

**2 COPTHALL AVENUE**

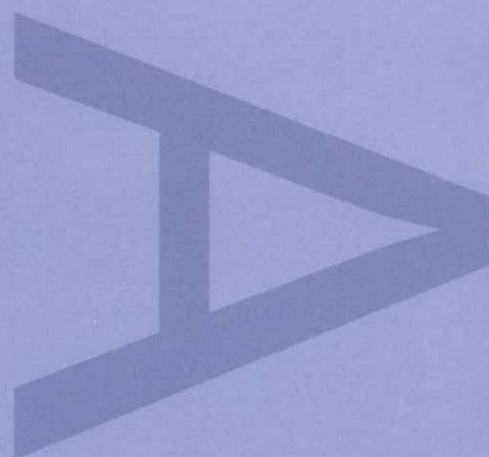
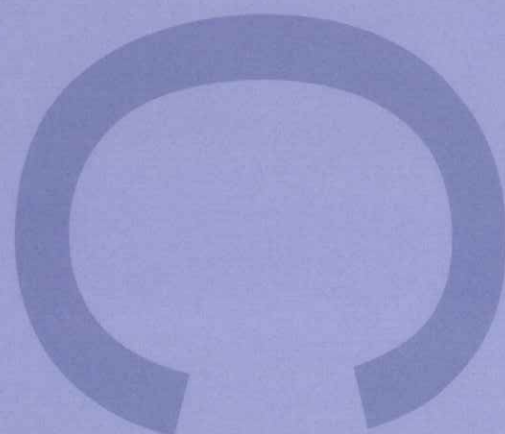
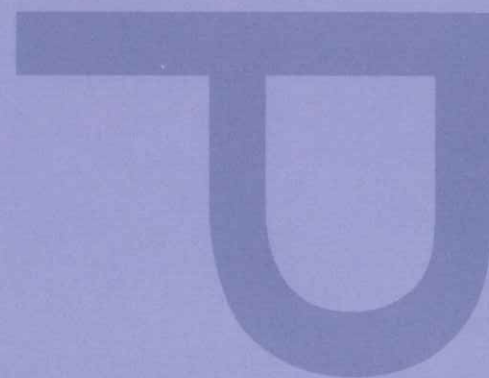
**LONDON EC2**

**CITY OF LONDON**

**ARCHAEOLOGICAL EVALUATION**

**CXA 06**

**DECEMBER 2006**



**PRE-CONSTRUCT ARCHAEOLOGY**

DOCUMENT VERIFICATION

2 COPTHALL AVENUE  
LONDON EC2  
CITY OF LONDON

EVALUATION

Quality Control

Pre-Construct Archaeology Limited			K1303
	Name & Title	Signature	Date
Text Prepared by:	Richard Humphrey		December 2006
Graphics Prepared by:	David Harris		December 2006
Graphics Checked by:	Josephine Brown	<i>J. Brown</i>	December 2006
Project Manager Sign-off:	Jon Butler	<i>Jon Butler</i>	December 2006

Revision No.	Date	Checked	Approved

Pre-Construct Archaeology Ltd  
Unit 54  
Brockley Cross Business Centre  
96 Endwell Road  
London  
SE4 2PD

# **An Archaeological Evaluation of Land at 2 Copthall Avenue, London EC2**

**Site Code: CXA06**

**Central National Grid Reference: TQ 3279 8137**

**Written and Researched by Richard Humphrey  
Pre-Construct Archaeology Limited, December 2006**

**Project Manager: Gary Brown**

**Commissioning Client: 2 Copthall Avenue Co-Ownership Group**

**Contractor:  
Pre-Construct Archaeology Limited  
Unit 54  
Brockley Cross Business Centre  
96 Endwell Road  
Brockley  
London  
SE4 2PD**

**Tel: 020 7732 3925  
Fax: 020 7732 7896  
E-mail: [gbrown@pre-construct.com](mailto:gbrown@pre-construct.com)  
Website: [www.pre-construct.com](http://www.pre-construct.com)**

**© Pre-Construct Archaeology Limited  
December 2006**

© The material contained herein is and remains the sole property of Pre-Construct Archaeology Limited and is not for publication to third parties without prior consent. Whilst every effort has been made to provide detailed and accurate information, Pre-Construct Archaeology Limited cannot be held responsible for errors or inaccuracies herein contained.

## CONTENTS

1	ABSTRACT .....	3
2	INTRODUCTION .....	4
3	PLANNING BACKGROUND .....	7
4	GEOLOGY AND TOPOGRAPHY .....	11
5	ARCHAEOLOGICAL AND HISTORICAL BACKGROUND .....	12
6	RESEARCH OBJECTIVES .....	16
7	ARCHAEOLOGICAL METHODOLOGY .....	17
8	TRENCH DESCRIPTIONS .....	18
9	CONCLUSIONS .....	27
10	BIBLIOGRAPHY .....	29
11	ACKNOWLEDGMENTS .....	31

## ILLUSTRATIONS

FIGURE 1: SITE LOCATION .....	5
FIGURE 2: TRENCH LOCATION .....	6
FIGURE 3: TRENCH 1: AUGER SECTION 1 .....	24
FIGURE 4: TRENCHES 1 & 3 .....	25
FIGURE 5: SECTIONS 1,2 & 3 .....	26
APPENDIX 1: CONTEXT DESCRIPTIONS .....	32
APPENDIX 2: TRENCH MATRICES .....	34
APPENDIX 3: OASIS FORM .....	35

## 1 ABSTRACT

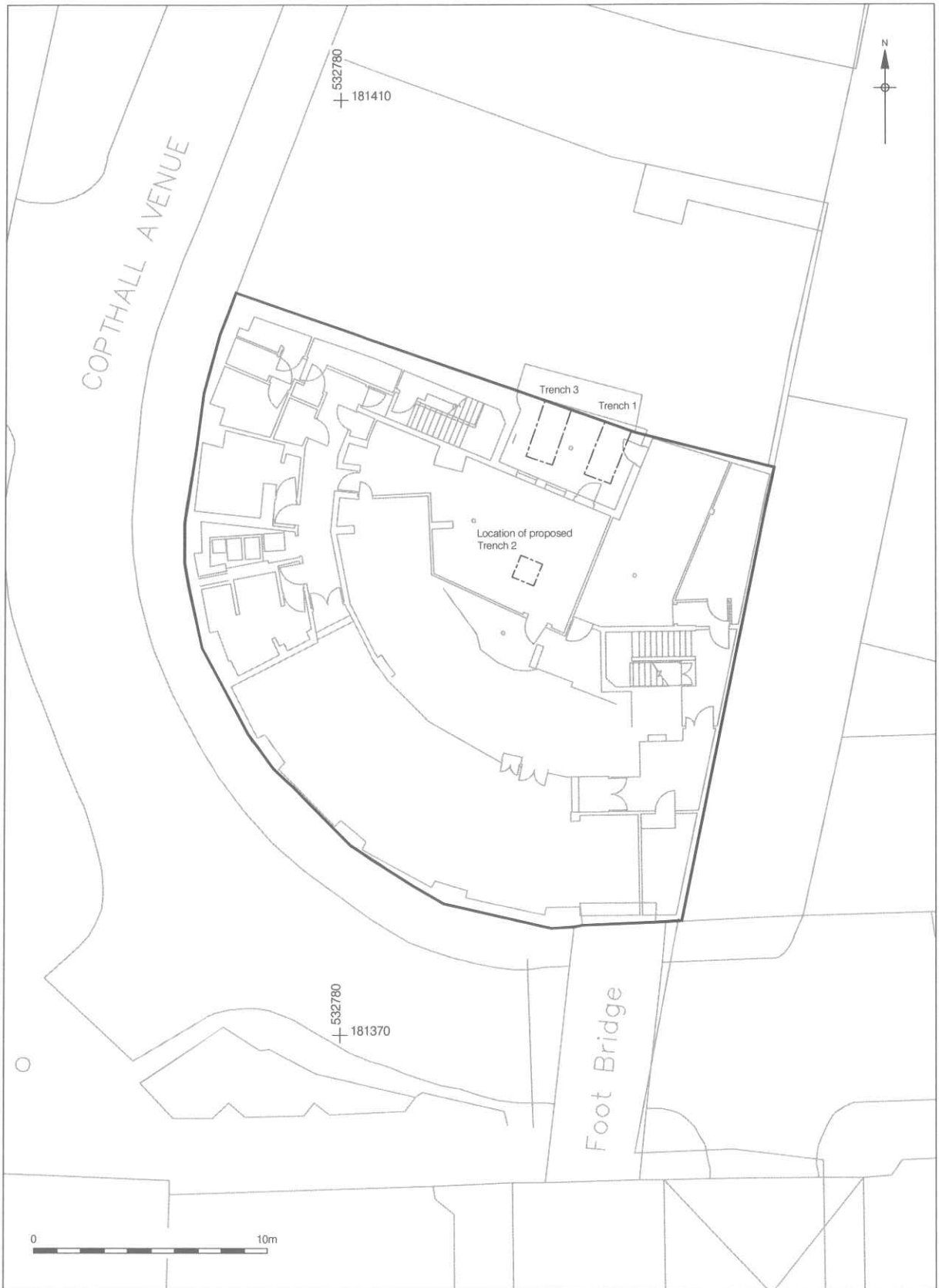
- 1.1 This report details the results and working methods of an archaeological evaluation undertaken by Pre-Construct Archaeology Limited of land at 2 Copthall Avenue, London, EC2. The Central National Grid Reference is TQ 3279 8137. The field evaluation was undertaken between 4<sup>th</sup> and 8<sup>th</sup> December 2006. The commissioning client was Badenoch Partnership on behalf of the 2 Copthall Avenue Co-ownership Group.
- 1.2 The evaluation strategy was for three trenches, of similar sizes and depths, although ultimately it was possible to complete only one. Two trenches were located within the lightwell area and the third was located within the two-storey part of the standing building. The latter trench, Trench 2, was not commenced due to its close proximity to a working high pressure water system.
- 1.3 Augering at Trench 3 revealed modern concrete footings or the remains of a basement underlying modern backfill. Therefore, augering and hand digging were not possible below this level. In Trench 1 however, augering revealed London Clay to be overlain by a sequence of silty deposits likely to indicate repeated phases of ground reclamation since the Roman period. Hand excavation of the upper sequence confirmed a similar sequence of stratigraphy, with several phases of ground raising containing artefacts representative of occupation in the Roman period. No Prehistoric, Saxon or Medieval material was observed.

## 2 INTRODUCTION

- 2.1 A limited archaeological evaluation was undertaken by Pre-Construct Archaeology Limited of land at 2 Copthall Avenue, London, in advance of the redevelopment and refurbishment of the property.
- 2.2 The evaluation was conducted between the 4<sup>th</sup> and the 8<sup>th</sup> December 2006 and was commissioned by the Badenoch Partnership on behalf of the 2 Copthall Avenue Ownership Group. The work was undertaken following English Heritage GLAAS guidelines and the Corporation of London's Planning Advice Note 3: Archaeology in the City of London.
- 2.3 The excavations were undertaken at the base of a lightwell that existed as a feature of the existing structure on site. Therefore, the site was bounded by four walls of King House, 2 Copthall Avenue (figure 1).
- 2.4 The National Grid Reference of the site is TQ 3279 8137.
- 2.5 The site was assigned the code CXA06.
- 2.6 The evaluation was supervised by Richard Humphrey and assisted by Tony Baxter and Neil Hawkins. Kathryn Stubbs, Senior Planning and Archaeology Officer for the Corporation of London, monitored the site. The project was managed by Gary Brown for Pre-Construct Archaeology Limited.



Figure 1  
 Site Location  
 1:10,000 at A4



© Crown copyright. All rights reserved. License number PMP36110309

© Pre-Construct Archaeology Ltd

Figure 2  
Trench Location  
1:250 at A4



### 3 PLANNING BACKGROUND

- 3.1 In November 1990 the Department of the Environment issued Planning Policy Guidance Note (PPG 16) "Archaeology and Planning", providing guidance for planning authorities, property owners, developers and others on the preservation and investigation of archaeological remains.
- 3.2 In considering any planning application for development, the local planning authority will be guided by the policy framework set by government guidance, in this instance PPG16, by current Structure and Local Plan policy and by other material considerations.
- 3.3 The proposed development at 2 Copthall Avenue (Planning Application 04/00520/FULL) involved the removal of a link Bridge to Angel Court; Change of use from offices (Class B1) at part basement and part ground levels to Class A1 & A3 retail use; External alterations, the infilling of an existing lightwell and a two storey rooftop extension to existing buildings.
- 3.4 The relevant Development Plan framework is provided by the City of London Unitary Development Plan adopted in April 2002. This Unitary Development Plan aims to:
- ***Protect and promote the conservation, preservation in situ and enhancement of ancient monuments and archaeological remains of national importance and their settings.***
  - ***Assess and evaluate sites of archaeological potential prior to a decision on a planning application.***
  - ***Ensure the proper investigation, recording and publication of evidence of ancient monuments and archaeological remains as an integral part of a development programme.***

#### POLICY STRAT 11A

***To recognise the archaeological importance of the City as the historic centre of the capital and to seek the adequate safeguarding and investigation of ancient monuments and archaeological remains.***

**Para 11.7:** *Strategic Guidance states that account should be taken of the desirability of preserving ancient monuments and their settings and of the Secretary of State's guidance in PPG 16, Archaeology and Planning. Archaeological remains are an irreplaceable resource and often the only evidence of past development. These remains are a finite and non-renewable resource, in many cases highly fragile and vulnerable to damage and destruction. They contain irreplaceable information about our past and the potential for an increase in future knowledge.*

**Para 11.8:** *Where nationally important archaeological remains, whether scheduled or not, and their settings are affected by proposed development there is a presumption in favour of their physical preservation in situ. Some monuments and archaeological remains are protected as scheduled ancient monuments under Part I of the Ancient Monuments and Archaeological Areas Act 1979. Applications for works which may affect a scheduled ancient monument are determined by the Secretary of State for Culture, Media and Sport, with advice from English Heritage. This procedure is different from any consents that may be necessary under Town Planning legislation. Due to the potentially complex nature of archaeological remains in the City, the Corporation will expect applications for scheduled monument consent and planning permission to be prepared and considered in parallel.*

**Para 11.9:** *Not all important remains are scheduled, and in some cases, remains of more local importance will be considered worthy of preservation. PPG 16 gives criteria for assessing the national importance of an ancient monument and considering whether scheduling is important. Development schemes should be designed to incorporate the preservation in situ of important monuments and archaeological remains, and respect and enhance their settings.*

**Para 11.10:** *On sites where archaeological remains of lesser importance exist, and it is considered by the Corporation that preservation in situ is not appropriate, investigation, recording and publication will be required. This is to ensure preservation by record, placing those remains in a wider context, and adding to our understanding and interpretation of the historic landscape.*

**Para 11.11:** *Where development groundworks are proposed that are permitted development under the Town and Country Planning (General Permitted Development) Order 1995, account should be taken of policies in the UDP. Developers and statutory undertakers are encouraged to discuss the proposals with the Corporation in order that an appropriate mitigation study can be put in place.*

## **LOCAL POLICIES**

### **Requirement for Assessment and Evaluation of Sites of Archaeological Potential**

#### **POLICY ARC 1**

To require planning applications which involve excavation or groundworks on sites of archaeological potential to be accompanied by an archaeological assessment and evaluation of the site including the impact of the proposed development.

*Para 11.12: All of the City is considered to have archaeological potential unless it can be demonstrated that archaeological remains have been lost, due to basement construction or other groundworks. The Corporation will indicate the potential of a site, its relative importance, and the likely impact to a developer at an early stage so that the appropriate assessment and design development can be undertaken.*

*Para 11.13: On sites of archaeological potential, which may be affected by development schemes or groundworks, an archaeological assessment will be required to be submitted with the application. This will set out the archaeological potential of the site and impact of the proposals. Where appropriate, this should be supplemented by evaluation, carrying out trial work in specific areas of the site to provide more information and inform consideration of the development proposals by the Corporation, prior to a decision on that application.*

### **Preservation in Situ and Recording of Ancient Monuments and Archaeological Remains**

#### **POLICY ARC 2**

To require development proposals to preserve in situ, protect and safeguard important ancient monuments and important archaeological remains and their settings, and where appropriate, to require the permanent public display and/or interpretation of the monument or remains.

#### **POLICY ARC 3**

To ensure the proper investigation, recording of sites, and publication of the results, by an approved organisation as an integral part of a development programme where a development incorporates archaeological remains or where it is considered that preservation in situ is not appropriate.

**Para 11.14:** *On sites where important monuments or archaeological remains exist, development proposals should take this fully into account and be designed to enhance physical preservation and avoid disturbance or loss. This can be done by the sympathetic design of basements, raising ground levels, site coverage, and the location of foundations to avoid or minimise archaeological loss and securing their preservation for the future, although they remain inaccessible for the time being.*

**Para 11.15:** *The interpretation and presentation of a visible or buried monument to the public and enhancement of its setting should form part of the development proposals. Agreement will be sought to achieve reasonable public access. The Corporation will consider refusing schemes which do not provide an adequate assessment of a site or make no provision for the incorporation, safeguarding or preservation in situ of nationally or locally important monuments or remains, or which would adversely affect those monuments or remains.*

**Para 11.16:** *In some cases, a development may reveal a monument or archaeological remains which will be displayed on the site, or reburied. Investigation and recording of those features will be required as part of a programme of archaeological work to be submitted to and approved by the Corporation. Where the significance of the remains is considered, by the Corporation, not sufficient to justify their physical preservation in situ and they will be affected by development, archaeological recording should be carried out. A programme of archaeological work for investigation, excavation and recording, and publication of the results, to a predetermined research framework, by an approved organisation, should be submitted to and approved by the Corporation, prior to development. This will be controlled through the use of conditions and will ensure the preservation of those remains by record.*

## 4 GEOLOGY AND TOPOGRAPHY

- 4.1 The proposed development comprise the lightwell area and two-storey element of the existing 2 Copthall Avenue building, the tower of which is to be retained.
- 4.2 The site lies within the London (or Thames) Basin consisting of chalk covered by marine sands, gravels and clays (i.e. Thanet Sands and Woolwich and Reading Beds), over which grey London Clay formed. The upper part of the London Clay is weathered a mottled orange and brown colour.
- 4.3 The British drift geology of the site itself is shown on the British Geological Survey North London map as Floodplain River Terrace gravels overlying the London Clay. This is covered in much of the City by brickearth.
- 4.4 The major geological feature of the area is the Walbrook stream with its tributaries. The Walbrook rose in the vicinity of Hoxton and Shoreditch and flowed south, fed by at least three tributaries to the north of the study site, to meet the Thames just to the west of Cannon Street Station. Two of the streams are thought to meet the main Walbrook channel to the south of the site. The eastern stream was revealed in an excavation in 1974 in Angel Court and seen to continue to a depth of c.6.90m OD. The main channel was revealed in a culvert under the eastern end of St Margaret Lothbury in 1976. The bed of the Walbrook was noted to be at a depth of 6.1m below the ground surface during building works at Tokenhouse Yard in 1889. At recent excavations at 6-8 Tokenhouse Yard a north-east to south-west channel, representing the former course of the Walbrook was recorded at a height of 4.56m OD to the south of the site and 3.71m OD to the north. To the south of the study site in the King's Arms Yard the natural gravel was observed at levels between 6.49m OD and 5.27m OD in 1960. The width of the floodplain in the area of the site is some 50m.
- 4.5 Recent excavations at Northgate House, (Seeley & Drummond-Murray, 2005: 9), detected a previously unknown stretch of channel suggesting that the tributary recorded at 15-35 Copthall Avenue does not turn south-east to join the main tributary seen at 4-6 Copthall Avenue. Instead, it heads more north-south to join the main channel near the Bank of England Club on the south side of Kings Arms Yard. This new interpretation of the stream proposes it ran approximately parallel to the two known Roman roads in the area, with the roads respecting the stream as opposed to crossing it.

## 5 ARCHAEOLOGICAL AND HISTORICAL BACKGROUND

5.1 The following summary of the archaeological and historical background is mostly derived from an archaeological desk based assessment produced by Pre-Construct Archaeology, (Leary, J., 2004).

### 5.2 Prehistoric

5.2.1 There have been few recorded prehistoric finds from the banks of the Walbrook. Most Mesolithic and Neolithic flint finds have been found on the Southwark side of the Thames and Iron Age weapons have been dredged from the river.

5.2.2 Excavation at 52-63 London Wall in 1998 found three worked flints as well as Neolithic and Iron Age finds at Finsbury Circus. In addition, Iron Age horse equipment was found near Moorgate.

5.2.3 A later Iron Age bronze fibular brooch was found at Tokenhouse Yard and an iron fibular brooch of similar date was found at 30 Throgmorton Street. More recent excavations at Tokenhouse Yard have located a north-east to south-west channel of the Walbrook. This contained an unabraded Mesolithic flint as part of its backfill, which occurred prior to the Roman period, with the channel moving further to the south.

### 5.3 Roman

5.3.1 The Romans began to develop the Upper Walbrook Valley in the late 1<sup>st</sup> to early 2<sup>nd</sup> century with the canalisation of streams with timber revetments and banks as well as the reclamation of land by dumping gravel and clay. In addition, roads were built to connect the centre to the outer city gardens and cemeteries (Maloney & du Moulins, 1990).

5.3.2 In the 2<sup>nd</sup> and 3<sup>rd</sup> centuries, clay and timber buildings were constructed upon the reclaimed land, with masonry structures being built upon more stable ground, overlooking the streambed. Industrial activity was located in this area, where it made use of the available water supply.

5.3.3 A period of abandonment followed in the 3<sup>rd</sup> century with reoccupation of buildings associated with industrial activity occurring fifty years or more later in the 4<sup>th</sup> century. Another phase of channel digging and ground raising is suggestive of the area

becoming flooded again, due to lack of maintenance of the drainage system. The area was abandoned in the first half of the 5<sup>th</sup> century.

- 5.3.4 Borehole data from 4-6 Copthall Avenue suggests that a stream may have flowed across the site prior to the Roman period. London Clay was seen at heights ranging from 5.8m OD to 6.3m OD at the southern end of the site. Excavation revealed several phases of ground raising and channel cutting as well as a north-east to south-west road. Demolished clay and timber buildings were found to be overlain by further dump deposits and drainage ditches.
- 5.3.5 Excavations at 5-7 Copthall Avenue suggested the presence of a nearby stream, whilst those at 10-12 revealed an infilled tributary as well as the gravel road seen at 4-6. Several buildings are known to have fronted this road. Monitoring work in 1866 by General Pitt Rivers observed a revetment at 20 Copthall Avenue, comprised of a series of timbers driven through peat deposits. Further excavation at 20-56 Copthall Avenue revealed another tributary of the Walbrook to have been backfilled with material that included between 20 and 30 human skulls. 2<sup>nd</sup> century timber buildings were observed between this tributary and a gravel road.
- 5.3.6 A major tributary of the Walbrook was recorded during excavations at 15-35 Copthall Avenue. Several phases of ground raising occurred as well as the construction of a road and a protective bank dated to the early 2<sup>nd</sup> century. By the mid 2<sup>nd</sup> century, the road had been rebuilt as a causeway and timber buildings built on base plates were constructed beside the path. These were abandoned in the 3<sup>rd</sup> century and overlain by fluvial deposits (Schofield & Maloney, 1998).
- 5.3.7 Land reclamation was also evident at the recent excavations at Tokenhouse Yard. Drainage ditches and gullies dating from the mid to late 1<sup>st</sup> century allowed for buildings to be erected in the area. However, these attempts were short lived as they were soon covered by dumped deposits, suggestive that flooding was again becoming a problem for building. Indeed, it seems that waterlogged conditions remained prevalent throughout the sites history as several phases of ditch and gully digging were observed (Leary, 2003).
- 5.3.8 Excavations at Telegraph Street, Lothbury and King's Arms Yard also revealed remains of 2<sup>nd</sup> century timber and masonry structures in the area. These were high-status properties with hypocausts and tessellated floor surfaces.
- 5.3.9 New information relating to the alignment of the Walbrook stream as well as important new evidence relating to the Roman pottery industry was uncovered during

excavations at Northgate House in the spring of 1999, (Seeley & Drummond-Murray, 1999). A total of eight kilns were uncovered from two phases of pottery production on site. Associated with these was a potters' workshop as well a possible shop attached to the production centre.

#### 5.4 **Saxon**

5.4.1 The Roman City of London was abandoned in the early Saxon period, with areas towards the Strand and Covent Garden forming the centre of the settlement of *Lundenwic*. However, in the second half of the 9<sup>th</sup> century, Viking raids forced people to reoccupy the old city with its defensive walls and ditches. Evidence of a wattle and daub building was found at Telegraph Street to the southwest of the site as well as a 10<sup>th</sup>/11<sup>th</sup> century timber building in Lothbury. Although finds of Saxon pottery were found at Angel Court and Moorgate, it would appear that the area was generally left unoccupied until the late 11<sup>th</sup> century, (Maloney & du Moulins, 1990).

#### 5.5 **Medieval**

5.5.1 The Walbrook is mentioned in a charter of William I in 1068. However, it would appear that following the abandonment of the Roman drainage system, the area remained as uninhabitable marshland until comprehensive drainage was reinstated in the 15<sup>th</sup> and 16<sup>th</sup> centuries.

5.5.2 Excavations at 4-6, 15-35 and 20-56 Copthall Avenue revealed medieval features and deposits including a timber-lined well shaft, a peaty deposit and an attempt to reintroduce a drainage system to the area. A ragstone structure was revealed at 22-25 Austin Friars.

5.5.3 Evidence from 20-28 Moorgate suggests that although the area remained uninhabitable, industrial processes were operating in the area such as the slaughter of animals, tanning and metalworking. Recent excavations at Tokenhouse Yard suggest that area was sufficiently well drained by the early medieval period to allow habitation as well as support industrial activity.

5.5.4 Excavation at Angel Court to the south of the site suggests that the tributary of the Walbrook that was visible in the Roman period had been infilled and further attempts to drain the land were being made in the form of a ditch, with associated buildings dateable to the 14<sup>th</sup> century.

5.5.5 Interpretation of medieval remains from the excavations at Northgate House in the spring of 1999 suggests the area was unsuitable for residential occupation but was utilised for a range of industrial activities. These included pits for the dumping of



slaughtered animal waste, goat horn working, furrier activities and possibly tanning. Other pits revealed the probability of metalworking in the vicinity (Drummond-Murray & Liddle, 2003)

## 5.6 **Post-Medieval**

- 5.6.1 The site appears in maps dated to c.1562 and 1572 as lacking in buildings and used as gardens- most likely due to its waterlogged nature. In 1598, the Walbrook is described as having been diverted into channels and covered over with masonry, allowing for structures to be built above it.
- 5.6.2 An L-shaped building shown on a plan of 1612 and an outbuilding of an adjacent property lie within the footprint of the present-day 2 Copthall Avenue. To the east of the site is Drapers' Gardens, a plot of land attached to Drapers' Hall- a structure built for Thomas Cromwell in the 16<sup>th</sup> century. Both hall and garden were passed to the Drapers Company in 1541 and the properties were used for the manufacture of clothes until destruction by the Great Fire in 1666.
- 5.6.3 The two buildings that existed in 1612 on the site are also seen to exist on a map dated to 1676. Indeed, the site remains divided on an insurance map of 1887, where the properties have become offices, the eastern one with four stories and a single basement and the western one with three stories and no basement. Copthall Avenue was built over Little Bell Alley in 1890, named after Copped Hall.
- 5.6.4 The site remained largely unchanged from the 1894 Ordnance Survey map to the 1971 OS map. An insurance map of 1937 and later revised in 1969 shows two properties known as 1-2 Copthall Buildings being used as offices, the western one with four stories and a single basement and the eastern one with three stories and a single basement.
- 5.6.5 Both properties condensed into a single building, 2 Copthall Avenue, as a result of realigning the road so that there was a more direct route onto Throgmorton Street.

## 6 RESEARCH OBJECTIVES

6.1 The evaluation was conducted in an effort to address the following site-specific research objectives:

- What are the nature and depth of any underlying natural deposits, including the alluvial deposits associated with the River Walbrook and any tributaries?
- Can the original and any canalised courses of the Walbrook be located and dated?
- What is the nature and date of the Roman occupation of the site?
- Does a Roman Road and contemporary settlement exist on the site?
- How does the Roman activity on this site fit in with that known from the surrounding area?
- Was the site used for any ritual activity associated with the river Walbrook?
- Did Saxon occupation extend into this site and did it make any use of the surviving Roman topography?
- How was this site used in the Medieval period and how did it fit in with the surrounding Medieval settlement and economic activities?
- Does any Post-Medieval archaeology survive on the site?
- How has the environment changed on this site over time and has the environment dictated the nature of activities carried out there?

## 7 ARCHAEOLOGICAL METHODOLOGY

- 7.1 The evaluation was conducted according to the method statement prepared by Pre-Construct Archaeology Limited. The fieldwork was designed to assess the presence or absence of significant archaeological remains, which may require further investigation.
- 7.2 It was originally proposed that the evaluations would comprise three trenches each measuring 1m<sup>2</sup> in plan and would be undertaken in 2 phases following the removal of the overlying concrete slab. The first phase was to comprise power auguring to a maximum of 3m to determine depth and nature of deposits, and was to be followed at each location by stratigraphic hand excavation to a maximum depth of 1.2m below slab.
- 7.3 A 360° tracked excavator fitted with a breaker was used to remove the concrete slab in the lightwell. Due to the thickness of the concrete, the trench sizes were increased to approximately 2.4m by 1.2m in order to allow the machine for increased manoeuvrability in breaking. Trench 2, at an internal location was not commenced. At Trenches 1 and 3 the overlying slab was c. 900mm thick. On removal of the slab, a power auger core-sample was to be taken followed by hand excavation to a depth of 1.20m below the base of the concrete slab, in accordance with health and safety guidelines. In the event this was possible only at Trench 1.
- 7.4 Any features identified within the trenches were then cleaned and investigated by hand. Investigation was limited to identifying the extent and nature of the deposits and to recover dating evidence. This was conducted by the excavation of slots through features and by half sectioning.
- 7.5 The features were assigned individual context numbers. Drawings were made in plan and a representative section of each trench was also made.
- 7.6 A temporary benchmark of 9.07m OD was surveyed onto the site by the groundwork contractors' engineer, using an EDM device.
- 7.7 The trench locations were surveyed in using measurements from fixed points on an OS map of the site.

- 7.8 The completed archive, including all artefactual, written, drawn and photographic material, will be deposited at the London Archaeological Archive and Research Centre (LAARC).

## 8 ARCHAEOLOGICAL SEQUENCE

### 8.1 Trench 1

- 8.1.1 Trench 1 was orientated north-south and was necessarily small, due to restrictions in the area where the trench could be placed. More specifically, the trench was bounded on the north, east, south and west by the walls of the lightwell of 2 Copthall Avenue. Furthermore, the eastern edge of the trench was entirely defined by extreme dense concrete associated with the existing structure. As such, the dimensions of the trench were 2.5m long and 1.2m wide. This was different from the planned size of 1m<sup>2</sup> due to the contractors requiring a greater area to break out the concrete slab that measured between 0.60m to 0.90m in thickness. These limited dimensions meant that the trench was too small to be shored, and thus was only dug to a maximum working depth of 1.2m below the base of the slab.
- 8.1.2 Core sampling revealed that the underlying natural stratigraphy in this trench was undisturbed London Clay [17] at 6.39m OD and at least 1.23m in thickness. No archaeological finds or features were seen in this layer. This was immediately overlain by a light-to-mid blue clay-sand [16], seen at a height of 6.43m OD, measuring 40mm thick and representative of an interface between natural deposits and alluvially deposited material.
- 8.1.3 Sealing this layer was [15]. This was a 70mm thick, firm mid blue-grey clay-silt deposit, seen at a height of 6.50m OD. It contained sub-rounded to sub-angular gravel and is representative of an alluvially deposited layer. Directly above this was a firm, dark blue-grey deposit of clayey-silt [14], seen at a height of 6.53m OD and measuring 30mm deep. Due to this deposits thickness, it seems more likely that this represents an alluvial deposit rather than a redeposited clay horizon, as used in raising the ground level.
- 8.1.4 Above this was layer [13]. It measured 60mm thick at a height of 6.59m OD. It was composed of a soft, fine-grained sandy-silt. It is probable that this layer represents a phase of flooding across the site. It was directly overlain by layer [12] at a height of 6.63m OD. It measured 40mm thick and was composed of a mid off-white grey clay-silt combination. It is possible that this represents a phase of ground raising across the site, although no dating evidence was observed. Sealing it was a firm layer of dark brown organic material, [11], at a height of 6.66m OD and measuring 30mm thick. This represents another phase of water logging across the site.

- 8.1.5 This was sealed by layer [10] at 6.70m OD. It measured 40mm thick and was composed of a brown-grey sandy-silt with occasional small flint gravel inclusions. Layer [9] directly overlay [10]. It was composed of dark-grey organic matter and was seen at a height of 6.80m OD. It was 100mm deep. The high organic content of this horizon implies that it was from another episode of water logging where plant material carried by floodwaters settled.
- 8.1.6 Sealing this layer was deposit [8]. It was composed of a grey gravelly sandy-silt at a height of 6.94m OD and was 0.14m deep. Its gravel content suggests it was a phase of ground raising following flooding of the area. It was overlain by deposit [7] at a height of 7.05m OD. This was composed of dark, grey organic-silt with occasional coarse grit inclusions. It was thicker than the underlying deposits and measured 0.11m in depth. Its high organic content suggests that, as before, it shows a period when the site was submerged by water.
- 8.1.7 Layer [6] sealed this deposit. It was composed of mid to dark-grey silt with occasional oyster shell fragments, small-sized flint gravel and some smaller grit particles. It measured 0.12m deep at a height of 7.17m. Above this, a void was observed in the auger sample that measured 0.29m. Archaeological stratigraphy was seen again at 7.46m OD. However, it is noteworthy that a height of 7.24m OD, the earliest deposit observed in the hand-excavation phase of the evaluation was recorded. This was approximately 1.2m below the base of the concrete slab. Layer [36] was composed of soft light-grey clayey-silt and was not fully excavated. There was no comparable deposit in the auger sample. Similarly, the layer that sealed this deposit, [35], was a silty-peat layer seen at a height of 7.29m OD and 90mm deep, and was not seen in the auger sample.
- 8.1.8 Overlaying this layer was [32]. This was seen throughout the trench and measured 2.06m north-south by 0.86m east-west and was 0.12m in thickness at a height of 7.41m OD. It was composed of a soft brown-grey mixture of clay, sand and silt with frequent gravel inclusions and contained pottery dated to AD 100-150, ceramic building material, animal bone and three iron nails. The composition of this layer suggests that it represents a dumped deposit used to raise the ground during the early Roman period. This layer was not represented in the auger sample.
- 8.1.9 A soft, light grey layer, [30], composed of clay, sand and silt sealed [32]. It was 50mm thick at a height of 7.46m OD. Within this layer were ceramic building material, animal bone and pottery dated to the 120-250 AD. It represents another phase of ground consolidation across the site. In the eastern side of the trench, overlaying [31], layer [30] was composed of dark brown organic silt and had the appearance of a rotted

timber deposit or peat, at a height of 7.48m OD and depth of 20mm. Although its full size was not revealed as it extended beyond the limit of excavation, it would appear that this was an isolated peat or rotted timber deposit. Sealing this was layer [29]. It was composed of a soft light blue-grey clay-sand-silt with small gravel particles and contained pottery dated to AD 120-200, bone and leather. At a height of 7.46m OD it measured 50mm in thickness and was 2.06m north-south by 0.86m east-west. This layer signifies another phase of ground raising across the site.

- 8.1.10 At a comparative height to deposit [29] in the auger sample was layer [5]. This was seen at a height of 7.62m and was 0.16m thick and consisted of dark brown-grey organic matter with sand and silt. It had an occasional gravel inclusion as well as shell and non-diagnostic ceramic building material dated to AD 50-160. Directly overlying this was the silt deposit [4] measuring 0.17m thick at a height of 7.79m OD. The lack of cultural material in this and the presence of organic matter suggests this is a water deposited layer rather than a ground raising phase. At a similar height, the hand excavation revealed layer [28] to seal [29] at a height of 7.59m OD. This had a thickness of 0.10m and a similar composition to that of layer [5] and pottery dated to AD 120-200. However, it seems unlikely that layer [5] compares to that layer that seals [28]: layer [25]. Seen at 7.70m OD and 0.15m thick, this was composed of a dark red-brown mixture of sand, clay and silt and had inclusions of bone, ceramic building material (dated to AD 50-160), pottery (dated to AD 120-250) and oyster shell. This is more suggestive of a purposefully dumped layer.
- 8.1.11 It also seems unlikely that the auger deposit [4] compares to the fill [26] of a sub-circular pit cut [27] (fig.4) seen to cut layer [25] in the south of the trench and in an area where the auger would have passed. Again, this pit fill contained oyster shell, bone, pottery and ceramic building material dated to the 1<sup>st</sup> and 2<sup>nd</sup> centuries. It seems more likely that this is a pit representative of occupation of the area rather than an alluvial or dumped deposit. The base of the pit was seen at a height of 7.43m OD and the top of the fill at 7.70m OD. Its full extent was not recorded as it extended beyond the southern limit of excavation of the trench.
- 8.1.12 Pit [34] also cut layer [25] in the north of the trench, the base of which was recorded at 7.40m OD. Again, its full extent was not revealed as it went beyond the northern limit of excavation. It was primarily filled by [33] - a 0.30m deep combination of sand and silt with frequent peat or rotted timber inclusions, seen at 7.60m OD. No dating evidence was found in this fill. The pit was then filled by [24]. This was composed of timber scraps and measured 60mm thick at a height of 7.66m OD. The function of this cut remains uncertain.

- 8.1.13 Sealing the layer [25] as well as the cuts [34] and [27] was a thick (0.20m) layer [23] that was seen to fill the entire trench. It was composed of a soft to compact dark-grey mixture of organic material and silt with inclusions of bone, leather oyster shell, ceramic building material (dated to AD 50-160) and pottery (dated to AD 120-200). Seen at a height of 8.05m OD and sloping downwards to the north, this deposit compares with layer [3] that seals layer [4] in the auger sample. This deposit has a similar composition but with an increased content of medium-sized sub-rounded to sub-angular flint pebbles. It measured 0.13m deep at a height of 7.92m OD. The gravel and anthropogenic material content suggest these layers relate to another phase of ground raising.
- 8.1.14 Directly overlaying layer [3] in the auger sample was the loose, brown-grey silt layer [2]. This was 70mm thick at 7.99m OD. No archaeological material was seen in this deposit, and it seems likely to exist below the layers [21] and [22] that were recorded during hand excavation. These were seen at heights of 8.12m OD and 8.05m OD respectively, and represent the same layer that has been cut by pit [20]. Within these layers were finds of shell, bone, rounded gravel and pottery and ceramic building material dated to the 1<sup>st</sup> and 2<sup>nd</sup> century, within a silty brown-grey matrix with occasional dark green mottling. Both measured approximately 0.25m in depth and represent a Roman dumped deposit.
- 8.1.15 Pit [20] cut layers [21] and [22] and was filled with [19]. This was densely filled with animal bone and is suggestive of a domestic refuse pit. A sherd of pottery dated to the mid 1<sup>st</sup> to 2<sup>nd</sup> century was found in this fill as was an early to mid 2<sup>nd</sup> century box-flue tile fragment. The fill of the pit measured 0.29m deep at a height of 8.09m OD. It seems that the auger sample missed the fill of this pit as it is not represented within the core section. The pit measured 2.08m north-south and 0.86m east-west. It extended into both east and west sections of the trench, so was not fully exposed. The base of the pit was recorded at 7.83m OD.
- 8.1.16 Layer [18] sealed both layers [21] and [22] as well as pit fill [19]. It represents an interface between the archaeology in Trench 1 and the modern ground levelling in preparation for the laying of concrete [37]. It was seen at a height of 8.21m OD and was 0.17m deep. This deposit corresponds directly with layer [1] that sealed layer [2] in the auger sample. Both had a similar composition of coarse sandy-silt with gravel, bone and modern ceramic building material inclusions. Layer [1] was seen at a height of 8.22m OD and was 0.23m thick.

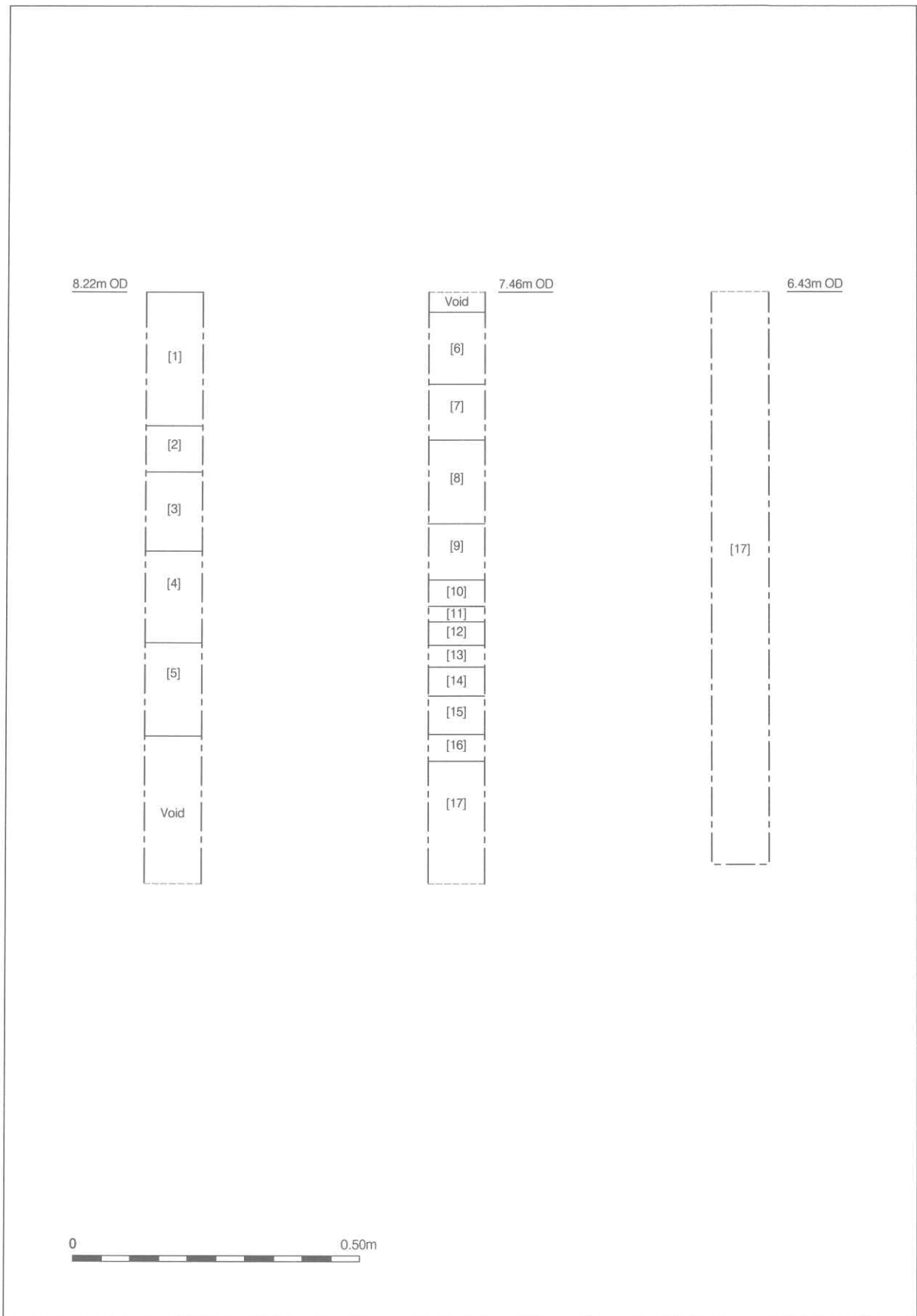


## 8.2 Trench 2

8.2.1 Trench 2 was located within the basement of 2 Copthall Avenue. It was abandoned for several reasons. Firstly, the close proximity to a high-pressure water system meant that it was unsafe to be working with both hand and power tools in an area where a potentially large and expensive amount of damage could be done. In addition to this, the space and ventilation required to operate the power auger was not available in the area.

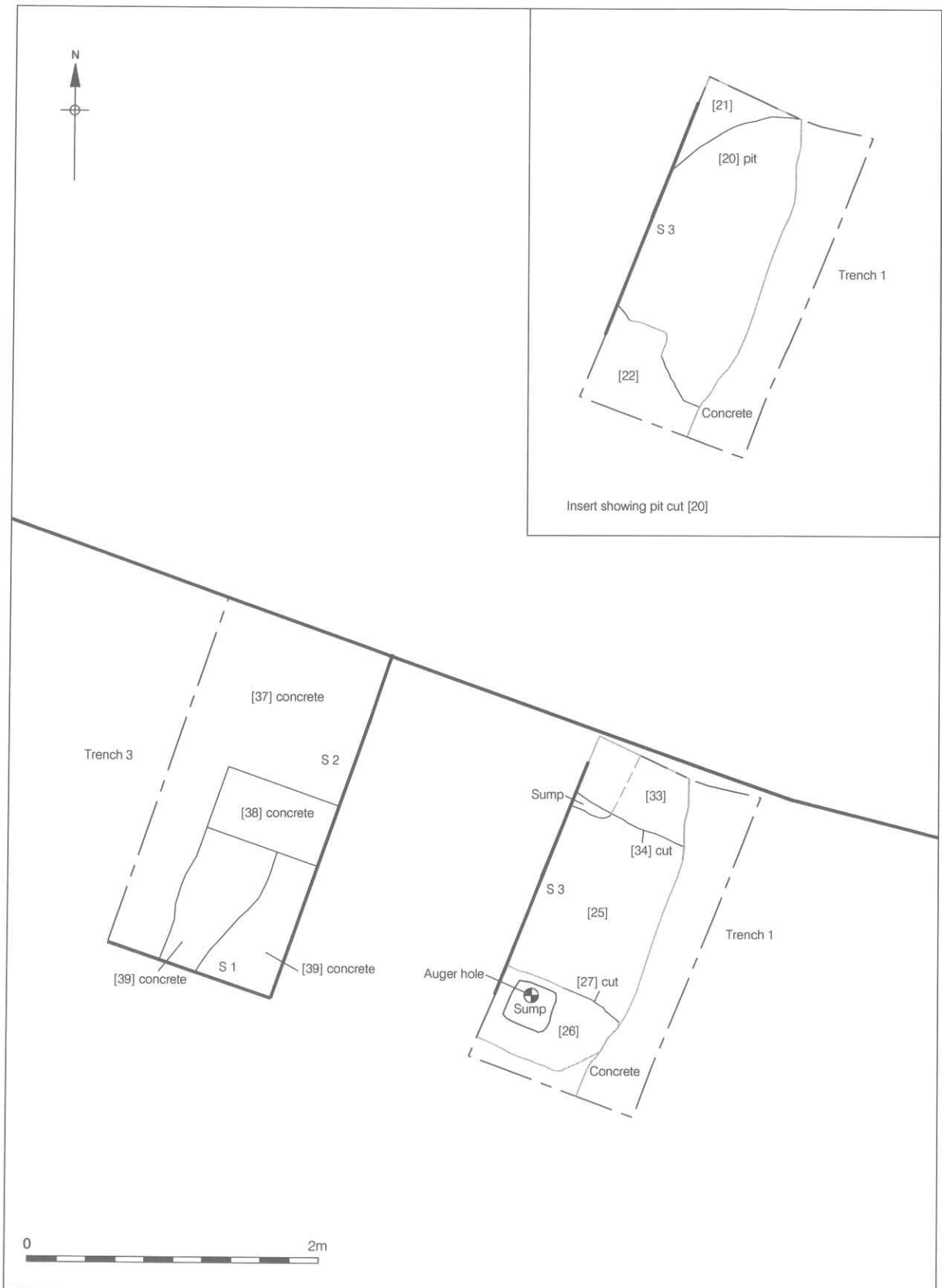
## 8.3 Trench 3

8.3.1 Modern concrete [37], measuring between 0.60m and 0.90m in thickness, was removed by a breaker fitted to a machine to expose an area measuring approximately 2.5m north-south by 1.2m east-west. This differed from the originally planned trench of 1m<sup>2</sup> due to the increased space required to break out the concrete.



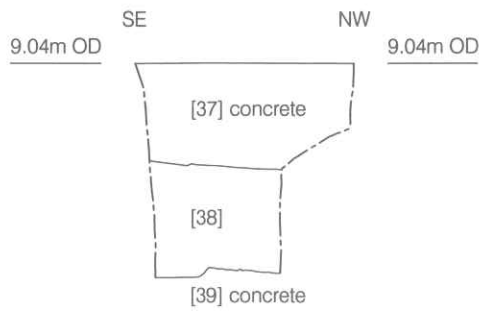
© Pre-Construct Archaeology Ltd

Figure 3  
 Auger Section 1  
 1:10 at A4

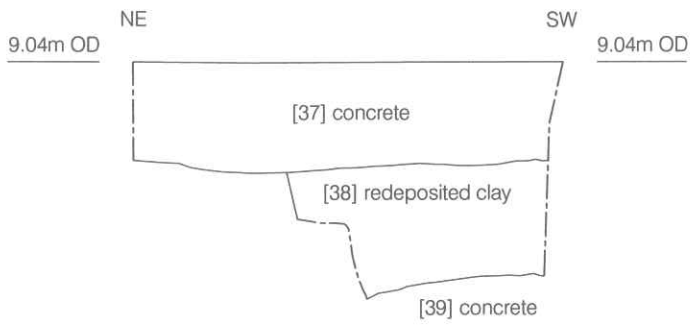


© Pre-Construct Archaeology Ltd

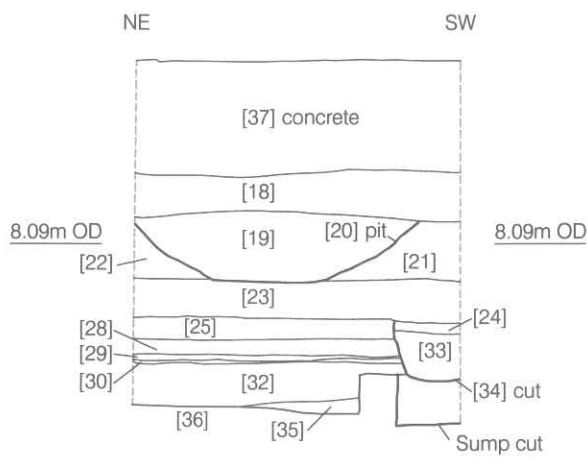
Figure 4  
Trenches 1 & 3  
1:40 at A4



Section 1  
Northeast facing  
Test pit 3



Section 2  
Northwest facing  
Test pit 3



Section 3  
Southeast facing  
Test pit 1



Figure 5  
Sections 1, 2 & 3  
1:50 at A4

## 9 CONCLUSIONS

- 9.1 Natural London clay deposits were observed in the core sample taken from Trench 1 at a height of 6.39m OD. This was immediately overlain by a sequence of silty deposits with varying degrees of sand, clay and gravel. These most likely represent phases of consolidation and ground raising during the early Roman period in order to create stable ground on which settlement and industry could develop. Layers of silt and organic matter are also representative of episodes of water logging and flooding across the site.
- 9.2 From the evidence observed, it is not possible to locate and date any original or canalised courses of the Walbrook.
- 9.3 Evidence for Roman occupation on the site is seen as the continued deposition of dump layers in order to raise the ground surface. Pottery and building material finds suggest a date of the 1<sup>st</sup> to 2<sup>nd</sup> century. No structural timber features were observed although cut timber scraps suggest that woodworking was taking place in the locale.
- 9.4 No evidence for a Roman road or contemporary settlement exists on the site.
- 9.5 The Roman activity observed on the site corresponds with that which is known from surrounding sites. The early date given to pottery and ceramic building materials contained within clay, gravel and silty dump layers adds credence to the impression of a marshy landscape becoming more inhabitable by the management of water courses and raising of ground. Excavations at neighbouring 4-6 Copthall Avenue showed there to be Roman occupation surfaces around 8.00m OD. Indeed, sections of the site (Maloney & De Moulins, 1990) show revetments and channels at a height of approximately 7.60m OD. Also revealed on this site was a sequence of yard surfaces, paths and banks that suggest the canalisation of streams and the repeated dumping of layers necessary to prevent flooding. Dating evidence from this site is similar to that of 2 Copthall Avenue, being of early 2<sup>nd</sup> century and later.
- 9.6 There was no evidence observed that suggested ritual activity in the Walbrook.
- 9.7 No evidence was observed to suggest Saxon inhabitation of the site or re-use of the Roman topography.

- 9.8 A pit, densely packed with animal bone, is suggestive of one of the waste deposits from animal butchery similar to those from medieval industry revealed at Northgate House. However, dating evidence from within this fill includes pottery and ceramic building material dateable to the 1<sup>st</sup> and 2<sup>nd</sup> century that suggests it is a Roman rather than a medieval feature. It was also observed at a similar level to that of Roman occupation at the site of 4-6 Copthall Avenue.
- 9.9 An undated stepped concrete foundation seen in Trench 3 represents a late post-medieval footing or basement of a previous structure on site.
- 9.10 Excavation and results from auger coring revealed London Clay to be overlain by a sequence of alluvial deposits. Above these were dumped deposits containing unabraded Roman pottery sherds and fragments of ceramic building material. These most likely represent attempts to raise the ground surface. No evidence was seen of timber revetments or canalisation of waterways. A large pit filled with animal bone contained pottery and building material dated to the 1<sup>st</sup> and 2<sup>nd</sup> century. No material was recovered that suggests later Roman occupation on site. With the departure of the Romans in the 5<sup>th</sup> century and the lack of upkeep of drainage systems, the site reverted back to its marshy origins, preventing settlement by Saxon and early medieval communities. No material was found to suggest medieval industrial activity was taking place on the site. The canalisation that occurred in the late medieval period and allowed for the reclamation of land and the development of settlement in the area, was not observed on this site. This is most likely due to truncation by modern basements.

## 10 BIBLIOGRAPHY

Barton, N. (1962) *The Lost Rivers of London*

Brown, G., (2006), *A Method Statement for An Archaeological Evaluation at 2 Copthall Avenue, City of London, London EC2*

Blurton, T.R., (1977) *Excavations at Angel Court, Walbrook, 1974, LAMAS Vol.28, p16, 18 & Fig.2*

Butler, J., (2001) *An Archaeological Desk Top Assessment at 6-8 Tokenhouse Yard, London, EC2, City of London. Pre-Construct Archaeology Ltd Unpublished Report*

Corporation of London, (1994) *Unitary Development Plan (UDP)*

Department of the Environment, (1990) *Planning Policy Guidance: Archaeology and Planning (PPG16)*

Drummond-Murray, J. and Little, J., (2003) *Medieval Industry in the Walbrook Valley, London Archaeologist Vol.10, No. 4*

Grimes, W.F., (1968) *The Excavation of Roman and Medieval London, London*

Harben, H.A., (1918) *A Dictionary of London being notes topographical and historical relating to the streets and principal buildings in the City of London, Herbert Jenkins Ltd., London*

Leary, J., (2003) *An Archaeological Desk Top Assessment of 2 Copthall Avenue, London EC2, City of London. Pre-Construct Archaeology Ltd., Unpublished Report*

Leary, J., (2003) *Assessment of an archaeological excavation at 6-8 Tokenhouse Yard, City of London, EC2. PCA Unpublished Report*

London Archaeologist, (1999) *Round-up*

Maloney, C., with de Moulins, D., (1990), *The Archaeology of Roman London Volume 1: The Upper Walbrook in the Roman period, CBA Research Report 69*

Marsden, P., (1980) *Roman London, Thames and Hudson*

Marsden, P., (1965) *The Roman City of London*, London

Marsden, P., (1983) *London City of the Romans*, London

Milne, G., (1995) *Roman London*, Batsford

Perring, D., (1991) *Roman London*, Seaby

RCHM, (1928) *Royal Commission on Historical Monuments, Vol.III: Roman London*, HMSO

Schofield, J., with Maloney, C., (eds.) (1998), *Archaeology in the City of London: a Guide to Records of Excavation by the Museum of London*, p147

Schofield, J., (ed), (1987) *The London Surveys of Ralph Treswell*, London Geographical Society Publication no. 135

Schofield, J., (1994) *Medieval London Houses*, Yale University Press

Seeley, F. & Drummond-Murray, J. (2005) *Roman Pottery production in the Walbrook Valley*. MoLAS Monograph 25

Sherley-Price, L., (trans.) *Bede, A History of the English Churches and People*, Penguin

SMR, *Greater London Sites and Monument Record*

Stow, J., (1598) *A Survey of London*, Alan Sutton publishing

Weinreb, B., & Hibbert, C., (eds.), (1983) *The London Encyclopaedia*, Macmillan

Weinstein, R., (1980) *Clothworkers in St Stephen Coleman Parish, 1612*, London Topographical Record 24, 61-80

Wilmott, A., (1991), *Excavations in the Middle Walbrook Valley*, LAMAS Special Paper 13, p57



## 11 ACKNOWLEDGEMENTS

- 11.1 Pre-Construct Archaeology Limited would like to thank the Badenoch Partnership on behalf of the 2 Copthall Avenue Co-ownership Group for commissioning this project and Kathryn Stubbs, Senior Planning and Archaeology Officer for the Corporation of London, for monitoring the work. The author would like to thank the Tony Baxter and Neil Hawkins for assistance with fieldwork, Dave Harris for the illustrations, James Gerrard for pottery dating and Berni Sudds for building material dating. Gary Brown and Jon Butler managed and edited the project.

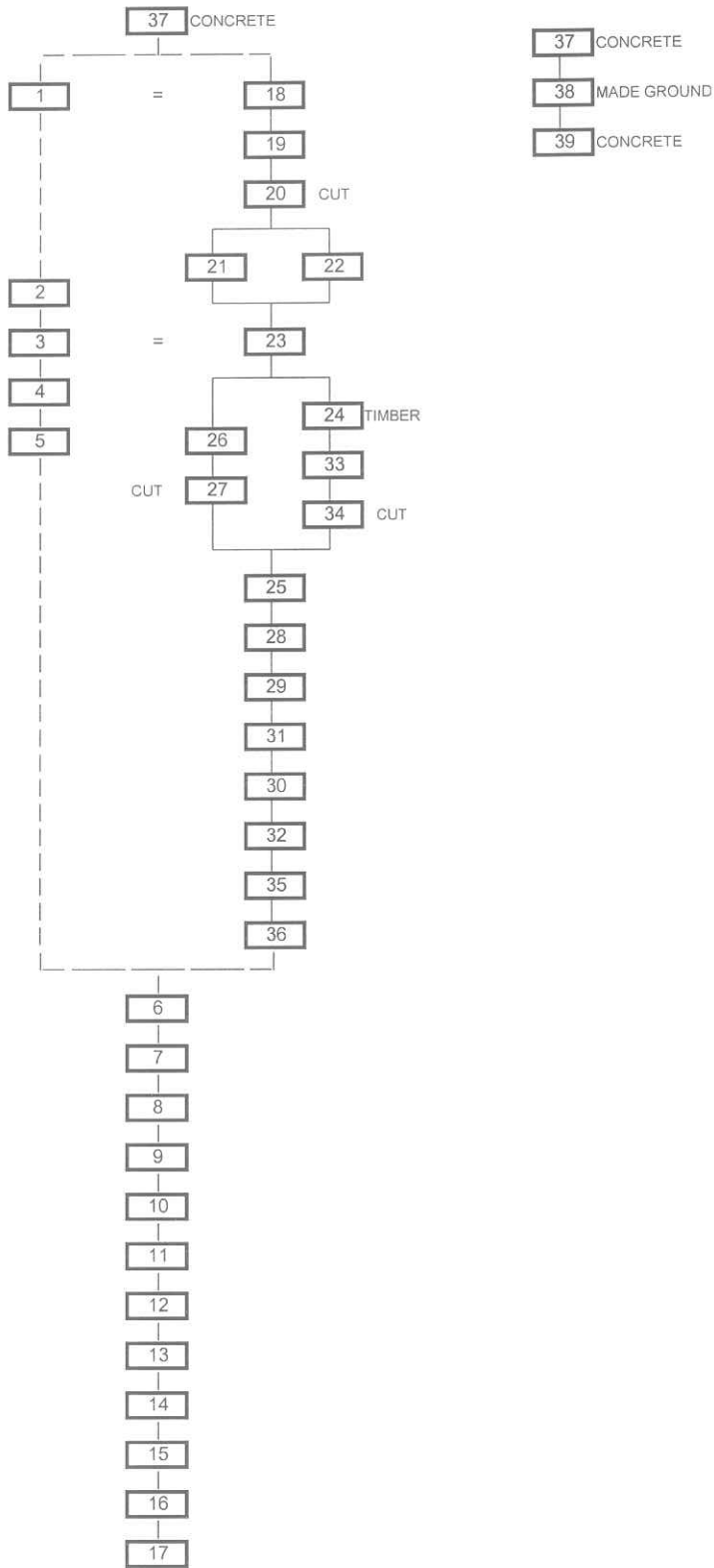
## APPENDIX 1: CONTEXT DESCRIPTIONS

### CONTEXT REGISTER

NO.	TYPE	TRENCH	COMMENTS	LEVEL/ mOD
1	Layer	Auger Hole 1	Grey-brown silt. Made ground	8.22
2	Layer	Auger Hole 1	Brown-grey silt. Dump layer	7.99
3	Layer	Auger Hole 1	Brown-grey organic silt. Alluvial deposit	7.92
4	Layer	Auger Hole 1	Brown-grey silt. Alluvial deposit	7.79
5	Layer	Auger Hole 1	Brown-grey silt. Dump layer	7.62
6	Layer	Auger Hole 1	Dark grey silt. Alluvial layer	7.17
7	Layer	Auger Hole 1	Dark grey silt. Organic deposit	7.05
8	Layer	Auger Hole 1	Mid grey silt. Dump layer	6.94
9	Layer	Auger Hole 1	Dark grey organic matter. Alluvial dep.	6.80
10	Layer	Auger Hole 1	Brown-grey silt. Alluvial deposit	6.70
11	Layer	Auger Hole 1	Dark brown silt. Alluvial deposit	6.66
12	Layer	Auger Hole 1	Light grey silt. Dump layer	6.63
13	Layer	Auger Hole 1	Mid to off-white grey silt. Alluvial deposit	6.59
14	Layer	Auger Hole 1	Blue-grey silt. Alluvial deposit	6.53
15	Layer	Auger Hole 1	Blue-grey clay-silt. Dump layer	6.50
16	Layer	Auger Hole 1	Blue-grey sand. Interface with natural	6.43
17	Layer	Auger Hole 1	Natural London Clay	6.39
18	Layer	1	Grey-brown silt. Made ground	8.21
19	Fill	1	Brown-grey bone-dense silt. Fill of [20]	8.09
20	Cut	1	Sub-circular pit cut. Filled by [19]	8.12
21	Layer	1	Brown-grey silt. Roman dump layer	8.12
22	Layer	1	Brown-grey silt. Roman dump layer	8.05
23	Layer	1	Dark grey silt. Roman dump layer	8.05
24	Fill	1	Rotted timber scraps.	7.66
25	Layer	1	Red-brown silt. Dumped deposit	7.7
26	Fill	1	Brown-grey silt. Fill of [27]	7.7
27	Cut	1	Sub-circular pit cut. Filled by [26]	7.7
28	Layer	1	Brown-grey silt. Roman dump layer	7.59
29	Layer	1	Brown-grey silt. Thin alluvial layer	7.5
30	Layer	1	Grey-white silt. Alluvial layer	7.46
31	Layer	1	Dark brown organic matter.	7.48
32	Layer	1	Brown clay/sand/silt. Alluvial deposit	7.41

33	Fill	1	Grey-brown silt with timber.	7.7
34	Cut	1	Poorly visible cut. Filled by [33]	7.7
35	Layer	1	Orange-brown organic material.	7.29
36	Layer	1	Light grey-white silt. Alluvial deposit	7.24
37	Layer	1&3	Extremely hard modern concrete	9.07
38	Layer	3	Modern silty-clay backfill	8.47
39	Layer	3	Extremely hard modern concrete	8

STRAT MATRICES



## APPENDIX 3: OASIS ARCHAEOLOGICAL REPORT FORM

**OASIS ID: preconst1-21413**

### Project details

Project name 2 Copthall Avenue, London, EC2

Short description of the project This report details the results and working methods of an archaeological evaluation undertaken by Pre-Construct Archaeology Limited of land at 2 Copthall Avenue, London, EC2. The Central National Grid Reference is TQ 3279 8137. The field evaluation was undertaken between 4th and 8th December 2006. The commissioning client was Badenoch Partnership on behalf of the 2 Copthall Avenue Co-ownership Group. The evaluation strategy was for three trenches, of similar sizes and depths, although ultimately it was possible to complete only one. Two trenches were located within the lightwell area and the third was located within the two-storey part of the standing building. The latter trench, Trench 2, was not commenced due to its close proximity to a working high pressure water system. Augering at Trench 3 revealed modern concrete footings or the remains of a basement underlying modern backfill. Therefore, augering and hand digging were not possible below this level. In Trench 1 however, augering revealed London Clay to be overlain by a sequence of silty deposits likely to indicate repeated phases of ground reclamation since the Roman period. Hand excavation of the upper sequence confirmed a similar sequence of stratigraphy, with several phases of ground raising containing artefacts representative of occupation ranging from the Roman to Medieval periods. No Prehistoric or Saxon material was observed.

Project dates Start: 04-12-2006 End: 08-12-2006

Previous/future work No / No

Any associated CXA06 - Sitecode

project reference  
codes

Type of project      Field evaluation

Site status            Area of Archaeological Importance (AAI)

Current Land use    Industry and Commerce 2 - Offices

Significant Finds    POTTERY Roman

Significant Finds    CBM Roman

Methods &  
techniques            'Augering', 'Test Pits'

Development type    Urban commercial (e.g. offices, shops, banks, etc.)

Prompt                Direction from Local Planning Authority - PPG16

Position in the  
planning process      After full determination (eg. As a condition)

Project location

Country                England

Site location           GREATER LONDON CITY OF LONDON CITY OF LONDON 2  
Cophthall Avenue

Postcode              EC2

Study area 484.00 Square metres

Site coordinates TQ 3279 8137 51.5151281205 -0.086052068401 51 30 54 N 000  
05 09 W Point

Height OD Min: 5.15m Max: 6.38m

Project creators

Name of Organisation Pre-Construct Archaeology Ltd

Project brief originator Pre-Construct Archaeology

Project design originator Gary Brown

Project director/manager Gary Brown

Project supervisor Richard Humphrey

Type of sponsor/funding body Developer

Name of sponsor/funding body Badenoch Partnership on behalf of the 2 Copthall Avenue Co-ownership Group

Project archives

Physical Archive LAARC  
recipient

Physical Archive ID CXA06

Physical Contents 'Animal Bones','Ceramics','Environmental','Leather','Wood'

Digital Archive No  
Exists?

Project  
bibliography 1

Grey literature (unpublished document/manuscript)

Publication type

Title An Archaeological Evaluation of Land at 2 Cophthall Avenue,  
London EC2

Author(s)/Editor(s) Humphrey, R.

Date 2006

Entered by richard humphrey (rhumphrey@pre-construct.com)

Entered on 18 December 2006

**OASIS:**

Please e-mail [English Heritage](mailto:English Heritage) for OASIS help and advice

© ADS 1996-2006 Created by [Jo Gilham and Jen Mitcham, email](#) Last modified Friday 3  
February 2006

Cite only: <http://ads.ahds.ac.uk/oasis/print.cfm> for this page



**2 COPTHALL AVENUE**

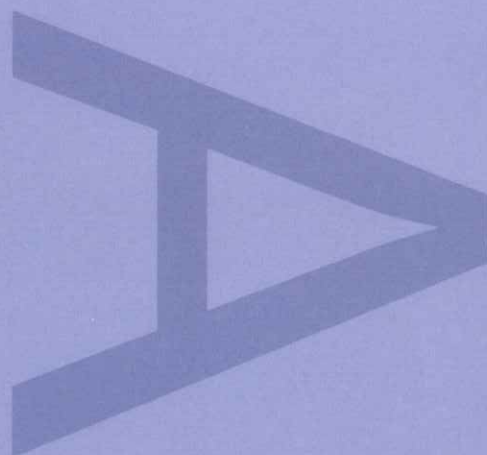
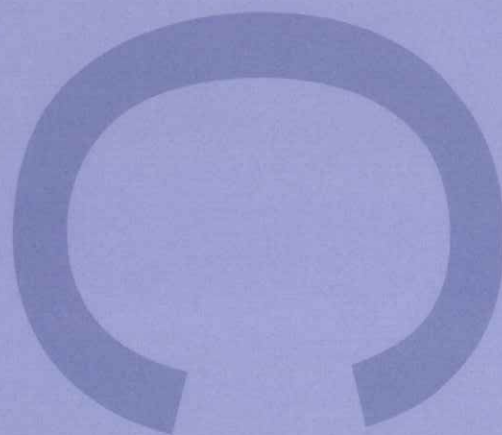
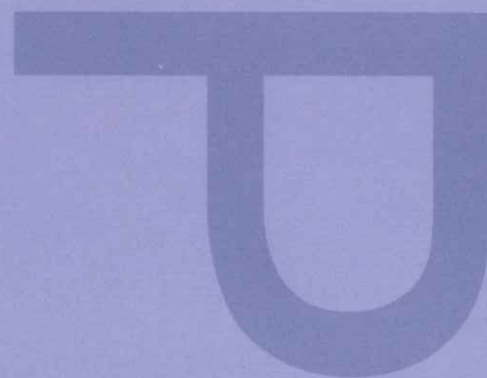
**LONDON EC2**

**CITY OF LONDON**

**ARCHAEOLOGICAL EVALUATION**

**CXA 06**

**DECEMBER 2006**



**PRE-CONSTRUCT ARCHAEOLOGY**