1900	1666	1900	2	2150	c. 1800 – 1850
11	1666	1900	1666	1900	2	2050	1750 – 1800/25
12	1666	1900	1666	1900	2	2050	1750 – 1800/25
13	1600	1900	1666	1900	4	6248	1666 – 1800
14	1666	1900	1666	1900	2	2050	c. 1800 – 1850
15	1450	1900	1666	1900	5	7650	c. 1800 – 1850
20	1450	1900	1450	1900	1	30000	1450 – 1900
31	-50	400	55	160	16	4404	55 – 160
34	50	250	55	160	11	1146	55 – 160
35	-50	160	55	160	42	19063	55 – 80+
53	55	160	55	160	7	1830	55 – 160
77	55	160	55	160	16	16857	55 – 80+
78	50	250	55	160	47	27227	55 – 80+
81	-50	400	55	160	33	17517	55 – 80+
83	-50	400	55	160	26	3067	55 – 80+

APPENDIX 6: Context Register

Context No.	Plan	Section / Elevation	Trench	Type	Description	Date	Phase
1	1		Tr 1	Masonry	Remnant of brick floor	Post-Medieval	7
2	1		Tr 1	Masonry	Brick wall	Post-Medieval	7
3	Tr 1		Tr 1	Masonry	Brick wall	Post-Medieval	6
4	Tr 1		Tr 1	Masonry	Brick wall	Post-Medieval	6
5	Tr 1		Tr 1	Masonry	Brick wall	Post-Medieval	6
6	Tr 1		Tr 1	Masonry	Brick lined well	Post-Medieval	6
7	Tr 1		Tr 1	Masonry	Brick wall	Post-Medieval	6
8	Tr 1		Tr 1	Masonry	Brick wall	Post-Medieval	6
9	Tr 1		Tr 1	Masonry	Brick wall	Post-Medieval	6
10	Tr 1		Tr 1	Masonry	Brick wall	Post-Medieval	6
11	Tr 1		Tr 1	Masonry	Brick wall	Post-Medieval	6
12	Tr 1		Tr 1	Masonry	Brick wall	Post-Medieval	6
13	Tr 1		Tr 1	Masonry	Remnant of brick floor	Post-Medieval	6
14	Tr 1		Tr 1	Masonry	Brick lining of pit/hearth	Post-Medieval	6
15	Tr 1		Tr 1	Masonry	Brick lining of pit/hearth	Post-Medieval	6
16	Tr 1		Tr 1	Masonry	Remnant of brick floor	Post-Medieval	6
17	Tr 1		Tr 1	Masonry	Remnant of brick floor	Post-Medieval	6
18	Tr 1		Tr 1	Masonry	Remnant of brick floor	Post-Medieval	6
19	Tr 1		Tr 1	Masonry	Remnant of tile floor	Post-Medieval	6
20	Tr 1		Tr 1	Masonry	Stone base	Post-Medieval	6
21	Tr 1		Tr 1	Fill	Fill of [22]	Post-Medieval	7
22	Tr 1		Tr 1	Cut	Robber cut	Post-Medieval	7
23		S1 S4	Tr 1	Layer	Alluvial fill of channel	Medieval?	5
24		S1 S3 S4	Tr 1	Layer	Alluvial fill of channel	Medieval	5
25		S2	Tr 1	Layer	Re-deposited alluvium	Medieval	5
26		S2	Tr 1	Layer	Sandy alluvial deposit	Medieval	5
27		S1	Tr 1	Layer	Dark ashy dump/levelling	Post-Medieval	6
28		S1	Tr 1	Fill	Mortar bedding for wall foundation	Post-Medieval	7
29		S1	Tr 1	Cut	Construction filled by [28]	Post-Medieval	7
30		S1 S2 S3	Tr 1	Layer	Upper bank deposit	Late Roman/early medieval	4
31		S1 S2 S3	Tr 1	Layer	Lower bank deposit	Late Roman/early medieval	4
32		S1	Tr 1	Fill	Backfill of construction cut [33]	Post-Medieval	7
33		S1	Tr 1	Cut	Construction cut for [32]	Post-Medieval	7
34		S1	Tr 1	Layer	Dump/levelling layer	Late Roman	3
35		S1	Tr 1	Layer	Sandy channel fill	Roman	2
36		S3	Tr 1	Layer	Upper bank deposit	Late Roman/early medieval	4
37		S3	Tr 1	Layer	Part of bank	Late Roman/early medieval	4
38		S3 S4	Tr 1	Layer	Redeposited alluvium	Post-Medieval	6
39					VOID		
40		S1	Tr 1	Layer	Mixed organic horizon	Roman	2
41		S1	Tr 1	Timber	Collapsed post?	Roman	2
42			Tr 1	Timber	Roundwood stake	Roman	2
43			Tr 1	Fill	Rubble spread, fill of [87]	Post-Medieval	6

44			Tr 1	Fill	Rubble spread, fill of [88]	Post-Medieval	6
45		S1	Tr 1	Layer	Grey sand and silt, seen only in auger hole	Roman?	2
46		S1	Tr 1	Layer	Sandy peat horizon, seen only in auger hole	Prehistoric?	2
47		S1	Tr 1	Layer	Grey silt and clay, seen only in auger hole	Prehistoric?	2
48		S1	Tr 1	Layer	Fine orange sand, seen only in auger hole	Prehistoric?	2
49		S1	Tr 1	Layer	Grey silt and clay, seen only in auger hole	Prehistoric?	2
50		S1	Tr 1	Layer	Grey silt and clay, seen only in auger hole	Prehistoric?	2
51		S1	Tr 1	Layer	Loose orange gravel	Prehistoric?/Natural??	2
52		S1	Tr 1	Fill	Fill of pit [89]	Post-Medieval	6
53		S5	Tr 4	Fill	Fill of [54]	Post-Medieval	6
54		S5	Tr 4	Cut	Pit	Post-Medieval	6
55		S5	Tr 4	Fill	Fill of [56]	Post-Medieval	6
56		S5	Tr 4	Cut	Pit	Post-Medieval	6
57		S5	Tr 4	Layer	Dump/levelling layer	Post-Medieval	6
58					VOID		
59					VOID		
60		S5	Tr 4	Fill	Fill of [61]	Post-Medieval	6
61		S5	Tr 4	Cut	Well	Post-Medieval	6
62		S5	Tr 4	Layer	Dump/levelling layer	Post-Medieval	6
63		S5	Tr 4	Layer	Dump/levelling layer	Post-Medieval	6
64		S5	Tr 4	Layer	Dump/levelling layer	Post-Medieval	6
65		S5	Tr 4	Layer	Dump/levelling layer	Post-Medieval	6
66		S5	Tr 4	Layer	Dump/levelling layer	Post-Medieval	6
67		S5	Tr 4	Layer	Dump/levelling layer	Post-Medieval	6
68		S5	Tr 4	Fill	Fill of [69]	Post-Medieval	6
69		S5	Tr 4	Cut	Extensive cut, possibly a ditch	Post-Medieval	6
70		S5	Tr 4	Layer	Homogenous soil horizon	Post-Medieval	6
71		S5	Tr 4	Layer	Sandy clay, alluvium	Medieval?	5
72		S5	Tr 4	Fill	Fill of [74]	Post-Medieval	6
73		S5	Tr 4	Fill	Fill of [74]	Post-Medieval	6
74		S5	Tr 4	Cut	Large pit	Post-Medieval	6
75		S5	Tr 4	Fill	Fill of [76]	Post-Medieval	6
76		S5	Tr 4	Cut	Pit	Post-Medieval	6
77		S5	Tr 4	Layer	Homogenous alluvial deposit	Early Medieval?	4
78		S5	Tr 4	Fill	Fill of [79]	Late Roman	3
79		S5	Tr 4	Cut	Flat-bottomed ditch	Late Roman	3
80		S5	Tr 4	Layer	Dump/levelling layer	Roman	2
81	Tr 4		Tr 4	Fill	Fill of [82]	Roman	2
82	Tr 4		Tr 4	Cut	Sub-rectangular pit	Roman	2
83	Tr 4		Tr 4	Layer	Demolition debris	Roman	2
84	Tr 4		Tr 4	Layer	Sandy brickearth	Roman	2
85	Tr 4		Tr 4	Layer	Sandy brickearth	Roman	2
86	Tr 4		Tr 4	Layer	Sandy dumping	Roman	2
87			Tr 1	Cut	Possible robber cut	Post-Medieval	6
88			Tr 1	Cut	Possible robber cut	Post-Medieval	6
89			Tr 1	Cut	Pit	Post-Medieval	6

90	WB			Timber	Waterfront structure	Roman	2

P C A

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