

387-399 Rotherhithe New Road, London Borough of Southwark An Archaeological Evaluation Report

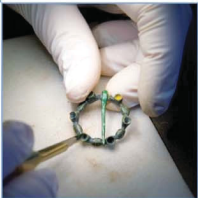
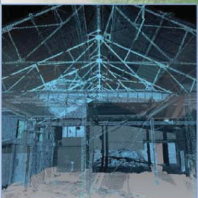
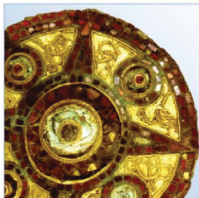
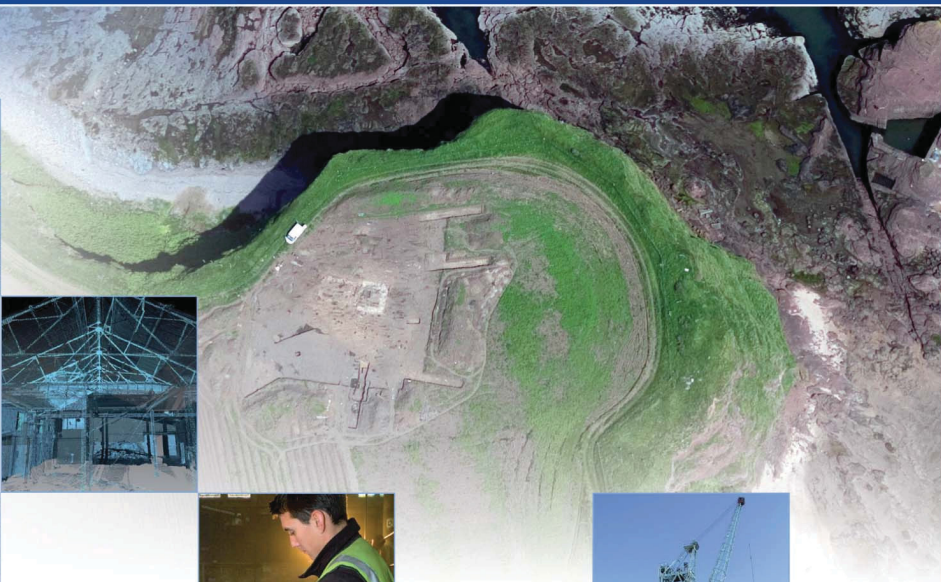
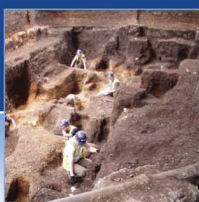
Planning Application Number: N/A

National Grid Reference Number: TQ 34521, 78076

Site Code: RON13

AOC Project no: 32362

Date: June 2013



ARCHAEOLOGY

HERITAGE

CONSERVATION

387-399 Rotherhithe New Road, London Borough of Southwark: An Archaeological Evaluation Report

On Behalf of:	Trigpoint Conservation and Planning Ltd 6 Guildford Way Loughborough LE11 3SE
National Grid Reference (NGR):	TQ 34521 78076
AOC Project No:	32362
Prepared by:	Catherine Edwards
Illustration by:	Lesley Davidson
Date of Report:	June 2013

This document has been prepared in accordance with AOC standard operating procedures.

Author: Catherine Edwards

Date: May 2013

Approved by: Paul Mason

Date: May 2013

Final Report Stage:

Date: June 2013

Enquiries to: AOC Archaeology Group
Unit 7
St Margarets Business Centre
Moor Mead Road
Twickenham
TW1 1JS

Tel. 020 8843 7380
Fax. 020 8892 0549
e-mail. london@aocarchaeology.com



www.aocarchaeology.com

Contents

	Page
1 Introduction.....	1
2 Planning Background	1
3. Geology and Topography	1
4. Archaeological and Historical Background	1
5. Aims of the Investigation.....	3
6. Methodology	3
7. Results	4
8 Finds.....	8
9 Discussion	9
10 Publication	9
11 Archive deposition	9
12 Bibliography.....	9
Appendix A - Context Register	15
Appendix B – Oasis Form.....	16
Appendix C – Environmental Archaeological Assessment Report	20

List of illustrations

Figure 1 – Site Location

Figure 2 – Detailed Site Location Plan

Figure 3 – Trench Plans and Sections

List of plates

Plate 1 – Sample Section Trench 1

Plate 2 – Monolith sample through trench stratigraphy

Plate 3 – Section showing pit [304]

Plate 4 – Wall [402]

Non-Technical Summary

An archaeological evaluation was undertaken by AOC Archaeology Group between the 7th and 13th March 2013 at the site of 387-399 Rotherhithe New Road, London Borough of Southwark. The work was undertaken on behalf of Trigpoint Conservation and Planning Ltd. The aim of the evaluation was to assess the impact of development on any surviving archaeological remains.

The evaluation comprised four machine excavated trenches measuring between 15m x 2.50m to 25m x 2.50m. None of the trenches contained significant archaeological remains. Natural clay, sand and gravel was recorded in all trenches. Trenches 1, 2 and 4 contained gravel at the base. The results suggest the gravel slopes down to the southwest from 0.37mOD to -1.40mOD which perhaps indicates that the site is located on the edge of a gravel eyot. The upper height of the natural horizon varied dependant on the level of truncation within that area of the site. Trenches 1 and 2 appeared to have little truncation however Trenches 3 and 4 suggested more significant truncation. Overlying the natural gravels in two trenches were late prehistoric - late 19th century alluvial deposits which may indicate a marshland environment.

Later walls and concrete foundations or footings of previous structures were recorded in three trenches.

Publication of the watching brief findings will be carried out through a short summary of the fieldwork submitted to the local fieldwork roundup. An OASIS form has also been completed and an electronic copy of the watching brief report will be deposited with the Archaeological Data Service (ADS). The site archive will be prepared in accordance with local and national guidance and will be deposited with the London Archaeological Archive and Research Centre.

1 Introduction

- 1.1 This document details the findings of an archaeological evaluation undertaken at the proposed development at 387-399 Rotherhithe New Road, London Borough of Southwark; National Grid Reference TQ 34521 78076 (Figure 1).
- 1.2 The site occupies an area covering 0.5ha and is situated on the south eastern side of Rotherhithe New Road and is bound by Verney Way to the northeast and Verney Road to the southeast.
- 1.3 The proposed development works comprise the mixed use of private residential accommodation and a school, with the construction of a basement car park (Figure 2).

2 Planning Background

- 2.1 The local planning authority is London Borough of Southwark. Archaeological advice to the council is provided by Chris Constable, Senior Archaeology Officer.
- 2.2 The site lies in an Archaeological Priority Zone (Bermondsey Lakes) as designated by Southwark Council. There are a small number of Grade II* and II Listed Buildings in close proximity to the site. It is not in a Conservation Area and there are no Scheduled Ancient Monuments in close proximity of the site.
- 2.3 The archaeological works have been carried out pre-planning based on the advice of Chris Constable, who advised that an evaluation and desk-based assessment were required in order to determine the planning application. The desk-based assessment has been prepared by another party.
- 2.4 This report details the results of the archaeological evaluation.

3. Geology and Topography

- 3.1 The British Geological Survey geo-index map (BGS 2013) indicates that the underlying bedrock geology of the site and surrounding area is composed of the London Clay Formation. The superficial deposits consist of Alluvium; silty peaty sandy clay.
- 3.2 The site itself lies 1.6km south of the River Thames at a height of approximately 2m AOD (Above Ordnance Datum).

4. Archaeological and Historical Background

The following information is drawn from the WSI prepared by AOC Archaeology (AOC 2013).

Prehistoric Periods (c.500,000 BC – AD 43)

- 4.1 The proposed site is considered high priority and falls within the Archaeological Priority Zone of 'Bermondsey Lake', which was part of the much larger Mesolithic Wetland of the River Lea and River Thames confluence (MoL 2013). A Mesolithic flint tool was discovered during excavations on Old Kent Road.
- 4.2 No direct occupation appears to have occurred until the Neolithic and Bronze Age periods, when cultivation of the gravel islands (eyots) in the Thames floodplain began. At excavations at Old Kent Road/Humphrey Street, used hearths were revealed for both these periods. This is approximately 1km northwest of the proposed site.
- 4.3 A Neolithic timber platform, flint flakes and stone tools were excavated in Chaucer Drive, c. 0.5km northwest of the proposed site.

Roman Period (AD 43 – AD 410)

- 4.4 Roman settlement in Southwark is concentrated around Borough High Street and the waterfront at London Bridge, some 2km to the northwest.
- 4.5 There are several examples of Roman activity along the Old Kent Road, within a 1km radius northwest of the proposed site, including excavations revealing Roman boundary ditches and pits. There are also several examples of Roman cemeteries, including the inhumations excavated at Harper Road (AOC 2011a).
- 4.6 Immediately south of the site, excavations at the Cockenys Public House on Old Kent Road revealed Roman gravel pits which are likely to have been associated with Watling Street, the Roman road.

Early Medieval (AD 410 – AD 1066) and Medieval Periods (AD 1066 – AD 1536)

- 4.7 Southwark does not appear to have been densely settled until the end of the Saxon period, and Rotherhithe lies to the east of the main settlement. The name 'Rotherhithe' derives from two Saxon words, *redhra* a mariner, and *hyth*, a haven. This indicates a focus towards the river rather than inland. The only archaeological evidence in the area is from the excavations at Platform Wharf, which revealed Saxon pottery of the 10th to 11th century (AOC 2011b).
- 4.8 Rotherhithe was located within the royal manor of Bermondsey until 1089, when it became a separate manor. The centre of medieval Rotherhithe is thought likely to have been focused around a church which stood where the current 18th century church of St Mary lies.
- 4.9 There is evidence of minimal medieval activity situated in and around the Old Kent Road, in the form of pits and ditches, located within a 1km radius northwest of the proposed site.

The Post-medieval (AD 1536 – AD 1900) and Modern (AD 1900 – Present) Periods

- 4.10 Rotherhithe witnessed industrial development during the 17th century, with the construction of docks. The first was the Howland Wet Dock, and a further ten had been built by the end of the 18th century (AOC 2011b).
- 4.11 The Bricklayers Arms Branch Railway was constructed in 1844, but quickly went out of use in 1852. The site is located at the public house c. 1.1km northwest of the proposed site.
- 4.12 Excavations in and around the Old Kent Road, reveal evidence of continuing occupation through the post-medieval period, including evidence of agricultural practices at Humphrey Street, c. 1km northwest of the proposed site.
- 4.13 Within a 1km radius of the proposed site, are a small number of listed buildings. The Grade II Listed Eveline Lowe School is situated on Marlborough Grove, c. 250m northwest of the site; and there are seven properties on Canal Grove that are Grade II Listed, just south of the proposed site.
- 4.14 The Church of St Augustine on Lynton Road is a Grade II* Listed with the accompanying vicarage being a Grade II listed; they lie approximately 500m north of the site. The church was built between 1875 and 1882 in the early English lancet style of red brick. Amendments were made in the early 20th century.

5. Aims of the Investigation

5.1 The aims of the evaluation were defined as being:

- To establish the presence/absence of archaeological remains within the site.
- To determine the extent, condition, nature, character, quality and date of any archaeological remains encountered.
- To map any archaeological remains encountered and sample excavate the features.
- To assess the ecofactual and environmental potential of excavated archaeological features and deposits.
- To determine the extent of previous truncations of the archaeological deposits.
- To enable, archaeology advisor, to make an informed decision to satisfy the condition.
- To make available to interested parties the results of the investigation.

5.2 The specific aims of the investigation were:

- To gather evidence of the Mesolithic period.
- To gather evidence for post-medieval agricultural practices.

5.3 The final aim was to make public the results of the investigation, subject to any confidentiality restrictions, through ADS OASIS website

6. Methodology

6.1 The trial trench involved the machine excavation of four trenches, two measuring 15.00m x 2.50m, one measuring 20.00m x 2.50m and the final trench measuring 25.00m x 2.50m. All were opened under archaeological supervision.

6.2 The trenches were located as laid out in the Written Scheme of Investigation except for trench 4 which was moved further west to maintain access to the area.

6.3 All machining was carried out using a JCB 3CX with a smooth bladed ditching bucket, under the constant supervision of the archaeological Project Officer.

6.4 The site code RON13 was obtained from the Museum of London for the project, and was used for all fieldwork.

6.5 All evaluation trenches were accurately located to the National Grid and their levels calculated using a differential GPS.

6.6 All recording was in accordance with the standards and requirements of the Museum of London's *Archaeological Field Manual* (MoL 3rd edition 1994).

6.7 All of the work was carried out in line with:

- *Archaeological Guidance Papers (AGP): 2-4, Standards and Practices in Archaeological Fieldwork* (English Heritage 2009)
- *IfA Standard and Guidance for Archaeological Field Evaluation* (IfA 2008).

6.8 A continuous unique numbering system was employed. For each trench, a block of numbers in a continuous sequence was allocated. In this report the archaeological fills and layers are represented in curved brackets i.e. (), whilst the cut numbers are represented in square brackets i.e. [].

- 6.9 Written descriptions, comprising both factual data and interpretative elements, were recorded on standardised sheets.

7. Results

Trench 1 (Figure 3)

Table of the stratigraphic sequence

Context No	Depth	Height of Deposit (mOD)	Description/Interpretation
100	0.30m	2.18m – 1.88m	Modern reinforced concrete surface.
101	0.70m	1.88m – 1.18m	Bedding and modern made ground.
105	0.45m	1.18m – 0.73m	Grey gritty sandy clay. Possible alluvial deposit.
106	0.35m	0.73m – 0.53m	Grey brown gritty sandy clay. Possible alluvial deposit.
107	0.20m	0.53m – 0.33m	Yellow silty clay. Natural deposit.
108	0.20m	0.33m – 0.13m	Purple brown clay silt. Natural deposit.
109	0.50m	0.13m - -0.37m	Grey yellow silty clay. Natural deposit.
110	0.05m	-0.37m - -0.42m	Yellow and green sand and gravel. Natural deposit.

- 7.1 Trench 1 measured 15m x 2.50m and was aligned roughly northeast-southwest.
- 7.2 The lowest deposits recorded within Trench 1, were a series of naturally deposited layers recorded as (110), (109), (108) and (107). The lowest deposit (110) was a yellow and greenish sand and gravel. This was overlaid by grey yellow silty clay with lenses of orange sand (109). Above was (108), a purple brown clay silt which in turn was overlaid by a layer of yellow silty clay (107). Deposit (108), was a curious layer which in colour appeared almost as a decomposed wood deposit, however no traces of any organics were observed within the deposit.
- 7.3 Overlying the above deposits were two layers of gritty sandy clay varying in colour from grey brown (106) to grey (105). The deposits contained fragments of late 19th century transfer printed porcelain pottery, tile and oyster shell. The composition of the layers suggests that they may have been alluvial in nature, perhaps deposited in a marshland environment.



Plate 1 – Sample Section Trench 1

- 7.4 Cutting into (105), were three concrete footings (104), (103) and (102). The footings measured 1.10m x 2.50m x 0.45m, 0.70m x 2.50m x 0.40m and 0.50m x 0.50m x 0.40m respectively and are the remains of a modern building that had previously occupied the site.
- 7.5 Overlying the sequence was (101), a 0.70m thick layer of made ground formed of dark brown silty clay and compacted hard core which in turn was overlaid by (100), a 0.30m thick layer of reinforced concrete.
- 7.6 No archaeological remains were recorded within the trench.

Trench 2 (Figure 3)

Table of the stratigraphic sequence

Context No	Depth	Height of Deposit (mOD)	Description/Interpretation
200	0.24m	2.20m – 1.96m	Modern reinforced concrete surface.
201	0.60m	1.96m – 1.36m	Bedding and modern made ground.
202	0.66m	1.36m – 0.70m	Yellow grey sandy silt. Buried soil.
203	0.24m	0.70m – 0.46m	Dark black grey silty sandy clay. Alluvial deposit.
204	0.20m	0.46m – 0.26m	Grey yellow clay. Natural deposit.
205	0.21m	0.26m – 0.05m	Dark black brown silty and clay. Peat horizon.
206	0.50m	0.05m – -0.45m	Bluish yellow silty clay. Natural deposit..
207	0.15m	-0.45m – -0.60m	Light blue yellow sandy clay and gravel. Natural deposit.

- 7.7 Trench 2 measured 15.00m x 2.50m and was aligned roughly east-west.

- 7.8 The lowest deposits recorded within the trench were a series of naturally deposited layers recorded as (207), (206), (205) and (204). The lowest deposit (207) was a blue yellow sandy clay and gravel which was overlaid by a bluish yellow silty clay (206). Above (206), a dark black brown silt and clay layer of peat (205). Overlying the peat was (204), a grey yellow silty clay with no inclusions.
- 7.9 Overlying the above deposits was a layer of dark black grey silty clay (203) which contained fragments of tile, metal, late 19th century pottery including a complete stoneware jar, leather shoe fragments and oyster shell. The composition of the layer is slightly more clayey than the alluvial deposits recorded within Trench 1; however its deposition is likely to be alluvial in nature, perhaps part of the same marshland environment.



Plate 2 – Monolith sample through trench stratigraphy

- 7.10 Overlying (203) was (202) a yellow grey sandy silt buried soil which may either be a clean made ground deposit or part of a natural subsoil build up deposited during a drier environment.
- 7.11 Overlying the trench was (201), a 0.60m thick layer of made ground formed of light grey silty clay and compacted hard core which in turn was overlaid by (200), a 0.24m thick layer of reinforced concrete.
- 7.12 A monolith column sample has been taken through the deposits described above (207-201). The report and the results will be added to this report as an addendum when available (see Appendix C).
- 7.13 No archaeological remains were recorded within the trench.

Trench 3 (Figure 3)

Table of the stratigraphic sequence

Context No	Depth	Height of Deposit (mOD)	Description/Interpretation
300	0.10m	2.50m – 2.40m	Tarmac.
301	0.95m	2.40m – 1.45m	Bedding and modern made ground.
302	1.00m	1.45m – 0.45m	Loose rubble and light to mid brown silt and clay. Made ground.
307	0.20m	0.45m – 0.25m	Yellow silty clay. Natural deposit.
308	0.40m	0.25m – -0.15m	Purple brown clay silt. Natural deposit.
309	0.60m	-0.15m – -0.75m	Yellow and blue mixed silty clay and sand. Natural deposit.

- 7.14 Trench 3 measured 25m x 2.5m and was aligned roughly northeast-southwest.
- 7.15 The lowest deposits recorded within the trench were a series of naturally deposited layers recorded as (309), (308) and (307). The lowest deposit (309) was a blue yellow silty clay and sand which was overlaid by purple brown clay silt (308). The same deposit was observed in Trench 1. Above (308), was a (307), a yellow silty clay with no inclusions.
- 7.16 Overlying the natural horizons was (302), a 1.00m thick layer of mixed made ground deposits varying from light to mid brown silt and clay to loose brick rubble. Cutting into the made ground horizon were two large late post-medieval or modern pits [304] and [306]. The pits measured 5.50m x 2.50m x 1.00m deep and 6.60m x 1.00m x 1.50m deep respectively. The pits contained modern building rubble, concrete, a wire bed mattress and an assortment of domestic debris. Also cutting into the made ground were two concrete footings (303) and (305), measuring 2.80m x 2.50m x 1.00m deep and 2.50m x 2.50m x 0.80m deep. The footings are the remains of a modern building that previously occupied the site.



Plate 3 – Section showing pit [304]

- 7.17 Overlying the above was a second made ground deposit recorded as (301). This was in turn overlaid by (300), a layer of modern tarmac surfacing.
- 7.18 No archaeological remains were recorded within the trench.

Trench 4 (Figure 3)

Table of the stratigraphic sequence

Context No	Depth	Height of Deposit (mOD)	Description/Interpretation
400	0.30m	2.40m – 2.10m	Modern reinforced concrete surface.
401	2.50m	2.10m – -0.40m	Loose grey and brown sandy clay with rubble hardcore. Made ground.
405	1.00m	-0.40m – -1.40m	Yellow sand and clay. Natural deposit.
406	0.40m	-1.40m – -1.80m	Green and yellow sandy gravel. Natural deposit.

- 7.19 Trench 4 measured 20m x 2.5m and was aligned roughly west-east.
- 7.20 The lowest deposits recorded in the trench were a sequence of natural layers recorded as (406) and (405), a green yellow sandy gravel and yellow sand and clay respectively.
- 7.21 Located within the western end of the trench was basement wall [402] and floor [403]. The wall which measured 4.00m x 0.40m east-west, 2.70m x 0.40m north-south and 1.50m deep, was composed of yellow stock bricks. The abutting floor [403] was formed out of a concrete slab with a void in the centre. The void appeared to form a space for a grille or perhaps a mechanism.



Plate 4 – Wall [402]

- 7.22 Also cutting into the natural horizon was a series of concrete foundations [404]. The bases varied in size, with the largest measuring 2.60m x 1.20m x 1.50m deep. The foundations appear to be the remains of a substantial modern structure that had previously occupied the site.
- 7.23 Overlying the trench was a 2.50m thick layer of made ground recorded as loose grey brown sandy clay and brick and concrete rubble with inclusions of glass, metal and plastic. Covering the made ground was (400), a reinforced concrete slab.

8 Finds

- 8.1 Finds were collected from Trenches 1 and 2. The pottery sherds recovered from Trench 1 have been identified as fragments of late 19th century transfer printed porcelain pottery. These have been noted and it is proposed that they be discarded. The complete late 19th century jar recorded in Trench 2 has been identified as a two toned impressed stoneware jar used as a Cheese Jar. The impressed label on the outside states “Hill & Jones, 4 Jewry Street, Aldgate, London”. The jar will be retained

and archived. The leather shoes were in a poor condition and have been noted and it is proposed that they be discarded.

9 Discussion

- 9.1 The evaluation identified the natural sequence on site as varying from sands and gravels through to silty clays. The natural horizon was recorded at an upper height of 0.53mOD in Trench 1 and -0.40mOD in Trench 4. The upper level of the natural horizon signifies the level of truncation with limited truncation in Trench 1 and significant truncation in Trench 4. The gravel horizon recorded within the base of three of the four trenches appeared to slope down towards the southwest from 0.37mOD in Trench 1 to -1.40mOD in Trench 4. This may suggest the site is located at an edge of a gravel islands (eyots).
- 9.2 The unusual purple brown deposit within the natural sequence is interesting. And despite its organic appearance was negative for organic remains. Overlying the natural sequence were layers of possible alluvial origin. The deposits which contained 19th century dated finds, may be the remains of a marshland environment. The environmental sampling employed on site may further explain these deposits.
- 9.3 The environmental assessment is currently being undertaken by Quaternary Scientific (QUEST). Their report will be added to this document as an addendum when complete (currently scheduled for the end of May 2013), when the radiocarbon dating of the monolith sequence is available (see Appendix C).
- 9.4 Post-medieval/modern structures and pits were recorded on site cutting into the natural. The footings and foundations are the remains of structures that had previously occupied the site whilst the pits are likely to be the results of their demolition perhaps following WWII.
- 9.5 Overlying the site were layers of made ground and one layer of possible subsoil.

10 Publication

- 10.1 Due to the nature of the project, initial publication is expected to be limited to a summary in the London Archaeologist Round-up and publication via the Archaeological Data Service (ADS) (Appendix B).

11 Archive deposition

- 11.1 On completion of the project, the archive, consisting of paper records, drawings, and digital photographs, will be deposited with the London Archaeological Archive and Resource Centre.

12 Bibliography

AOC Archaeology (2011a). *Harper Road (Symington House), London Borough of Southwark: A Post-Excavation Assessment Report*.

AOC Archaeology (2011b). *The New Parsonage, St. Marychurch Street, Rotherhithe, London Borough of Southwark: Results of an Archaeological Watching Brief*.

AOC Archaeology (2013), 387-399 Rotherhithe New Road, London Borough of Southwark: A Written Scheme of Investigation for an Archaeological Evaluation

British Geological Survey (2013). *Geoindex*, Online at <http://maps.bgs.ac.uk/GeoIndex/default.aspx>, accessed 14th February 2013.

English Heritage (2009). *Archaeological Guidance Paper 3: Standards and Practices in Archaeological Fieldwork*.

Institute for Archaeologists (2008). *Standards and Guidance for an Archaeological Evaluation*.

Museum of London (1994). *Archaeological Site Manual* (3rd ed).

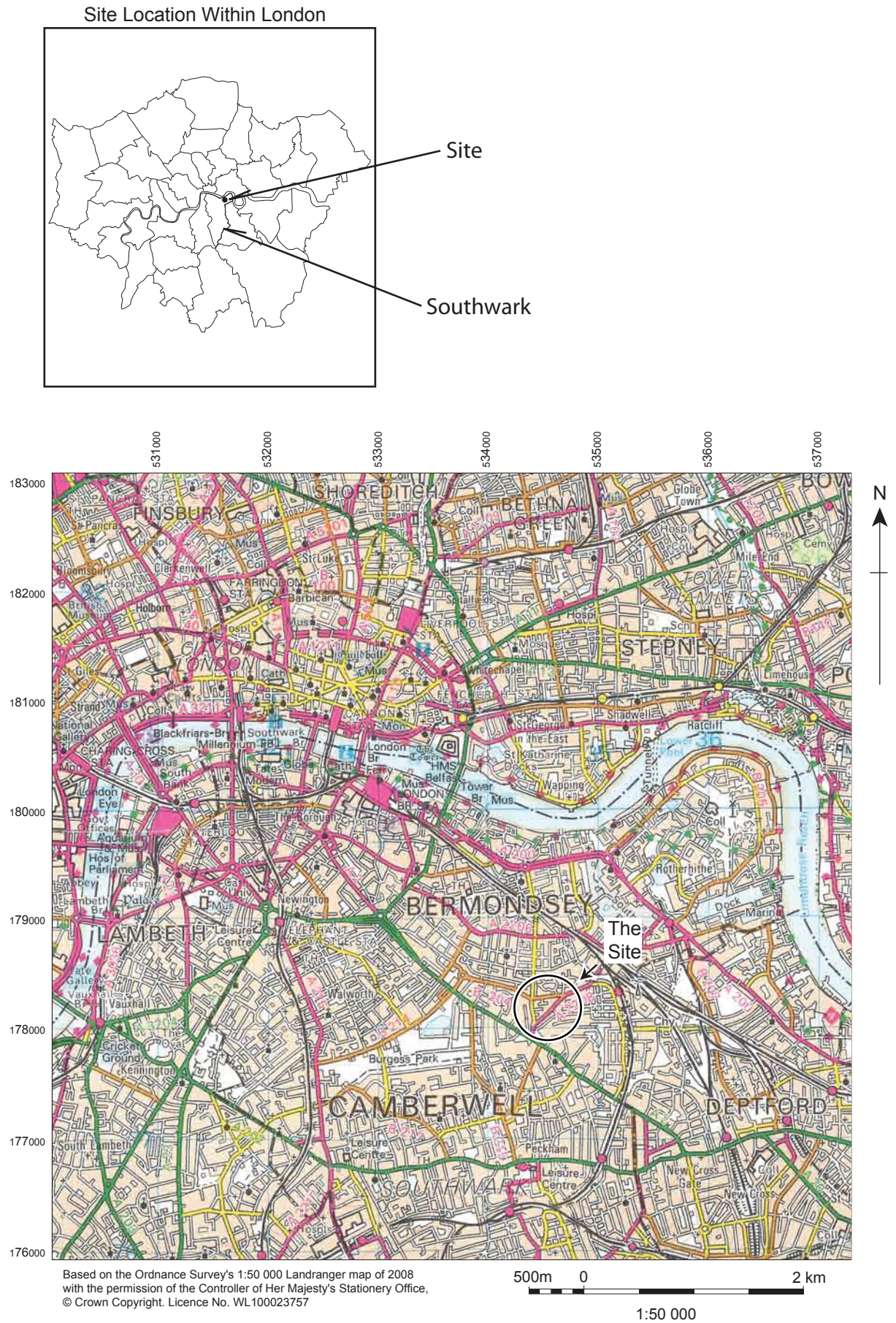


Figure 1: Site Location



Figure 2: Detailed Site Location Plan

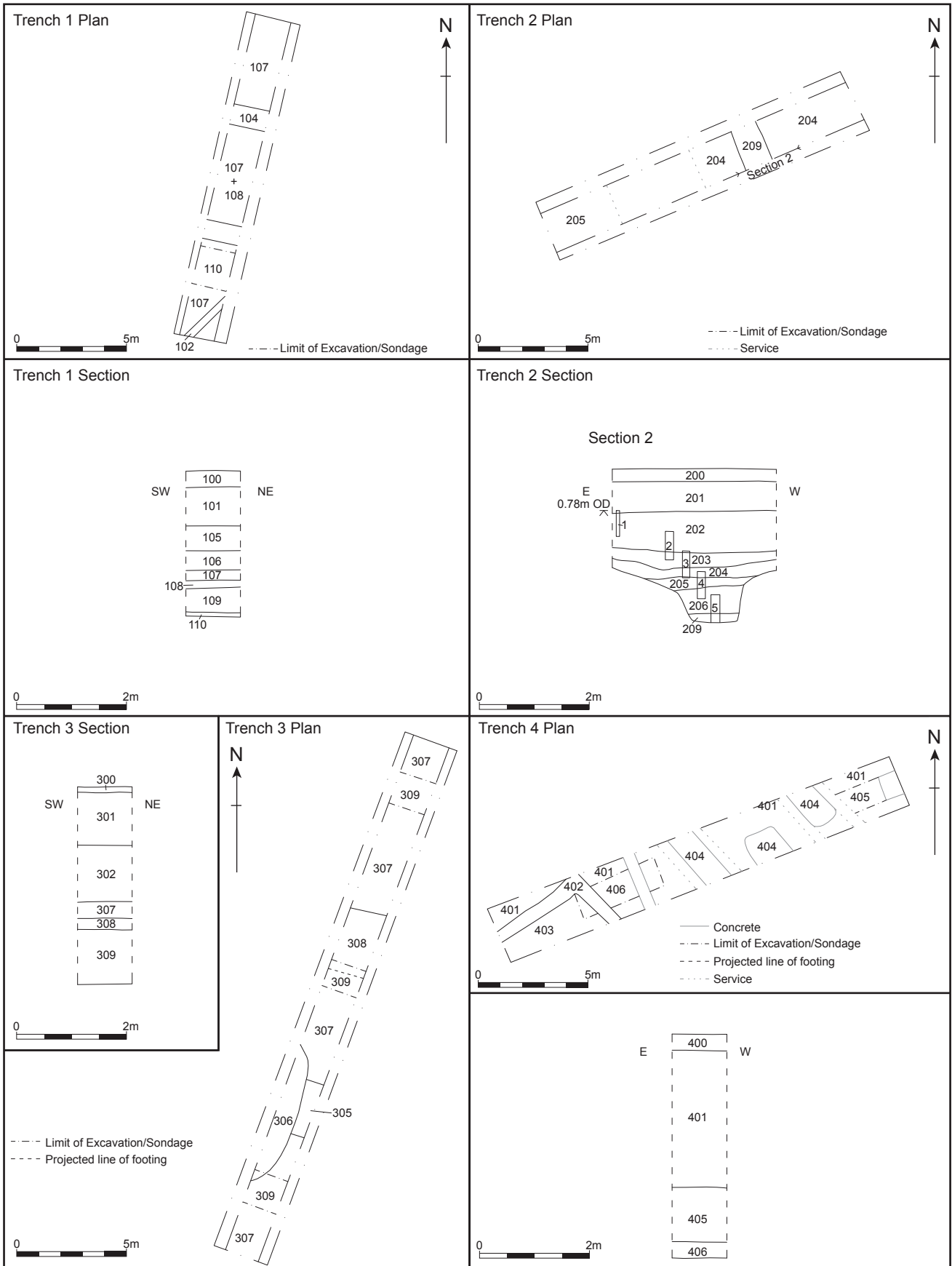


Figure 3: Trench Plans and Sections

Appendices

Appendix A - Context Register

Context No.	Context Description/Index code	Length	Width	Depth
100	Concrete	15.00m	2.50m	0.30m
101	Made ground	15.00m	2.50m	0.70m
102	Concrete Footing	0.50m	0.50m	0.40m
103	Concrete Footing	2.50m	0.70m	0.40m
104	Concrete Footing	1.10m	2.50m	0.45m
105	Alluvial deposit	15.00m	2.50m	0.45m
106	Alluvial deposit	15.00m	2.50m	0.35m
107	Natural	15.00m	2.50m	0.20m
108	Natural	15.00m	2.50m	0.20m
109	Natural	1.80m	2.50m	0.50m
110	Natural	1.80m	2.50m	0.05m
200	Concrete	15.00m	2.50m	0.24m
201	Made ground	15.00m	2.50m	0.60m
202	Buried soil	15.00m	2.50m	0.66m
203	Alluvial deposit	15.00m	2.50m	0.24m
204	Natural	15.00m	2.50m	0.20m
205	Peat	15.00m	2.50m	0.21m
206	Natural	15.00m	2.50m	0.50m
207	Natural	15.00m	2.50m	0.15m
300	Tarmac	25.00m	2.50m	0.10m
301	Made ground	25.00m	2.50m	0.95m
302	Made ground	25.00m	2.50m	1.00m
303	Concrete Footing	2.80m	2.50m	1.00m
304	Modern pit	5.50m	2.50m	1.00m
305	Concrete Footing	2.50m	2.50m	0.80m
306	Modern pit	6.60m	1.00m	1.50m
307	Natural	25.00m	2.50m	0.20m
308	Natural	25.00m	2.50m	0.40m
309	Natural	25.00m	2.50m	0.60m
400	Concrete	20.00m	2.50m	0.30m
401	Made ground	20.00m	2.50m	2.50m
402	Basement wall	4.00m	0.40m	1.50m
403	Basement floor	4.00m	0.40m	
404	Concrete Footing			1.50m
405	Natural	2.00m	1.00m	1.00m
406	Natural	2.00m	1.00m	0.40m

Appendix B – Oasis Form

OASIS ID: aocarcha1-143687

Project details

Project name 387-399 Rotherhithe New Road

An archaeological evaluation was undertaken by AOC Archaeology Group between the 7th and 13th March 2013 at the site of 387-399 Rotherhithe New Road, London Borough of Southwark. The evaluation comprised four machine excavated trenches measuring between 15m x 2.50m to 25m x 2.50m. None of the trenches contained significant archaeological remains. Natural clay, sand and gravel was recorded in all trenches. Trenches 1, 2 and 4 contained gravel at the base. The results suggest the gravel slopes down to the southwest from 0.37mOD to -1.40mOD which perhaps indicates that the site is located on the edge of a gravel eyot. The upper height of the natural horizon varied dependant on the level of truncation within that area of the site. Trenches 1 and 2 appeared to have little truncation however Trenches 3 and 4 suggested more significant truncation. Overlying the natural gravels in two trenches were late 19th century alluvial deposits which may indicate a marshland environment.

Project dates Start: 07-03-2013 End: 13-03-2013

Previous/future work No / Not known

Any associated project reference codes RON13 - Sitecode

Type of project Field evaluation

Site status Area of Archaeological Importance (AAI)

Current Land use Industry and Commerce 1 - Industrial

Significant Finds CERAMICS Post Medieval

Development type Urban residential (e.g. flats, houses, etc.)

Prompt National Planning Policy Framework - NPPF

Position in the
planning process Pre-application

Project location

Country England

Site location GREATER LONDON SOUTHWARK BERMONDSEY ROTHERHITHE AND
SOUTHWARK 387-399 Rotherhithe New Road

Postcode SE16 3HG

Study area 0.50 Hectares

Site coordinates TQ 34521 78076 51 0 51 29 06 N 000 03 44 W Point

Height OD / Depth Min: -1.00m Max: 0m

Project creators

Name of
Organisation AOC Archaeology

Project brief
originator Southwark Council

Project design
originator AOC Archaeology

Project
director/manager Paul Mason

Project supervisor Catherine Edwards

Type of
sponsor/funding
body Contractor

Name of
sponsor/funding
body Trigpoint Conservation and Planning Ltd

Project archives

Physical recipient Archive LAARC

Digital recipient Archive LAARC

Digital available Media "Images raster / digital photography", "Images vector", "Spreadsheets", "Text"

Paper recipient Archive LAARC

Paper Contents "Ceramics"

Paper available Media "Context sheet", "Microfilm", "Plan", "Report", "Section", "Unpublished Text"

Project bibliography 1

Publication type Grey literature (unpublished document/manuscript)

Title 387-399 Rotherhithe New Road, London Borough of Southwark: A Written Scheme of Investigation for an Archaeological Evaluation

Author(s)/Editor(s) Fidler, T.

Date 2013

Issuer or publisher AOC

Place of issue or publication London

Description A4 text

Project

bibliography 2

Publication type Grey literature (unpublished document/manuscript)

Title 387-399 ROTHERHITHE NEW ROAD, LONDON BOROUGH OF SOUTHWARK: AN ARCHAEOLOGICAL EVALUATION REPORT

Author(s)/Editor(s) Edwards, c

Date 2013

Issuer or publisher AOC Archaeology

Place of issue or publication London

Description A4 bound report with illustrations and plates

Entered by catherine edwards (catherine.edwards@aocarchaeology.com)

Entered on 13 May 2013

Appendix C – Environmental Archaeological Assessment Report

387-399 ROTHERHITHE NEW ROAD, LONDON BOROUGH OF SOUTHWARK, LONDON SE1 (SITE CODE: RON13): ENVIRONMENTAL ARCHAEOLOGICAL ASSESSMENT REPORT

D.S. Young and C.R. Batchelor

Quaternary Scientific (QUEST), School of Human and Environmental Sciences, University of Reading, Whiteknights, PO Box 227, Reading, RG6 6AB, UK

INTRODUCTION

This report summarises the findings arising out of the environmental archaeological assessment undertaken by Quaternary Scientific (QUEST) in connection with the proposed development at Rotherhithe New Road, London Borough of Southwark (Site Code: RON13; National Grid Reference: TQ 34521 78076; Figure 1). Four trenches were excavated at the site by AOC Archaeology Ltd. (Figure 2). A sequence of column samples (samples <1> (1) to (5)) were extracted from Trench 2, since it contained a sequence of alluvium (including peat) overlain by archaeological features thought to be of post-Medieval age. The Rotherhithe New Road site lies on the valley floor of the River Thames, in its tidal reach on the south side of the river and about 1.6km from the modern waterfront. The British Geological Survey (BGS) (1:50,000 Sheet 256 North London 1994) shows that the majority of the site is underlain by Alluvium overlying Thanet Sand; in the far north of the site, the underlying bedrock is mapped as Lewes/Seaford/Newhaven Chalk.

The valley floor topography created at the end of the Devensian cold stage in the Southwark and Rotherhithe area was characterised by upstanding gravel bars (eyots) and intervening channels. These topographic features originated as bars and channels created during the deposition of the Late Devensian Shepperton Gravel (Gibbard, 1985, 1994; Sidell, 2000). They reflect a period when the floor of the Thames valley, here in Southwark and elsewhere throughout the Middle and Lower Thames was occupied by the multiple channels of a braided river system. The present site lies within a substantial former channel separating the Bermondsey Eyot to the north, and the terrace of the Kempton Park Gravel to the south (see Figure 3).

The aim of the environmental archaeological assessment was to evaluate the potential of the sedimentary sequences for reconstructing the environmental history of the site and its environs, and specifically to: (1) identify evidence of change or continuity through time and (2) to detect evidence of human activity. In order to achieve this aim, the environmental archaeological assessment consisted of the following techniques:

1. Detailed laboratory-based description of the column samples to provide an enhanced reconstruction of the sedimentary history of the site;
2. Organic matter determinations to enhance the results of the descriptions;
3. Range-finder radiocarbon dating to provide a chronological framework for the onset of peat formation;
4. Assessment of the preservation and concentration of pollen grains and spores in the column sample sequence to provide a preliminary reconstruction of the vegetation history, and to detect evidence for human activities e.g. woodland clearance and cultivation;
5. Assessment of the preservation and concentration of macroscopic plant, insect and Mollusca remains from the bulk samples to provide a preliminary reconstruction of the vegetation history and general environmental context of the site.



Figure 1: Location of Rotherhithe New Road, London Borough of Southwark (Site Code: RON13). Adapted from Fidler (2013).



Figure 2: Trench locations at 387-399 Rotherhithe New Road, London Borough of Southwark (Site Code: RON13). Adapted from Fidler (2013).

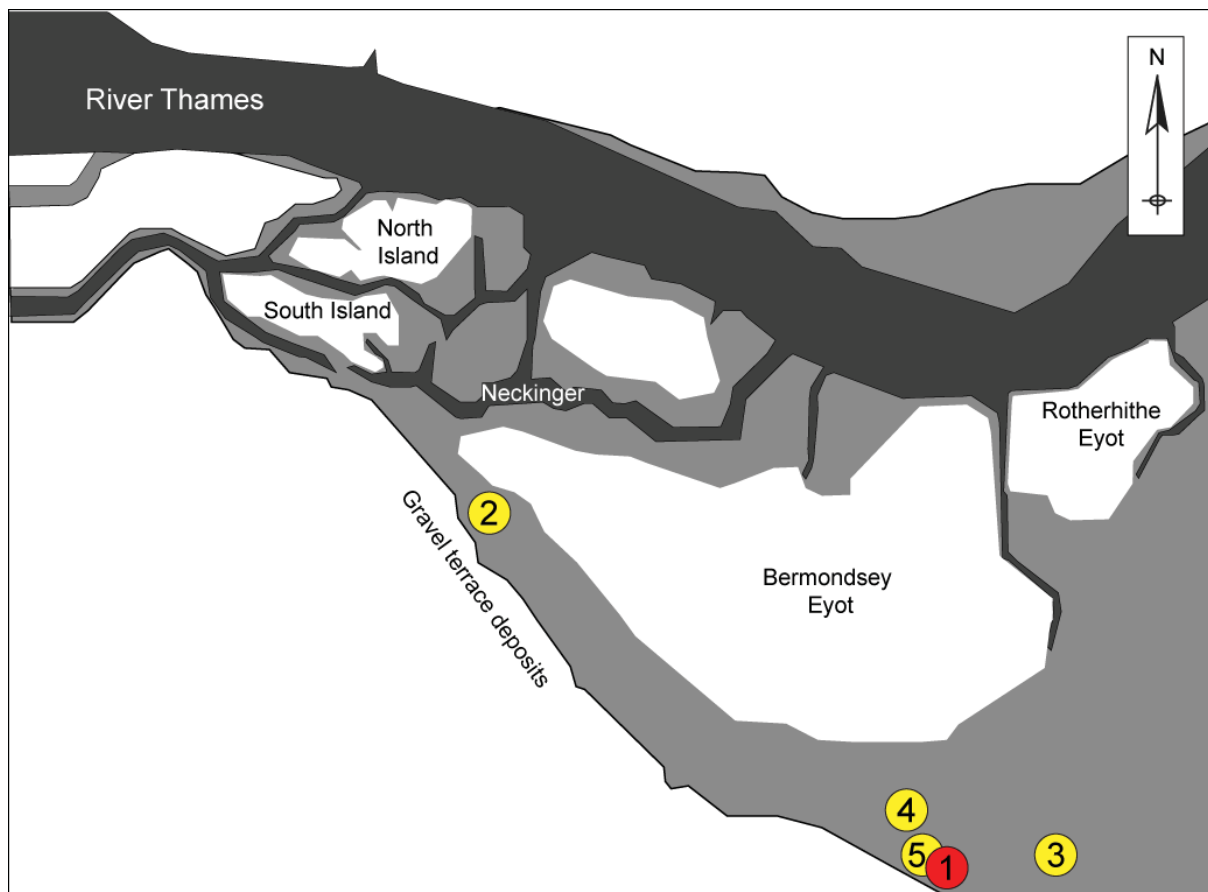


Figure 3: early Holocene topography of Southwark, showing the location of (1) 387-399 Rotherhithe New Road and other nearby geoarchaeological investigations: (2) Rehidim Street and Hartley's Jam Factory sites (Cowie & Corcoran, 2008); (3) Bramcote Green (Thomas & Rackham, 1996), (4) Bricklayer's Arms (Jones, 1988) and (5) 67-77 Marlborough Grove (Murray *et al.*, 2004) (figure adapted from Green, 2012)

METHODS

Lithostratigraphic descriptions

The lithostratigraphy of column samples <1> (1) to (5) was described in the laboratory using standard procedures for recording unconsolidated sediment and organic sediments, noting the physical properties (colour), composition (gravel, sand, clay, silt and organic matter) and inclusions (e.g. artefacts). The procedure involved: (1) cleaning the samples with a spatula or scalpel blade and distilled water to remove surface contaminants; (2) recording the physical properties, most notably colour using a Munsell Soil Colour Chart; (3) recording the composition; gravel, fine sand, silt, clay and organic material; (4) recording the degree of peat humification and (5) recording the unit boundaries e.g. sharp or diffuse. The results of the lithostratigraphic descriptions are displayed in Table 1 and Figure 4.

Organic matter content determinations

A total of 26 sub-samples were taken for determination of the organic matter content through column samples <1> (1) to (5) (Table 2 and Figure 4). These records were important as they can identify increases in organic matter possibly associated with more terrestrial conditions. The organic matter content was determined by standard procedures involving: (1) drying the sub-sample at 110°C for 12 hours to remove excess moisture; (2) placing the sub-sample in a muffle furnace at 550°C for 2 hours to remove organic matter (thermal oxidation), and (3) re-weighing the sub-sample obtain the 'loss-on-ignition' value (see Bengtsson and Enell, 1986).

Radiocarbon dating

One sub-sample was extracted for radiocarbon dating from near the base of the organic horizon in column sample <1> (4) (Context (205); 0.07 to 0.03m OD). The sample was submitted for AMS radiocarbon dating to the SUERC Radiocarbon Dating Facility, East Kilbride. The results have been calibrated using OxCal v3.10 Bronk Ramsey (1995; 2001; 2007) and the IntCal04 atmospheric curve (Reimer *et al.*, 2009). The results of the radiocarbon dating are displayed in Table 3 and in Figure 4.

Pollen assessment

A total of four sub-samples were extracted for an assessment of pollen content from column sample <1> (4). The pollen was extracted as follows: (1) sampling a standard volume of sediment (1ml); (2) adding two tablets of the exotic clubmoss *Lycopodium clavatum* to provide a measure of pollen concentration in each sample; (3) deflocculation of the sample in 1% Sodium pyrophosphate; (4) sieving of the sample to remove coarse mineral and organic fractions (>125µ); (5) acetolysis; (6) removal of finer minerogenic fraction using Sodium polytungstate (specific gravity of 2.0g/cm³); (7) mounting of the sample in glycerol jelly. Each stage of the procedure was preceded and followed by thorough sample cleaning in filtered distilled water. Quality control is maintained by periodic checking of residues, and assembling sample batches from various depths to test for systematic laboratory effects. Pollen grains and spores were identified using the University of Reading pollen type collection and the following sources of keys and photographs: Moore *et al.*, (1991); Reille (1992). The assessment procedure consisted of scanning the prepared slides, and recording the concentration and preservation of pollen grains and spores, and the principal taxa on four transects (10% of the slide) (Table 4). Microscopic charcoal with at least one axis exceeding 40µm in length were also counted.

Macrofossil assessment

Two small bulk samples from column samples <1> (1) to (5) were processed for the recovery of macrofossil remains including waterlogged plant macrofossils, waterlogged wood and Mollusca. These samples were focussed on the organic-rich part of the sequence. The extraction process involved the following procedures: (1) measuring the sample volume by water displacement and (2) processing the sample by wet sieving using 300µm and 1mm mesh sizes. Each sample was scanned under a stereozoom microscope at x7-45 magnifications, and sorted into the different macrofossil classes. The concentration and preservation of remains was estimated for each class of macrofossil (Table 5).

Identifications of the waterlogged seeds have been made using modern comparative material and reference atlases (e.g. Cappers *et al.*, 2006, NIAB, 2004; Martin & Barkley, 2000). Nomenclature used follows Stace (2005). The quantities of waterlogged seeds and wood were recorded for each sample, with identifications of the main taxa (Table 6).

RESULTS AND INTERPRETATION OF THE LITHOSTRATIGRAPHIC DESCRIPTIONS, ORGANIC MATTER CONTENT AND RADIOCARBON DATING

The results of the lithostratigraphic descriptions and organic matter determinations from column samples <1> (1) to (5) are displayed in Table 1 and in Figure 4.

The lowest unit recorded in the sequence was a clayey and silty sandy gravel ((Context (207); less than 3% organic content), the surface of which was recorded at -0.57m OD. This unit most likely represents the upper, reworked surface of the Shepperton Gravel, laid down within a high energy braided river environment during the Late Devensian. The Shepperton Gravel is overlain by a horizon of silty sand with occasional gravel clasts (Context (207)) to a level of -0.47m OD, in turn overlain by clayey and silty alluvium ((Context (206); less than 6% organic content) to a level of -0.01m OD. These deposits are consistent with the sandy and silty flood deposits of the 'Lower Alluvium', which progressively buried the underlying gravels as the main course of the River Thames became confined to a single channel during the Early to Middle Holocene.

The Lower Alluvium is overlain by a silty Peat between 0.20 and -0.01m OD (Context (205)), indicating a transition to a semi-terrestrial environment supporting the growth of wetland vegetation. Within this unit, organic content is recorded at between 15 and 30%, indicating that frequent influxes of mineral material (such as that associated with flood events) occurred during the deposition of this horizon. The results of the radiocarbon dating of twig wood near

the base of this horizon (0.07 to 0.03m OD) indicate that the accumulation of the Peat began during the Late Bronze Age/Early Iron Age cultural periods (3190 to 2960 cal BP). The $\delta^{13}C$ (‰) value for this sample is consistent with that expected for organic sediment, and there is no evidence for mineral or biogenic carbonate contamination.

The Peat is overlain by silty clay (the Upper Alluvium) between 0.20 and 1.40m OD (Contexts (204) to (202); generally less than 5% organic content), and is representative of inundation of the wetland environment. In the tidal reaches of the Thames, the Upper Alluvium represents evidence of the combined effects of rising sea level, leading to regular estuarine flooding, and an increase in sediment supply produced by soil erosion associated with the intensification of land-use from the Neolithic period onward. The overall effect of Holocene floodplain sedimentation has been to bury progressively the uneven surface of the Shepperton Gravel, and to create in the tidal reaches of the Thames a very low relief floodplain close to OD. The surface of the Upper Alluvium is recorded at the Rotherhithe New Road site at 0.38m OD; above this, Post Medieval deposits (Contexts (202) and (203)) are recorded to the top of the sequence at 1.40m OD.

Table 1: Lithostratigraphic description of column samples <1> (1) to (5), 387-399 Rotherhithe New Road, London Borough of Southwark

Depth (m OD)	Depth (m bgs)	Context number	Composition
1.40 to 1.02	0.78 to 1.16	(202)	10YR 3/1; As2 Ga1 Ag1 Sh+ Gg+; very dark grey silty sandy clay with a trace of organic matter and occasional gravel clasts. Fragments of brick throughout.
1.02 to 0.68	1.16 to 1.50	(202)	10YR 3/1; Ag2 As1 Ga1 Sh+; very dark grey clayey sandy silt with traces of organic matter. Fragments of brick throughout.
0.68 to 0.38	1.50 to 1.80	(203)	10YR 3/1; As2 Ag1 Sh1 Gg+ Ga+; very dark grey organic silty clay with occasional gravel clasts and traces of sand. Glass and pottery inclusions. Sharp contact in to:
0.38 to 0.30	1.80 to 1.88	(204)	10YR 4/2; As3 Ag1 Sh+; dark greyish brown silty clay with traces of organic matter.
0.30 to 0.20	1.88 to 1.98	(204)	10YR 4/2; As3 Ag1 Dh+; dark greyish brown silty clay with traces of detrital herbaceous material. Diffuse contact in to:
0.20 to -0.01	1.98 to 2.19	(205)	10YR 2/1; Sh3 Ag1 Th+ Tl+; Humo. 3/4; black well humified silty peat with traces of herbaceous material and wood. Sharp contact in to:

-0.01 to -0.12	2.19 to 2.30	(206)	10YR 4/2; Ag2 As2 Dh+; dark greyish brown silt and clay with traces of detrital herbaceous material.
-0.12 to -0.47	2.30 to 2.65	(206)	Gley1 5/10Y; Ag2 As1 Dh1; greenish grey clayey silt with detrital herbaceous material. Vertical rooting throughout. Sharp contact in to:
-0.47 to -0.57	2.65 to 2.75	(207)	10YR 5/2; Ga3 Ag1 Gg+; greyish brown silty sand with occasional gravel clasts. Sharp contact in to:
-0.57 to -0.62	2.75 to 2.80	(207)	10YR 5/2; Ag1 Ga1 As1 Gg1; greyish brown sand, silt, clay and gravel. Clasts 20-60mm diameter.

Table 2: Results of the organic matter determinations of column samples <1> (1) to (5), 387-399 Rotherhithe New Road, London Borough of Southwark

Depth (m OD)	Context number	Organic matter content (%)
1.39	0.80	4.68
1.31	0.88	3.82
1.23	0.96	5.89
1.15	1.04	4.53
1.07	1.12	3.60
0.99	1.20	4.13
0.91	1.28	3.54
0.83	1.36	4.93
0.75	1.44	5.30
0.67	1.52	7.74
0.59	1.60	15.24
0.51	1.68	15.80
0.43	1.76	13.20
0.35	1.84	9.77
0.27	1.92	9.69
0.19	2.00	28.70
0.11	2.08	27.43
0.03	2.16	16.37
-0.05	2.24	4.18
-0.14	2.32	3.97
-0.22	2.40	2.96
-0.30	2.48	3.95
-0.38	2.56	5.78
-0.46	2.64	3.94
-0.54	2.72	0.90
-0.62	2.80	2.36

Table 3: Results of the radiocarbon dating of the base of the peat in column samples <1> (1) to (5), 387-399 Rotherhithe New Road, London Borough of Southwark

Laboratory code / Method	Material and location	Sample (m OD)	Uncalibrated radiocarbon years before present (yr BP)	Calibrated age BC/AD (BP) (2-sigma, 95.4% probability)	δ13C (‰)
SUERC-46464	Twig wood,	0.07 to	2908±31	1242-1007 cal BC	-29.3

(GU30470)	base of peat	0.03		(3192-2957 cal BP)
-----------	--------------	------	--	--------------------

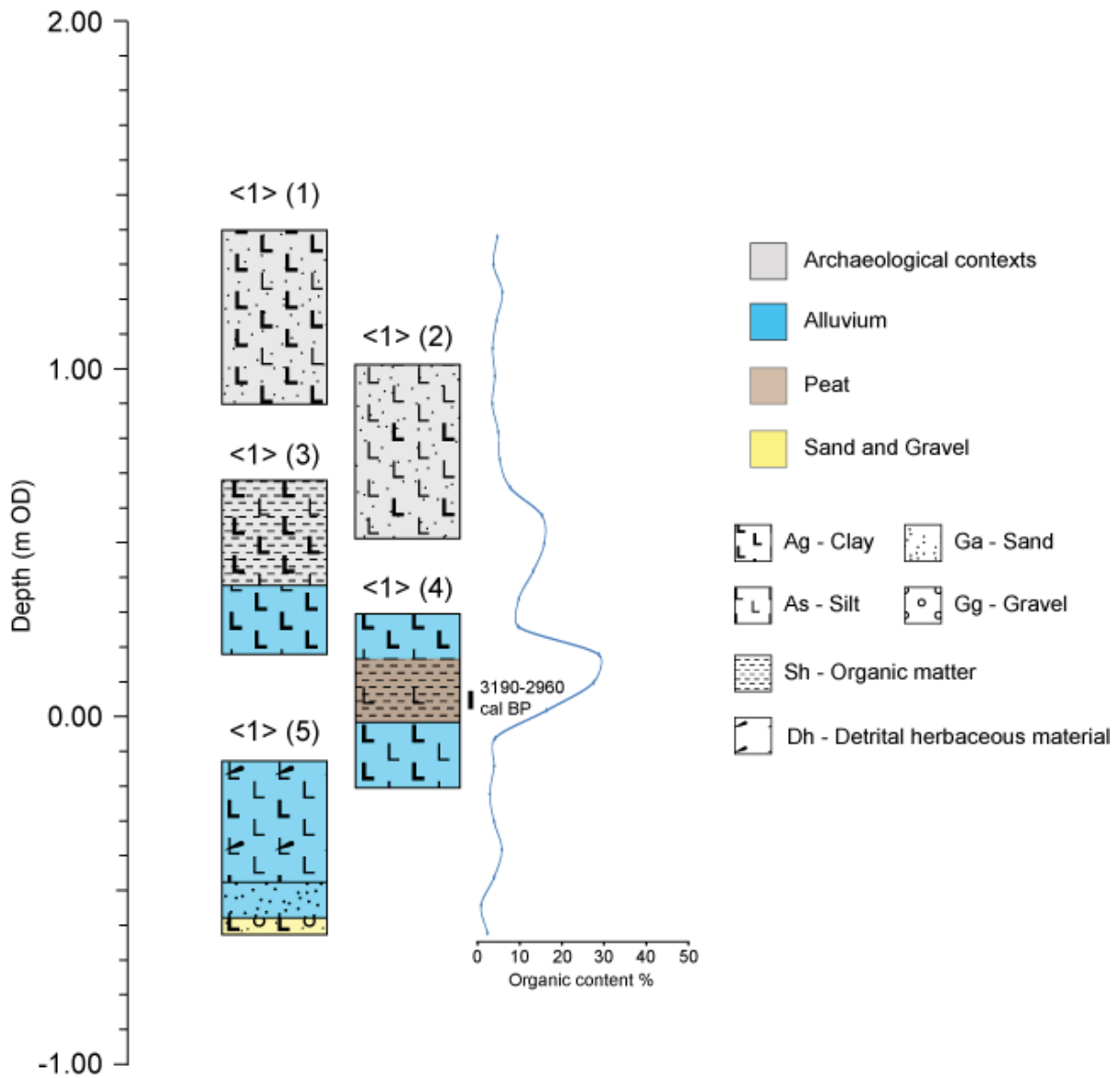


Figure 4: Lithostratigraphic description of column samples <1> (1) to (5), incorporating organic matter determinations and the radiocarbon date.

RESULTS AND INTERPRETATION OF THE POLLEN ASSESSMENT

Four sub-samples were extracted from contexts (206) and (205) for an assessment of the pollen content. The results of the assessment indicate that pollen concentration increases upwards through the four samples from low to abundant levels. The preservation of the pollen is moderate in all samples.

The single sample from context (206) is dominated by *Alnus* (alder) and *Corylus* type (e.g. hazel) with single spores of *Polypodium vulgare* (polypody) and *Filicales* (buckler fern). Microcharcoal concentrations were negligible.

The three samples from context (205) are characterised by high values of herbaceous pollen, dominated by Poaceae (grasses) and Cyperaceae (sedges) with sporadic occurrences of *Ranunculus* type (buttercup), Asteraceae (daisies), *Plantago lanceolata* (ribwort plantain), *Rumex acetosa/acetosella* (dock/sorrel). Aquatic and spore taxa included *Sparganium* type (bur-reed), *Typha latifolia* (bulrush), *Filicales*, *Polypodium vulgare* and *Pteridium aquilinum* (bracken). Tree and shrub taxa were limited and dominated by *Alnus* and *Corylus* type, with occasional *Quercus* (oak) and *Betula* (birch). Microcharcoal concentrations varied between negligible and moderate numbers. This assemblage is indicative of an open wetland environment dominated by herb and aquatic plants. Stands of damp carr woodland are indicated by limited numbers of alder and willow pollen, perhaps growing on more stable areas of the wetland environment. On the dryland, an open environment is indicated by only sporadic occurrences of deciduous tree and shrub pollen. This open assemblage is likely to be of late prehistoric or historic date (i.e. post widespread land clearance), although no definitive indicators of cultural activity are recorded.

Table 4: Results of the pollen assessment of column samples <1> (1) to (5), 387-399 Rotherhithe New Road, London Borough of Southwark

Context number		(205)	(205)	(205)	(206)
Depth (m OD)		0.18	0.10	0.02	-0.06
Latin name	Common name				
Trees					
<i>Alnus</i>	alder	2	6	6	6
<i>Quercus</i>	oak			3	
<i>Betula</i>	birch		2		
Shrubs					
<i>Corylus</i> type	e.g. hazel	4	2	1	3
<i>Salix</i>	willow	1	2		
Herbs					
Cyperaceae	sedge family	8	7		
Poaceae	grass family	23	16	9	
Asteraceae	daisy family	1			
<i>Plantago lanceolata</i>	ribwort plantain		1		
<i>Rumex acetosa/acetosella</i>	dock/sorrel		1		
<i>Caryophyllaceae</i>	pinks			1	
Apiaceae	carrot family	1			
<i>Ranunculus</i> type	buttercup			2	
Aquatics					
<i>Typha latifolia</i>	bulrush		1		
<i>Sparganium</i> type	bur-reed	1			
Spores					
<i>Pteridium aquilinum</i>	bracken		4		
<i>Filicales</i>	ferns	6		9	1
<i>Polypodium vulgare</i>	polypody			2	1
Unidentifiable		4	3	2	
Total Land Pollen (grains counted)		40	40	23	9
Concentration*		5	5	4	2
Preservation**		3	3	3	3
Microcharcoal Concentration***		1	1	3	1

Key:

*Concentration: 0 = 0 grains; 1 =1-75 grains, 2 = 76-150 grains, 3 =151-225 grains, 4 = 226-300, 5 =300+ grains per slide

**Preservation: 0 = none, 1 = very poor, 2 = poor, 3 = moderate, 4 = good, 5 = excellent

***Microcharcoal Concentration: 0 = none, 1= negligible, 2 = occasional, 3 = moderate, 4 = frequent, 5 = abundant

RESULTS AND INTERPRETATION OF THE MACROFOSSIL ASSESSMENT

Two small bulk samples (0.09 to 0.04 and 0.04 to -0.01m OD) were extracted from column sample <1> (4). These samples were focussed towards the base of the organic horizon in this sequence. The samples were processed for the recovery of macrofossil remains including waterlogged plant macrofossils, waterlogged wood and Mollusca.

The results of an initial assessment (Table 5) indicated that both samples contained low quantities of waterlogged wood and seeds. Low quantities of charcoal less than 2mm in diameter (along both axes) and fragments of insects were present in the sample from 0.09 to 0.04m OD. No Mollusca, Ostracoda, Foraminifera or bone were present in either sample.

Waterlogged seeds

Waterlogged seeds were identified in both samples, and thus underwent a more detailed assessment (Table 6). The assemblage was dominated by *Ranunculus fluitans/peltatus* (river/pond water crowfoot). The assemblage is limited, and thus a full interpretation of the seed assemblage cannot be made; however, the presence of river/pond water crowfoot is indicative of a flowing or standing body of water during the accumulation of the peat.

Table 5: Results of the macrofossil assessment of column samples <1> (1) to (5), 387-399 Rotherhithe New Road, London Borough of Southwark

Depth (m OD)	Volume sampled (l)	Volume processed (l)	Fraction (e.g. flot, residue, >300µm)	Charred					Waterlogged					Bone								
				Charcoal (>4mm)	Charcoal (2-4mm)	Charcoal (<2mm)	Seeds	Chaff	Wood	Seeds	Whole	Fragments	Large	Small	Fragments	Insects	Ostracoda/Foraminifera					
0.09 to 0.04	0.15		>300µm	-	-	1	-	-	1	-	-	-	-	-	-	-	-	-	1	-	-	
0.04 to -0.01	0.10		>300µm	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-

Key: 0 = Estimated Minimum Number of Specimens (MNS) = 0; 1 = 1 to 25; 2 = 26 to 50; 3 = 51 to 75; 4 = 76 to 100; 5 = 101+

Table 6: Results of the waterlogged plant macrofossil (seeds and wood) assessment of column samples <1> (1) to (5), 387-399 Rotherhithe New Road, London Borough of Southwark

Depth (m OD)	Waterlogged seeds		
	Latin name	Common name	Number
0.09 to 0.04	<i>Ranunculus fluitans/peltatus</i>	water crowfoot	12
0.04 to -0.01	<i>Ranunculus fluitans/peltatus</i>	water crowfoot	6

DISCUSSION AND CONCLUSIONS

The aim of the environmental archaeological assessment was to evaluate the potential of the sedimentary sequences for reconstructing the environmental history of the site and its environs, and specifically to: (1) identify evidence of change or continuity through time and (2) to detect evidence of human activity.

The results of the assessment indicate a sequence of alluvium overlying the upper, reworked surface of the Shepperton Gravel, the surface of which was recorded at -0.57m OD. Approximately 1.8km to the northwest, and towards the head of the former channel in which the site lies (see Figure 4 site 2), an uneven Gravel surface was recorded at the Rephidim Street and Hartley's Jam Factory sites (Cowie & Corcoran, 2008). Here, the Gravel surface was recorded at -0.82m OD at its deepest; towards the Bermondsey eyot to the northeast it rises to between 0.16 and 0.97m OD, whilst towards the southwest it rises to 1.05m OD. At the Bramcote Green site, ca. 600m west of the present investigation and towards the main axis of the channel (see Figure 4 site 3), the Gravel surface was recorded at between -1.90 and -2.36m OD (Thomas & Rackham, 1996), whilst at the 67-77 Marlborough Grove site (Murray *et al.*, 2004), ca. 200m northwest (see Figure 4 site 5), the Gravel surface fell northwards from -1.27 to -2.11m OD. The depth of the Gravel surface at the Rotherhithe New Road site thus indicates that the site lies towards the southern margin of the former channel; those sites to the north indicate that the Gravel surface falls steeply towards its main axis.

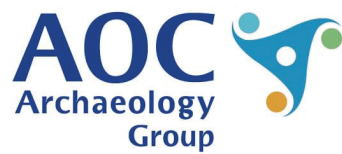
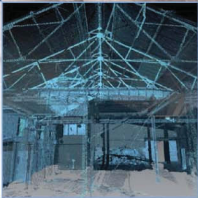
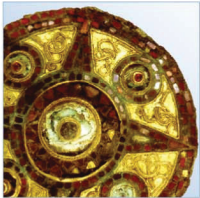
The Alluvium at the site contained a Peat horizon between 0.20 and -0.01m OD (Context (205)), indicating a transition to a semi-terrestrial environment supporting the growth of wetland vegetation. The combined results of the pollen and waterlogged seeds assessments are indicative of an open wetland environment dominated by herb and aquatic plants during the accumulation of the Peat, with stands of damp carr woodland perhaps growing on more stable areas of the wetland environment. On the dryland, an open environment is indicated by only sporadic occurrences of deciduous tree and shrub pollen. Accumulation of this organic horizon began during the Late Bronze Age/Early Iron Age cultural periods (3190 to 2960 cal BP), broadly contemporaneous with and recorded at similar heights OD to Peat horizons identified elsewhere within the former channel in which the site is located. A shallow Peat horizon at the Rephidim Street and Hartley's Jam Factory sites (Cowie & Corcoran, 2008; see Figure 4) was recorded at between ca. 0.20 and 0.30m OD and radiocarbon dated to between 3340-2960 and 2770-2360 cal BP, whilst at the Bricklayer's Arms site (Jones, 1988) ca. 500m north of the present investigation a Late Bronze Age Peat was recorded at a maximum of 0.34m OD (Thomas & Rackham, 1996). At the Bramcote Green site a Peat horizon radiocarbon dated to the Late Bronze Age was contemporaneous with that recorded

at Rotherhithe New Road, but lay at between *ca.* -1.80 and -0.90m OD. Similarly, at the 67-77 Marlborough Grove site a Peat horizon of probable Bronze Age date was recorded between -1.09 and -2.69m OD in the northern part of the site, thus indicating that the Peat horizon increases in both depth and thickness towards the main axis of the former channel.

Whilst no definitive indicators of anthropogenic activity were recorded within the Peat at the present site, the pollen assemblage is indicative of open conditions on the dryland that might be associated with large-scale clearance of woodland that occurred during the Bronze Age, whilst charcoal in the macrofossil assemblage is indicative of burning that may have occurred on the wetland itself. In addition, wooden trackways radiocarbon dated to between *ca.* 3580 and 3290 cal BP and coinciding with a period of Peat formation were recorded at the Bramcote Green site (Thomas & Rackham, 1996). The pollen assemblage from this Peat horizon is indicative of gradual reduction in tree taxa and an increase in grass pollen including cereals on the dryland, whilst the plant macrofossil and insect assemblages are indicative of relatively open marsh fen-type environments on the wetland (Thomas & Rackham, 1996). At the Rephidim Street/Hartley's Jam Factory (Cowie & Corcoran, 2008) and the 67-77 Marlborough Grove (Murray *et al.*, 2004) sites the palaeobotanical assemblages are indicative of similarly open, marsh/sedge fen environments.

RECOMMENDATIONS

The preservation and concentration of pollen in the Peat horizon at the Rotherhithe New Road site is sufficient to reconstruct the environmental history of the site and its environs. This horizon represents a phase of Peat accumulation which post-dates by *ca.* 200-500 years known human activity in the form of a Bronze Age trackway at the Bramcote Green site. Should further work be required in order to satisfy the planning conditions for the site, analysis of the Peat horizon from this sequence is therefore recommended. This analysis should consist of (1) one additional radiocarbon date, to provide an age for the cessation of peat accumulation, and (2) analysis of the pollen from this sequence.



AOC Archaeology Group, Unit 7, St Margarets Business Centre, Moor Mead Road, Twickenham TW1 1JS
tel: 020 8843 7380 | fax: 020 8892 0549 | e-mail: london@aocarchaeology.com

www.aocarchaeology.com