

QUAD BUILDING (KINGS COLLEGE LONDON)
The Strand
London WC2R

London Borough of Westminster

Pre-determination evaluation report

February 2015



**Quad Building (Kings College London)
The Strand
London WC2R**

Pre-determination Evaluation Report

NGR 530799 180854

Sign-off history

issue no.	issue date	prepared by	reviewed by	approved by	reason for issue
1	24.02.2015	Portia Askew (Archaeology) Virgil Yendell (Geoarchaeology) Judit Peresztegi (Graphics)	Laura O’Gorman	Laura O’Gorman Contract Manager	First issue

PO code: P0456 PDF

Contents

Contents	ii	
Figures	ii	
Executive summary	1	
<u>1</u>	<u>Introduction</u>	<u>2</u>
1.1	Site background	2
1.2	Designated heritage assets	2
1.3	Aims and objectives	2
<u>2</u>	<u>Archaeological and historical background</u>	<u>4</u>
2.1	Topography and geology	4
2.2	Predicted archaeological potential	4
<u>3</u>	<u>The evaluation</u>	<u>6</u>
3.1	Methodology	6
3.2	Results	6
3.3	Significance of the results	25
3.4	Assessment of the evaluation	25
<u>4</u>	<u>Proposed development impact and recommendations</u>	<u>26</u>
<u>5</u>	<u>Summary of finds</u>	<u>27</u>
<u>6</u>	<u>Planning framework</u>	<u>28</u>
6.2	Statutory protection	28
6.3	National Planning Policy Framework	28
6.4	Greater London regional policy	30
6.5	Local planning policy	31
<u>7</u>	<u>Bibliography</u>	<u>33</u>
<u>8</u>	<u>NMR OASIS archaeological report form</u>	<u>34</u>

Figures

- Fig 1 Site location*
 - Fig 2 Evaluation trench and borehole location*
 - Fig 3 Evaluation trench 1*
 - Fig 4 Evaluation trench 2*
 - Fig 5 Evaluation trench 3*
 - Fig 6 Evaluation trench 4*
 - Fig 7 Evaluation trench 5*
 - Fig 8 Evaluation trench 6*
 - Fig 9 Evaluation trench 7*
-

Fig 10 Borehole transect

Fig 11 Early Holocene topography

Executive summary

This report presents the results of an archaeological evaluation carried by Museum of London Archaeology (MOLA) on the site of the Quad Building (Kings College London), The Strand, London, WC2R. The report was requested by the local planning authority in order to supply sufficient information for an appropriate mitigation strategy to be formulated in light of the proposed development. The evaluation was commissioned from by Kings College.

The evaluation comprised 7 trial pits and 10 archaeological boreholes (ABH) and three geotechnical boreholes (BH) within the basement of the building. The results of the field evaluation have helped to refine the initial assessment of the archaeological potential of the site.

The evaluation trenches recorded heavily truncated medieval remains of low significance and five of the trenches revealed activity relating to the site (19th century) prior to the current development. The construction of both the 19th and current building has resulted in truncation of horizontally stratified deposits across the site. In the northern part of the site, natural gravel has been truncated by the current/previous development on the site down to a level of 5.54m OD.

The boreholes and window samples, at the southern end of the site reveal the greatest information. The natural gravel was recorded at 5.2m below ground level at a depth of -0.26m OD dropping further to -1.0m OD towards the River Thames, denoting the profile and surface of the site at the start of the Mesolithic period 10000 years ago. The analysis suggests that the area on the north side of the site would have been dry land throughout the prehistoric period. The level of the surface to the south of the site suggests that it was only dry land prior to the Neolithic. Foreshore deposits overlying the natural gravels were sealed by to 4.2m of post-medieval ground raising or dump deposits.

Four window samples to the south of the site recorded stone and mortar work associated with a possible chalk foundation or chalk setting at 1.3m OD, 1.85m OD, 1.05m OD and 1.25m OD. However only in one of the window samples (ABH1) did the remains show any real potential as evidence for a historic river wall structure.

Demolition of 152–158 the Strand (known collectively as The Old Law Building) and the 1950s' Quadrangle Building is proposed, to be replaced by new buildings on a similar footprint providing a mixture of teaching spaces, study areas, large common space/circulation areas and a cafe. Three levels of basement are proposed beneath The Old Law Building and one additional levels of basements are proposed at the north end of the Quadrangle. The 1960s' Strand Building would be refurbished at the existing basement lecture theatre levels. The scheme would include the opening up of the vaults at the southern end of the site to improve the Embankment Entrance, and the re-use of the pavement vaults to the front of 152–158 the Strand. Piling is proposed at the south end of the Quadrangle.

It is suggested that, as a further mitigation strategy, that further evaluation work on the south side of the site be carried out. This would involve a targeted evaluation trench or series of test pits, to confirm the presence, nature, and age of the potential "River wall" structure as well as the historic foreshore that were defined by the archaeological bore holes. The results of the second phase of evaluation would help to inform the piling layout in order to reduce the archaeological impact. A watching brief during demolition may also be required.

1 Introduction

1.1 Site background

- 1.1.1 The evaluation took place at the Quad Building (Kings College London), The Strand, London WC2R hereafter called 'the site'. It is located on the west side of the college campus and bounded by The Strand, other college buildings to the east, The Embankment, to the south and Somerset House to the west. The OS National Grid Ref. for centre of site is 530799 180854. The site code is KGQ14.
- 1.1.2 A desk-top Archaeological Assessment was prepared by MOLA in 2014 (MOLA 2014a) and provides in depth detail on the natural geology, archaeological and historical background of the site, and the initial interpretation of its archaeological potential. The results of the evaluation have provided further information of the archaeological potential within the site. The evaluation has taken place at the pre-planning stage, and the report will be submitted as part of the planning application, to enable the local planning authority to formulate an appropriate mitigation strategy in light of the proposed development.

1.2 Designated heritage assets

- 1.2.1 The site and entire study area are within the Lundenwic and Thorney Island Area of Special Archaeological Priority as designated by the City of Westminster: in the area of the site this arises from the particular potential for evidence of activity and occupation associated with the Saxon settlement of Lundenwic.
- 1.2.2 The site lies within the Strand Conservation Area, as designated by the City of Westminster. Much of the eastern, southern and western site outline is formed by the building line of the adjacent Grade I Listed complex comprising (to the west) the late-18th century Somerset House, and (to the east) the early-19th century King's Building.
- 1.2.3 In the north-western part of the site, 152 and 153 the Strand are of mid-18th century origin and are Grade II Listed. Numbers 154–158 the Strand are identified by the City of Westminster as unlisted buildings of special merit (City of Westminster, 2003) and as such are considered to be of particular value to the character and appearance of the Conservation Area. Abutting the north-eastern edge of the site is the Grade II Listed Aldwych Underground Station.
- 1.2.4 Outside the site to the north, on an island in the Strand is the Grade I Listed early-18th century church of St Mary-le-Strand.

1.3 Aims and objectives

- 1.3.1 The purpose of pre-determination archaeological evaluation as defined by the Chartered Institute for Archaeologists is to 'determine, as far as is reasonably possible, the nature of the archaeological resource within a specified area using appropriate methods and practices' (CIFA, 2013). The results of the evaluation will inform the local planning authority of the site's potential for archaeological remains, enabling them to determine the planning application and, where appropriate, to formulate an appropriate mitigation.
- 1.3.2 The following research aims and objectives were established in the Written Scheme of Investigation for the evaluation (Section 3):
- Identify the presence/absence of archaeological remains within the site. Archaeological remains could comprise;
 - Isolated Roman finds.
 - Saxon features and deposits, especially the Saxon foreshore
 - Late medieval buildings fronting the Strand
 - The location of the historic river wall to inform the piling plan
 - Possibility of late medieval burials and/or remains of the Church of the Nativity of Our Lady and the Innocents
-

- Footings of earlier post-medieval buildings
 - Identify the extent of any modern disturbance.
 - Identify the depth of the natural deposits.
 - Provide recommendation of any further assessment/fieldwork which may form a condition as part of planning consent, or where assets are thought to be of national or international significance (ie schedulable quality), preservation *in situ*.
-

2 Archaeological and historical background

2.1 Topography and geology

2.1.1 A description of the topology and underlying geology is detailed in the Historic Environment Assessment. In summary:

- Ground level lies at c 14.70m OD at the north end of the site, sloping down to c 13.40m at the south
- Basement level (Level -2) lies at 5.86m OD at the north end, sloping down to 5.24m at the southern end. The external courtyard, immediately to the south, lies at 4.73m OD
- Underlying gravels of the Taplow Thames river terrace have been seen to the west of the northern part of the site at a level of 11.5-12.0m OD

2.2 Predicted archaeological potential

Prehistoric period (800,000 BC–AD43)

2.2.1 No evidence of prehistoric activity has been recorded within the immediate vicinity, however a Bronze Age sword has been recorded from the Thames to the south of the site and the chance find of a prehistoric flint flake was recorded c 200m to the north-west of the site.

Roman period (AD 43–410)

2.2.2 The site lay c 1km to the west of the Roman city, while the Strand, immediately to the north of the site follows the line of the Roman road from London to Cirencester, and scattered Roman artefacts have been found in the area between the City and Westminster. Most of these finds were recorded by antiquarians during the major rebuilding works of the 19th and early 20th century, and their status and exact location have not been confirmed by modern research. Two records of possibly residual Roman artefacts lie within the immediate vicinity of the site.

2.2.3 No Roman structures have been found within the vicinity of the site. The “Roman bath” which still exists in Strand Lane, is thought to be a post-medieval garden features from Arundel House, possibly incorporating re-used Roman materials from the Arundel collection of Classic antiquities.

Early medieval/Saxon period (AD 410–1066)

2.2.4 The main focus for the early- and middle-Saxon settlement was a busy trading port around Aldwych, the Strand and Covent Garden. The settlement was known as Lundenwic. The Strand formed an important street within the settlement; its name reflecting the location along the Saxon foreshore, which itself laid c 60m to the south (likely within the site). The extent of the settlement has yet to be determined, although its core is thought to lie around Covent Garden.

2.2.5 Saxon finds and features have been recorded within the surrounding area, and a trial pit which was excavated in the basement of 156 Strand in 1991 identified a pit which has been interpreted as a Middle Saxon rubbish pit. In 2001, a watching brief at Kings College to the east of the site recorded further Saxon pits along with Saxon postholes.

Late medieval period (AD1066–1485)

2.2.6 By the beginning of this period, the focus for settlement had shifted back to the City, with the Strand forming the link between the commercial centre of the City to the political administrative centre at Westminster (the palace and abbey being founded in the 11th century). By the 12th century the houses and grand mansions of nobles and prelates clustered along the Strand, with the foreshore to the south of the strand being gradually reclaimed. Notable houses within the vicinity of the site were;

- Bath Inn (later Arundel House), the town house of the Bishop of Bath and Wells which stretched from Milford Lane and Strand Lane to the east of the site
- Chester Inn and Worcester Inn, the town houses of the Bishops of Chester and Worcester, and the Strand Inn. All three were demolished to make way for Somerset House in the 16th Century.

2.2.7 There is much discrepancy regarding the location of the site of the medieval Church of the Nativity of Our Lady and the Innocents (demolished in the 16th century). The GLHER details the remains of the church being discovered under the north-west quadrangle of Somerset House to the west of the site, while Stowe's 1603 survey of London suggests that it probably lay on the street front between Arundel House and Somerset House. A third possible location is mentioned in Thornbury's "Old and New London" of 1878 which suggest that it occupied the site of the eastern wing of the present Somerset House. It is likely that the church had an associated burial ground. At the time of his execution in 1552, the Duke of Somerset and Lord Protector held the land of Somerset House. The account of the attainder of the duke states that "in digging foundations [for Somerset House] whereof bones of many who had been buried were dug up and carried into the fields". These burials probably relate to the burial ground of the Church of the Nativity although its extent and location are unknown. Mrs Basil Holmes 1896 also states that the old burial ground of the earlier church lay under the current Somerset House. There is a possibility that the burial ground extended into the site, although no human bone was recorded within the trial pit excavated in the site in 1991.

Post-medieval period (AD1485–present)

- 2.2.8 Throughout this period the site underwent various developments. The site lay on the north side of the Thames and nearby investigations indicate that the original Tudor River Wall potentially lies within the southern edge of the site. The Tudor river wall is expected to be uncovered at 1.5m OD (3.5m beneath the slab).
- 2.2.9 Somerset House was first constructed in the 16th century although the present building was constructed in the 18th century. King's College London was founded in 1828 and received its Royal Charter from George IV in 1829 (Weinreb *et al* 2008, 462). The Strand campus opened in 1831.
- 2.2.10 The open area of the Quad suffered heavy bomb damage during the Second World War. The roof of the brick-arched vaults was destroyed. The vaults were leased by King's College in 1948 and largely demolished, although parts of the retaining wall to the east and south-east are thought to survive along with an underground arch leading to the Embankment.
-

3 The evaluation

3.1 Methodology

On Site

- 3.1.1 All archaeological excavation, monitoring and recording during the evaluation was carried out in accordance with the preceding Written Scheme of Investigation (MOLA 2014b).
- 3.1.2 The evaluation involved the excavation and recording of 7 trenches (TP), 3 boreholes (BH) and 8 window samples (ABH).
- 3.1.3 The slab/ground was broken out and cleared by contractors under MOLA supervision. Trenches were excavated by hand by the contractors, and monitored by a member of staff from MOLA.
- 3.1.4 The boreholes and window samples were drilled by contractors and were monitored by a MOLA geoarchaeologist.
- 3.1.5 The trenches and boreholes were located by offsetting from adjacent walls and plotted onto a base map. The trenches were then plotted onto the OS grid.
- 3.1.6 The site has produced: 1 trench location plan; 2 context records; 2 section drawing at 1:20 and 1:10; and 17 photographs
- 3.1.7 The site finds and records can be found under the site code KGQ14 in the MoL archive.

Off site

- 3.1.8 In order to create the deposit model the data points were entered into a digital (Rockworks 15) database. The distribution of the data is illustrated on Fig 11.
- 3.1.9 Each identified lithological unit (gravel, sand, silt etc.) was given a unique colour and pattern allowing cross correlation of the different sediment and soil types across the site. By examining the relationship of the lithological units (both horizontally and vertically) correlations can be made between soils and sediments, and associations grouped together on a site-wide basis (facies, as illustrated in the representative transect (Fig 10). The grouping of these deposits is based on the lithological descriptions, which define distinct depositional environments. The grouping is also informed by a wider understanding of the Thames floodplain sequence gained from other archaeological and geoarchaeological investigations undertaken in the surrounding area. Thus a sequence of stratigraphic units, representing certain depositional environments, and/or landforms can be reconstructed both laterally and through time for the site.
- 3.1.10 The point data set was exported into Arc GIS v10.1. By utilising the Spatial Analyst module, digital elevation models (DEMs). These highlight major features of the topography through time; for example, incised channels and gravel high points. For this report the surface plots calculated were:
 - 3.1.11 Early Holocene surface (Fig 11): This gives an approximation of the topography of the site as it existed at the beginning of the early Mesolithic period c 10,000 years ago. The development of the Holocene floodplain is likely to have been influenced by the gravel and sand topography inherited from the Pleistocene/Late glacial period. This surface would have dictated the course of later channels, with gravel high points forming areas of dry land within the wetlands, and lower lying areas forming the main threads of later channels.
 - 3.1.12 By examining the surface plots in combination with the vertical deposit succession, professional judgement has been used to define areas of varying levels of geoarchaeological and archaeological potential (e.g. high areas of gravel topography, channels and marginal wetlands).

3.2 Archaeological results

- 3.2.1 For trench locations see (Fig 2)
-

Evaluation Trench 1

Location	North side of Quad building
Dimensions	1.30m by 0.70m by 0.94depth
Modern ground level/top of slab	5.88m OD
Base of modern slab	5.56m OD
Depth of archaeological deposits seen	N/A
Level of base of deposits observed and base of trench	4.94m OD
Natural observed	N/A

- 3.2.2 No archaeological deposits, which pre-date the Victorian period were seen in the trench. Immediately below the slab, at a height of 5.54m OD, was the remains of an east-west aligned Victorian brick built feature, three courses high (Fig 3). To the south of the wall, loose backfill was evident. Natural gravel was not seen. It is likely that this relates to the previous building of Kings College that stood on the site

Evaluation Trench 2

Location	North side of Quad building
Dimensions	1.10m by 0.90m by 0.90-0.95m depth
Modern ground top of slab	5.86m OD
Base of modern fill/slab	4.96 OD
Depth of archaeological deposits seen	N/A
Level of base of trench	4.96m OD
Natural observed	5.54m OD

- 3.2.3 No archaeological deposits were present in this trench (Fig 4). Natural gravel was recorded immediately below the slab at a height of 5.54m OD.

Evaluation Trench 3

Location	Central northern Quad building
Dimensions	1.70m by 1.80m by 1.83m (max depth)
Modern ground level/top of slab	5.86m OD
Base of modern slab	5.46m OD
Depth of archaeological deposits seen	0.60m deep
Level of base of trench	4.06m OD
Natural observed	5.26m OD

- 3.2.4 Natural gravel was located 0.60m below ground level at a height of 5.26m OD. Cutting through the gravel was a truncated chalk wall/foundation, measuring 0.50m wide by 0.45m long by 0.60m high, the top of which was recorded at a height of 5.46m OD (Fig 5). The wall had been cut by a drain to the east. Other structural evidence was found for the Victorian building that preceded the present one. On the north side of the trench, of the brick foundations for the earlier building was exposed.

Evaluation Trench 4

Location	Southeast Quad building
Dimensions	1.18m by 1.16m by 0.72m depth
Modern ground level/top of slab	5.26m OD
Base of modern slab	4.96m OD
Depth of archaeological deposits seen	N/A
Level of base of trench	4.54m OD
Natural observed	N/A

- 3.2.5 The remains of demolition material and possible remains of the building that preceded the present one was seen (Fig 6). No archaeological remains which pre-date the Victorian period

were seen or recorded. Natural gravel was not seen.

Evaluation Trench 5

Location	South side of Quad building
Dimensions	0.81m by 0.77m by 2.02m depth
Modern ground level/top of slab	5.26m OD
Base of modern slab	4.84m OD
Depth of archaeological deposits seen	N/A
Level of base of trench	3.24m OD
Natural observed	N/A

- 3.2.6 Other than modern/Victorian dumping, no archaeological deposits were seen or recorded in this trench (Fig 7). The natural deposits were not reached. Evidence for a concrete ground beam was seen on the east side of the pit.

Evaluation Trench 6

Location	South side of Quad building
Dimensions	1.22m by 0.62m by 1.70m depth
Modern ground level/top of slab	5.27m OD
Base of modern slab	4.80m OD
Depth of archaeological deposits seen	N/A
Level of base of trench	3.57m OD
Natural observed	N/A

- 3.2.7 Other than modern/Victorian dumping, no archaeological deposits were seen or recorded in this trench (Fig 8). The natural deposits were not reached.

Evaluation Trench 7

Location	North side of Quad building
Dimensions	1.53m by 0.90m by 0.75m depth
Modern ground level/top of slab	9.47m OD
Base of modern slab	9.10m OD
Depth of archaeological deposits seen	N/A
Level of base of trench	8.72m OD
Natural observed	N/A

- 3.2.8 Evaluation trench 7 revealed the foundations of the current building, with the Victorian brick wall foundation of the previous building adjacent (Fig 9). To the south of the wall, loose rubble and back fill was recorded. No archaeological remains which pre-dated the Victorian period were recorded. Natural gravel was not seen.

3.3 Geoarchaeological results

- 3.3.1 For boreholes and window sample locations see Fig 2.

Kings College Quad KGQ14 BH2							
OD height:	5.8	Easting:	530794	Northing:	180859		
Depth (m bgl)		Elevation (m OD)		Thickness	Deposit description	Interpretation	Facies
Top	Base	Top	Base				
0.00	0.50	5.80	5.30	0.50	Concrete	Modern surface	5

0.50	1.50	5.30	4.30	1.00	Brown loamy gravel, occasional brick and stone pieces	Modern brick rubble	
1.50	2.20	4.30	3.60	0.70	Coarse sands and gravels	River Terrace Gravels	2
2.20	3.75	3.60	2.05	1.55	Stiff bluish grey clay	London Clay	1

Kings College Quad KGQ14 BH3							
OD height:	5.2	Easting:	530810		Northing:	180826	
Depth (m bgl)		Elevation (m OD)		Thickness	Deposit description	Interpretation	Facies
Top	Base	Top	Base				
0	0.35	5.20	4.85	0.35	Concrete	Modern surface	5
0.35	3.00	4.85	2.20	3.35	Brown grey gritty, frequent red and yellow brick and mortar pieces, matrix supported	Modern brick rubble	
3.00	3.75	2.20	1.45	0.75	Dark brown sandy clay with brick and ash	Foreshore disturbed alluvium	3
3.75	5.30	1.45	-0.10	1.55	Coarse sands and gravels, rare brick ash	Foreshore Gravels	
5.30	5.75	-0.10	-0.55	0.45	Stiff bluish grey clay	Redeposited London Clay	
5.75	6.5	-0.55	-1.30	0.75	Coarse sands and gravels	River Gravels	2
6.50	8	-1.30	-2.80	1.50	Stiff bluish grey clay	London Clay	1

Kings College Quad KGQ14 BH4							
OD height:	5.25	Easting:	530823		Northing:	180808	
Depth (m bgl)		Elevation (m OD)		Thickness	Deposit description	Interpretation	Facies
Top	Base	Top	Base				
0.00	0.40	5.25	4.85	0.40	Concrete	Modern surface	5
0.40	1.65	4.85	3.60	1.25	Sticky sandy silty clay with frequent chalk flecks and small brick	Modern brick rubble	

					fragments		
1.65	2.00	3.60	3.25	0.35	Mid yellowish brown silty medium to coarse sands and small fine gravels	Modern make up	
2.00	3.75	3.25	1.50	1.75	Mid greyish brown gritty silty clay with frequent small CBM fragments and small granular chalk and mortar	Modern make up to foreshore	
3.75	5.20	1.50	0.05	1.45	Wet coarse sand and granular to medium gravels coarse ragstone, abundant CBM rare large animal bone abraded. Getting cleaner from 4.45 smaller more abraded CBM, still large an. Bone @4.60 seems to be blacker and sandier	Historic foreshore	3
5.20	6.20	0.05	-0.95	1.00	Soft dark blue grey sandy, silty clay, occasional gravel		
6.20	8.00	-0.95	-2.75	1.80	Grey sandy gravel	River gravels	2

Kings College Quad KGQ14 ABH1							
OD height:	5.25	Easting:	530821	Northing:	180792		
Depth (m bgl)		Elevation (m OD)		Thickness	Deposit description	Interpretation	Facies

Top	Base	Top	Base				
0.00	0.30	5.25	4.95	0.30	Concrete	Modern surface	
0.30	2.00	4.95	3.25	1.70	Brown grey gritty loam, frequent red and yellow brick and mortar pieces, matrix supported	Modern brick rubble	5
2.00	2.50	3.25	2.75	0.50	Light brownish gravelly clay	Modern make up	
2.50	2.70	2.75	2.55	0.20	Black to dark grey clayey loam friable, fragments of charcoal/brick, SOIL	Possible post-Medieval soil	4
2.70	2.80	2.55	2.45	0.10	Stone and mortar, FOOTING	Brick structure and foundation	5
2.80	3.00	2.45	2.25	0.20	Chalk, white, clean and firm		
3.00	3.49	2.25	1.76	0.49	Stiff chalk and mortar		
3.49	3.50	1.76	1.75	0.01	Thin band of cemented green sand, stiff, REFUSAL	Possible river gravels but relatively high	2

Kings College Quad KGQ14 ABH2							
OD height:	5.25	Easting:	530824		Northing:	180798	
Depth (m bgl)		Elevation (m OD)		Thickness	Deposit description	Interpretation	Facies
Top	Base	Top	Base				
0.00	0.45	5.25	4.80	0.45	Concrete	Modern surface	5
0.45	1.00	4.80	4.25	0.55	Compact light grey mortar with moderate small red brick fragments	Modern brick rubble	
1.00	1.30	4.25	3.95	0.30	Red brick fragments		

1.30	1.7	3.95	3.55	0.40	Dark greyish brown to black ashy clinker with frequent CBM and mortar flecks and fragments <5cm chalk flecks throughout	Victorian made ground
1.70	2.15	3.55	3.10	0.45	Crushed mortar and brick fragments	Demolition rubble
2.15	2.4	3.10	2.85	0.25	Firm mid greyish brown sandy silt with frequent chalk, mortar and red brick fragments and chalk and CBM fragments	
2.40	2.5	2.85	2.75	0.10	Red brick	
2.50	2.75	2.75	2.50	0.25	Black firm organic smelly gritty silty clay with frequent pockets of mortar <5cm in size rare small sub rounded gravels and small chalk fragments	Possible post-medieval make up
2.75	2.8	2.50	2.45	0.05	Loose mid orangey brown medium to coarse sands and fine , medium and coarse sub angular to sub rounded gravels	

2.80	2.95	2.45	2.30	0.15	Black firm organic smelly gritty silty clay with frequent pockets of mortar <5cm in size rare small sub rounded gravels and small chalk fragments		
2.95	3	2.30	2.25	0.05	Crushed mortar and brick fragments		
3.00	3.05	2.25	2.20	0.05	Crushed red brick (backfill)		
3.05	3.3	2.20	1.95	0.25	Firm dark greyish brown gritty silty clay with frequent small chalk fragments		
3.30	3.7	1.95	1.55	0.40	Light whitish grey crushed mortar with small chalk fragments		
3.70	3.8	1.55	1.45	0.10	Wet , hard chalk		
3.80	3.95	1.45	1.30	0.15	Soft dark brownish grey gritty silty clay with frequent large mortar patches		
3.95	4.4	1.30	0.85	0.45	Red brick and bonded mortar	Brick structure (wall, corbing, surface, cellar)	
4.40	4.6	0.85	0.65	0.20	Black medium to coarse sand with rare animal bone and wood fibres	Possible dumping	
4.60	4.65	0.65	0.60	0.05	Light bluish grey silty clay with one nail head	Overbank flood deposit , nail in wash from nearby revetment building	3

4.65	4.7	0.60	0.55	0.05	Black fine to medium sand with fine animal bone fragments from a small terrestrial mammal	Foreshore
4.70	4.85	0.55	0.40	0.15	Black soft firm highly organic silt , layered with slightly fibrous silt not dissimilar to stable sweepings, occasional medium sized oyster fragments <5cm and frequent fish bone in situ (ribs)	
4.85	4.9	0.40	0.35	0.05	Soft light greyish very fine silt, no visible inclusions	Over bank flood deposit, pooled water
4.90	5.2	0.35	0.05	0.30	Compact medium to coarse sand with occasional granular gravels and CBM rare small sub rounded gravels	Historic foreshore
5.20	5.5	0.05	-0.25	0.30	Light brownish grey fine silty sand with x1 corner of Roman tile about 2.5cm in size with occasional small rounded CBM fragments with small rounded chalk fragments	

Kings College Quad KGQ14 ABH3							
OD height:	5.25	Easting:	530825		Northing:	180796	
Depth (m bgl)		Elevation (m OD)		Thickness	Deposit description	Interpretation	Facies
Top	Base	Top	Base				
0.00	0.45	5.25	4.80	0.45	Concrete	Modern surface	5
0.45	0.70	4.80	4.55	0.25	Loose wet gravels	Modern construction fill	
0.70	0.85	4.55	4.40	0.15	Compact grey coarse sand with frequent mortar fragments occasional small CBM fragments and rare fine gravels	Demolished material from previous building	
0.85	1.3	4.40	3.95	0.45	Loose grey coarse sand with frequent mortar fragments occasional small CBM fragments and rare fine gravels		
1.30	1.9	3.95	3.35	0.60	Crumbly very dark brown to black ashy silt with rare oyster fragments fine to small CBM fragments and mortar flecks	Victorian made ground, maybe a surface at one point as feels very slightly soil like	
1.90	2	3.35	3.25	0.10	Friable silty ash with moderate small chalk fragments	Made ground possibly Victorian	5

2.00	2.4	3.25	2.85	0.40	Firm gritty mid brown silty clay with moderate fine mortar and chalk flecks occasional small to medium red brick fragments	Possible post-medieval make up		
2.40	2.8	2.85	2.45	0.40	Loose coarse mid yellowish brown coarse sand with small rounded CBM fragments			
2.80	3.2	2.45	2.05	0.40	fine to medium gravels with frequent medium chalk fragments, brick fragments and occasional small sub rounded gravels			
3.20	3.4	2.05	1.85	0.20	Fine to medium greyish brown sandy silty clay with moderate fine to small sub rounded gravels and rare rounded CBM			
3.40	3.5	1.85	1.75	0.10	Hard chalk			
3.50	3.8	1.75	1.45	0.30	Soft dark grey gritty silty clay with frequent small to medium gravels			Possible structure or demolition layer
3.80	4	1.45	1.25	0.20	red brick white mortar			
4.00	4.8	1.25	0.45	0.80	Loose sediment, wet no	Historic foreshore	3	

					retrieval		
4.80	4.9	0.45	0.35	0.10	Backfill		
4.90	5	0.35	0.25	0.10	Loose black odious medium to coarse sand with large coarse broken flint gravels		
5.00	5.25	0.25	0.00	0.25	Wet loose black medium to coarse sand		
5.25	5.5	0.00	-0.25	0.25	Mid dark grey medium to coarse sand with occasional large sub rounded to rounded flint gravels <5cm and occasional oyster fragments with moderate small rounded CBM fragments		

Kings College Quad KGQ14 ABH4							
OD height:	5.25	Easting:	530826		Northing:	180799	
Depth (m bgl)		Elevation (m OD)		Thickness	Deposit description	Interpretation	Facies
Top	Base	Top	Base				
0.00	0.30	5.25	4.95	0.30	Concrete	Modern surface	5
0.30	0.45	4.95	4.80	0.15	Builders gravel	Modern construction make up	
0.45	0.75	4.80	4.50	0.30	Red brick fragments and grey sandstone fragments and mortar	Demolished material from previous building	

0.75	1.00	4.50	4.25	0.25	Black to dark reddish brown soft loose slightly silty sandy ash and mortar with frequent red brick, occasional small chalk flecks and fragments and rare medium gravels	
1.00	1.65	4.25	3.60	0.65	Firm dark brownish black silty sand / ash with frequent small pebbles , mortar fragments and small red brick fragments	Victorian made ground
1.65	2.40	3.60	2.85	0.75	Firm dark brown silty sandy clay with abundant CBM fragments and chalk flecks throughout	Victorian made ground
2.40	3.15	2.85	2.10	0.75	Very dark brown gritty silty clay with moderate CBM and mortar fragments	Post medieval made ground
3.15	3.25	2.10	2.00	0.10	Loose light yellowish grey mortar	
3.25	3.35	2.00	1.90	0.10	Loose chalk fragments in filled with mortar	
3.35	3.70	1.90	1.55	0.35	Black coarse sandy silty clay with rare granular gravels and occasional chalk flecks	

3.70	4.70	1.55	0.55	1.00	Light grey mortar with occasional fragments of ~5cm brick and some chalk fragments from 4m		
4.70	5.00	0.55	0.25	0.30	Black coarse sand with granular to small gravels one large flint cobble	Foreshore	3
5.00	5.10	0.25	0.15	0.10	Loose wet grey coarse sandy fine gravel	Backfill	
5.10	5.50	0.15	-0.25	0.40	Compact black sand with occasional medium to coarse sub rounded to rounded gravels some abraded Roman looking CBM	Historic foreshore	

Kings College Quad KGQ14 ABH5							
OD height:	5.25	Easting:	530828		Northing:	180799	
Depth (m bgl)		Elevation (m OD)		Thickness	Deposit description	Interpretation	Facies
Top	Base	Top	Base				
0.00	0.37	5.25	4.88	0.37	Concrete	Modern surface	5
0.37	0.62	4.88	4.63	0.25	Light greyish yellow builders sand	Modern construction make up	
0.62	1.40	4.63	3.85	0.78	Very dark greyish brown to black loose gritty silt with frequent chalk fragments , flint gravels and small CBM fragments	Post medieval demolition debris/make up	

1.40	1.70	3.85	3.55	0.30	Light greyish white mortar occasional large limestone fragments	
1.70	2.00	3.55	3.25	0.30	Crushed sticky red brick	
2.00	2.20	3.25	3.05	0.20	Large hard crystalline stone fragments in filled with coarse grey sand	
2.20	2.30	3.05	2.95	0.10	Chalk	
2.30	3.00	2.95	2.25	0.70	Firm mid greyish brown sandy clay with frequent granular to medium red brick fragments mortar and chalk flecks and occasional coarse sub rounded gravels	Post medieval make up
3.00	3.30	2.25	1.95	0.30	Red brick crushed mortar	
3.30	3.90	1.95	1.35	0.60	Very dark greyish brown to black sandy silty clay with moderate medium gravels , pockets of yellow mortar and chalk fragments	
3.90	4.00	1.35	1.25	0.10	Light whitish grey crushed mortar	

4.00	4.20	1.25	1.05	0.20	Black gritty silty clay with frequent small red brick		
4.20	4.40	1.05	0.85	0.20	Wet crushed chalk and light greyish white mortar	Possible structure or demolition deposit	
4.40	4.60	0.85	0.65	0.20	Soft wet coarse sand and crushed mortar		
4.60	4.64	0.65	0.61	0.04	Chalk fragment		
4.64	5.00	0.61	0.25	0.36	Coarse black sand , rare abandoned small CBM fragments , frequent granular to small gravels and rare fine rounded chalk flecks	Historic foreshore	3
Drilling stopped at 5.00m bgl (dense gravels)							

Kings College Quad KGQ14 ABH6							
OD height:	5.25	Easting:	530830		Northing:	180801	
Depth (m bgl)		Elevation (m OD)		Thickness	Deposit description	Interpretation	Facies
Top	Base	Top	Base				
0.00	0.30	0.00	-0.30	0.30	Concrete	Modern surface	5
0.30	1.10	-0.30	-1.10	0.80	Sand, occasional medium rounded gravel, occasional brick red	Modern make up	
1.10	1.25	-1.10	-1.25	0.15	Wet grey sandy gravel, occasional brick	Possible post medieval make up	
1.25	1.50	-1.25	-1.50	0.25	Dry grey sandy gravel, occasional brick		

1.50	1.70	-1.50	-1.70	0.20	Dark brown soil loam, occasional brick fragments, REFUSAL		
------	------	-------	-------	------	---	--	--

Kings College Quad KGQ14 ABH7							
OD height:	5.25	Easting:	530826		Northing:	180797	
Depth (m bgl)		Elevation (m OD)		Thickness	Deposit description	Interpretation	Facies
Top	Base	Top	Base				
0.00	0.50	5.25	4.75	0.50	Concrete	Modern surface	5
0.50	1.00	4.75	4.25	0.50	Sandy clay, rare/occasional gravel, occasional brick, REFUSAL	Possible post medieval make up	

Kings College Quad KGQ14 ABH8							
OD height:	5.25	Easting:	530826		Northing:	180797	
Depth (m bgl)		Elevation (m OD)		Thickness	Deposit description	Interpretation	Facies
Top	Base	Top	Base				
0.00	0.38	5.25	4.87	0.38	Concrete	Modern surface	5
0.38	0.58	4.87	4.67	0.20	Brick rubble, loose pink half bricks and mortar	Modern construction debris	
0.58	0.80	4.67	4.45	0.22	Loose light grey sandy mortar	Modern construction debris associated with construction of building	
0.80	1.00	4.45	4.25	0.20	Loose blacks sandy ash with occasional 3-5cm red brick fragments	Possible Victorian make up	

1.00	1.95	4.25	3.30	0.95	Loose mid brownish grey silty sandy mortar with frequent small and medium brick fragments	Possible demolition layer
1.95	2.05	3.30	3.20	0.10	Loose degraded chalk	
2.05	2.70	3.20	2.55	0.65	Loose greyish pink mortar, brick and chalk fragments, rare coarse flint	Possible post medieval make up
2.70	3.00	2.55	2.25	0.30	Compact dark greyish brown to black fine sandy silt with occasional fine gravels and chalk flecks	
3.00	4.00	2.25	1.25	1.00	Compact dark brownish grey – black sandy silt with frequent granular chalk flecks and pinkish red brick fragments	
4.00	4.50	1.25	0.75	0.50	Loose light whitish grey wet coarse sand and crushed mortar	Possible structural remains of demolition deposit
4.50	4.60	0.75	0.65	0.10	Loose reddish pink medium brick fragments, white grey mortar infill	Possible structural remains of demolition deposit

4.60	5.40	0.65	-0.15	0.80	Loose black coarse sands and granular gravels, becoming compact from 5m but nearer gauge of drill)	Historic foreshore	3
5.40	5.50	-0.15	-0.25	0.10	Black smelly organic medium – coarse sand with moderate medium sub rounded gravels		
Drill refused at 5.50 m BGL (dense gravel)							

- 3.3.2 A transect showing the sub surface deposits encountered within a representative selection of the boreholes and window samples is given in Fig 10. In addition a digital elevation model of the surface of the basal geology (Pleistocene gravels) is given in Fig 11 and represents the early Holocene topography.
- 3.3.3 Facies 1 and facies 2 – represent the basal geology. BH2 was the northern-most borehole monitored and recorded Pleistocene gravels from 4.30m OD with the underlying London Clay (an Eocene marine deposit) encountered at 3.60m OD. These levels are likely to increase in elevation towards the north of the site and the rising Taplow Gravel terrace (a Pleistocene glacial deposit). The reduction of the surface elevation of this facies moving southwards across the site from BH2 is evident in Fig 10, dropping as it approaches the modern River Thames (c. -1m OD in BH4). ABH1 does record the possible gravel surface to the south of the site at a higher elevation but as only a minimal amount was retrieved this data cannot wholly be relied upon due to the levels close association with possible remains of River Wall structure. The surface of this facies represents the likely topographic surface at the start of the early Holocene. The surface closer to the River Thames in the south of the site were possibly subject to greater natural erosion or anthropogenic disturbance as result of the construction of the historic river wall and therefore may not be as reliable. The level of the surface to the south of the site suggests that it was only dry land prior to the Neolithic. However, the rising surface to the north would have remained dry for much of prehistory but has been subject to significant historic disturbance.
- 3.3.4 Facies 3 – is a grouping of varied lithology. On the whole, deposits are coarse grained with rare to frequent anthropogenic input, indicating varied degrees of refuse dumping and subsequent foreshore reworking. In some instances the deposits suggest less anthropogenic input and relatively unsullied foreshore gravels to minerogenic mudflat deposits, but these are rare and very thin (0.65 to 0.60 m OD and 0.40 to 0.35 m OD, ABH2). The foreshore deposits included little or no natural organic deposits and as such are likely to be of a post Mesolithic date. A Roman tile was recorded in foreshore deposits at c 0m OD (ABH2). However, on the whole the majority of inclusions appear to be of a later date. Any historic finds located in the deposits are likely to part of intermittent rubbish dumping and subject to later reworking by the river. As can be seen from the transect (Fig 10) the deposits generally appear to thin out towards the south and the modern river but the thickness does vary.
- 3.3.5 Facies 4 – represents localised deposits within facies 5, potentially being historic soils that formed as the ground raising represented by facies 5 ceased. Predominantly organic in nature they are recorded at varying heights (2.75m OD ABH1 and 3.95m OD ABH3). These deposits are likely to be post-Medieval to Victorian in date.
- 3.3.6 Facies 5 - is a varied unit on the whole representing purposive dumping in order to raise ground levels. These deposits consist of sandy clays to sandy gravels and include ash fill, brick and demolition rubble. They are of a post medieval to modern date.

- 3.3.7 Potential River Wall Structure – a number of the window samples to the south of the site recorded stone and mortar work associated with a possible chalk foundation or chalk setting at 1.3m OD (ABH2), 1.85m OD (ABH3), 1.05m OD (ABH5) and 1.25m OD (ABH8). However, only ABH1 shows any real potential for evidence of the historic river wall, as the deposits in the other boreholes do not appear to be substantial enough to represent a river wall.

3.4 Significance of the results

- 3.4.1 The prehistoric landscape was likely situated within the River Thames or towards its edge in the south of the site moving towards the higher ground of the terrace to the north. There may be some chance of prehistoric finds on the un-truncated surface of the gravels. However, the gravel surface to the south would have been eroded and disturbed by fluvial action indicating that any chance pre historic finds would not be in *situ*. To the north of the site the gravel surface is overlain by made ground and likely truncated by post medieval construction work. The prehistoric potential and significance of the deposits is very low.
- 3.4.2 The localised bands of natural alluvium within the foreshore deposits have a moderate potential to record evidence of the hydrology and environment of the time. These deposits are of a Roman to post medieval date but their minimal thickness will have recorded any hydrological or environmental changes over only short and disjointed periods. As such there is significance is considered to be moderate.
- The coarse grained foreshore deposits with anthropogenic inclusions are unlikely to record well preserved or undisturbed environmental evidence and any finds within the deposits are likely to be eroded/abraded and no longer in *situ*.
- 3.4.3 The most significant remains on the site is the masonry structure that could indicate the historic River Wall, on the south side of the site. The remains, depending on their level of survival could be of high significance and may be required by the local planning authority to be preserved in *situ*.

3.5 Assessment of the evaluation

- 3.5.1 GLAAS guidelines (English Heritage, 1998) require an assessment of the success of the evaluation 'in order to illustrate what level of confidence can be placed on the information which will provide the basis of the mitigation strategy'. In the case of the site the location and spread of the test pits and archaeological boreholes (ABHs) indicates a high level of confidence in the information obtained during the evaluation.

4 Proposed development impact and recommendations

- 4.1.1 Demolition of 152–158 the Strand (known collectively as The Old Law Building) and the 1950s' Quadrangle Building is proposed, to be replaced by new buildings on a similar footprint providing a mixture of teaching spaces, study areas, large common space/circulation areas and a cafe. Three levels of basement are proposed beneath The Old Law Building and one additional levels of basements are proposed at the north end of the Quadrangle. The 1960s' Strand Building would be refurbished at the existing basement lecture theatre levels. The scheme would include the opening up of the vaults at the southern end of the site to improve the Embankment Entrance, and the re-use of the pavement vaults to the front of 152–158 the Strand. Piling is proposed at the south end of the Quadrangle.
- 4.1.2 It is suggested that, as a further mitigation strategy, that further evaluation work on the south side of the site be carried out. This would involve a targeted evaluation trench or series of test pits, to confirm the presence, nature, and age of the potential "River wall" structure as well as the historic foreshore that were defined by the archaeological bore holes. The results of the second phase of evaluation would help to inform the piling layout in order to reduce the archaeological impact. A watching brief during demolition may also be required.
-

5 Summary of finds

5.1.1 No finds were recovered from the evaluation.

6 Planning framework

6.1 Statutory protection

Planning (Listed Buildings and Conservation Areas) Act 1990

- 6.1.1 The Act sets out the legal requirements for the control of development and alterations which affect buildings, including those which are listed or in conservation areas. Buildings which are listed or which lie within a conservation area are protected by law. Grade I are buildings of exceptional interest. Grade II* are particularly significant buildings of more than special interest. Grade II are buildings of special interest, which warrant every effort being made to preserve them.

Human remains

- 6.1.2 Development affecting any former burial ground is regulated by statute, principally the *Burial Act 1857*, the *Disused Burial Grounds Act 1884* and 1981, and the *Pastoral Measure 1983*.
- 6.1.3 The exhumation of any human remains requires approval from either the Secretary of State or the Church of England, depending on the current location of the remains. Exhumations from land which is subject to the Church of England's jurisdiction will need the Church's authorisation (a Faculty or the approval of a proposal under the *Care of Cathedrals Measure 2011*). This includes consecrated ground in cemeteries.
- 6.1.4 Exhumations from land which is not subject to the Church of England's jurisdiction will need a licence from the Secretary of State, under Section 25 of the *Burial Act 1857* as amended by the *Church of England (Miscellaneous Provisions) Measure 2014*. A Burial Licence is required from the Secretary of State if the remains are not intended for reburial in consecrated ground (or if this is to be delayed - for example where archaeological or scientific analysis takes place first).
- 6.1.5 Under the *Town and Country Planning (Churches, Places of Religious Worship and Burial Grounds) Regulations 1930*, the removal and re-interment of human remains should be in accordance with the direction of the local Environmental Health Officer.

6.2 National Planning Policy Framework

- 6.2.1 The Government issued the National Planning Policy Framework (NPPF) in March 2012 (DCLG 2012). One of the 12 core principles that underpin both plan-making and decision-taking within the framework is to 'conserve heritage assets in a manner appropriate to their significance, so that they can be enjoyed for their contribution to the quality of life of this and future generations' (DCLG 2012 para 17). It recognises that heritage assets are an irreplaceable resource (para 126), and requires the significance of heritage assets to be considered in the planning process, whether designated or not. The contribution of setting to asset significance needs to be taken into account (para 128). The NPPF encourages early engagement (i.e. pre-application) as this has significant potential to improve the efficiency and effectiveness of a planning application and can lead to better outcomes for the local community (para 188).

- 6.2.2 NPPF Section 12: Conserving and enhancing the historic environment, is produced in full below:

Para 126. Local planning authorities should set out in their Local Plan a positive strategy for the conservation and enjoyment of the historic environment, including heritage assets most at risk through neglect, decay or other threats. In doing so, they should recognise that heritage assets are an irreplaceable resource and conserve them in a manner appropriate to their significance. In developing this strategy, local planning authorities should take into account:

- the desirability of sustaining and enhancing the significance of heritage assets and putting them to viable uses consistent with their conservation;
 - the wider social, cultural, economic and environmental benefits that conservation of the historic environment can bring;
-

- the desirability of new development making a positive contribution to local character and distinctiveness; and
- opportunities to draw on the contribution made by the historic environment to the character of a place.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

Para 140. Local planning authorities should assess whether the benefits of a proposal for enabling development, which would otherwise conflict with planning policies but which would secure the future conservation of a heritage asset, outweigh the disbenefits of departing from those policies.

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

6.3 Greater London regional policy

The London Plan

6.3.1 The overarching strategies and policies for the whole of the Greater London area are contained within the London Plan of the Greater London Authority (GLA July 2011). Policy 7.8 relates to Heritage Assets and Archaeology:

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

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

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

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

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

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

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

6.4 Local planning policy

6.4.1 Westminster's planning policy framework is currently moving from a Unitary Development Plan based system to a Local Development Framework (LDF). The current statutory 'development plan' for Westminster is the 'saved' Unitary Development Plan (UDP) and the Mayor of London's London Plan. Planning applications must be determined in accordance with the development plan for Westminster, unless material considerations suggest otherwise.

6.4.2 The City of Westminster's UDP was approved on the 24th January 2007. The UDP will eventually be replaced by the LDF under the planning system introduced by the Planning and Compulsory Purchase Act 2004. A Direction of the Secretary of State permitted the extension of certain policies after the UDP expired on the 24th of January 2010 (City of Westminster website). These 'saved' policies include DES 11, which applies to archaeology, and adheres to the principles of NPPF (see above):

Policy DES 11: Scheduled Ancient Monuments, Areas and Sites of Archaeological Priority and Potential

Para 10.147 To identify archaeological remains of national and local importance, conserve them in their settings, and provide public access to them. Where new development is proposed on sites of archaeological potential, to ensure adequate archaeological impact assessment, followed by appropriate provision for preservation or investigation, recording, and publication.

(A) Scheduled Ancient Monuments

Permission for proposals affecting the following Scheduled Ancient Monuments, or their settings, will be granted providing that their archaeological value and interest is preserved:

1. The Chapter House and Pyx Chamber in the Cloisters, Westminster Abbey;
2. The Jewel Tower.

(B) Areas of Special Archaeological Priority and Potential

Permission will be granted for developments where, in order of priority:

1. all archaeological remains of national importance are preserved in situ;
2. remains of local archaeological value are properly recorded, evaluated and, where practicable, preserved in situ;
3. if the preservation of archaeological remains in situ is inappropriate, provision is made for full investigation, recording and an appropriate level of publication by a reputable investigating body.

Para 10.148 There are three categories of archaeological remains. In order of importance they are:

1. Scheduled Ancient Monuments:

Nationally important remains which are Scheduled under the Ancient Monuments and Archaeological Areas Act 1979

2. Areas of Special Archaeological Priority:

Areas rich in archaeological remains, where ground works are likely to reveal archaeological remains

3. Sites of Archaeological Significance and Potential:

Areas where archaeological remains are known or thought likely to exist.

Para 10.149 These locations are listed in the Sites and Monuments Record maintained by English Heritage. The Areas of Special Archaeological Priority are Lundenwic and Thorney Island; Paddington and Lillystone Villages; Marylebone Village; Tyburn Settlement and Ebury Village. The archaeological data produced by the Museum of London and English Heritage provide more detailed information, including further sites and areas of archaeological significance and potential within Westminster. Areas of Special Archaeological Priority are illustrated on maps 10.3-10.7. Information on these and other sites of archaeological priority and potential are available from the Greater London sites and monuments record maintained by English Heritage.

Para 10.150 In considering applications for development of land with archaeological potential, the City Council will require an archaeological assessment detailing the potential impact of development upon surviving archaeological remains. Should archaeological evaluation and investigations be required, it must be undertaken in accordance with a written scheme of investigation approved by the City Council. The Greater London Archaeology Advisory Service

provides guidance papers detailing these procedures. With respect to policy DES 11 B (3), investigation may include a watching brief and, or, a full excavation.

Para 10.151 The City Council will seek professional archaeological advice as appropriate and will encourage applicants proposing development to do the same. Where development may affect land of archaeological priority or potential, the City Council will expect applicants to have properly assessed and planned for the archaeological implications of their proposals. In this way the Council and the applicant will have sufficient information upon which an informed planning decision, incorporating appropriate archaeological safeguards, may be based. Such safeguards normally consist of design measures to ensure the permanent preservation of archaeological remains in situ or, where that is not appropriate, archaeological rescue investigations in advance of development. The results and finds from archaeological investigations also need to be analysed, interpreted, presented to the public and curated for future use. Attention is drawn to the advice contained within the Code of Practice prepared by the British Archaeologists' and Developers Liaison Group.

Para 10.152 Archaeological remains are important evidence of the City's past and are a valuable historical, educational and tourist resource. They are finite and fragile; once lost, they cannot be recovered. The City Council considers that the archaeology of Westminster is a national as well as a local asset and that its preservation is a legitimate objective, against which the needs of development must be carefully balanced and assessed. The destruction of such remains should be avoided wherever possible and should never take place without prior archaeological excavation and record.

Para 10.153 The most important archaeological remains are scheduled and are protected under the Ancient Monuments and Archaeological Areas Act 1979. Where works to such sites and their setting are proposed, including repair, Scheduled Ancient Monument Consent is required.

Para 10.154 The London Plan states at Policy 4.C.10 that boroughs "should give careful consideration to the relationship between new development and the historic environment including archaeological areas, including tidal foreshores...". National planning guidance is set out in PPG16: Archaeology and Planning, issued in November 1990.

Para 10.155 The preservation of Westminster's archaeological heritage is a material planning consideration and applicants will need to show that proposed development is compatible with the objectives of the City Council's archaeological policy. The Council will wish to implement that policy under relevant legislation and statutory guidance and by means of legal agreements and planning conditions.

6.4.3 Westminster City Council's Core Strategy was adopted on the 26th January 2011 (City of Westminster website), and includes the following on heritage:

Policy CS24: Heritage Westminster's heritage assets will be preserved and enhanced, including its listed buildings, conservation areas, the World Heritage Site, historic parks, squares, gardens and other open spaces, and its archaeological heritage. Historic and other important buildings should be upgraded sensitively, to improve their environmental performance and make them easily accessible.

7 Bibliography

- ACAO, 1993 *Model briefs and specifications for archaeological assessments and field evaluations*, Association of County Archaeological Officers
- Archaeological Archive Forum, 2011 *Archaeological Archives: a guide to best practice in creation, compilation transfer and curation*
- BADLG, 1991 *Code of Practice*, British Archaeologists and Developers Liaison Group
- Basil-Holmes (Mrs) 1896 *London Burial Grounds: Notes on their history from the earliest times to the present*
- Chartered Institute for Archaeologists, (CIFA), 2013 *By-Laws, Standards and Policy Statements of the Chartered Institute for Archaeologists, Standards and guidance*
- DCLG [Department of Communities and Local Government], March 2012 *National Planning Policy Framework*.
- DCLG [Department of Communities and Local Government], EH [English Heritage] & DCMS [Department for Culture, Media and Sport], March 2010 *PPS5 Planning for the Historic Environment: Historic Environment Planning Practice Guide*.
- Disused Burial Grounds (Amendment) Act 1981
- English Heritage 2008 *SHAPE 2008: A Strategic framework for Historic environment Activities and Programmes in English Heritage. Guidance for external grant applicants*. Swindon English Heritage.
- GLA [Greater London Authority], July 2011 *The London Plan. Spatial Development Strategy for Greater London*.
- Greater London Archaeology Advisory Service, 2009: *Standards for Archaeological Work London Region, External Consultation*.
- MOLA 2014 *New Academic Building and Learning Commons at the Strand Campus: Planning Application: Historic Environment Assessment*
- Museum of London, 1994 *Archaeological Site Manual 3rd edition*
- Museum of London, 2002 *A research framework for London archaeology 2002*
- Museum of London, 2009 *General Standards for the preparation of archaeological archives deposited with the Museum of London*
- Museums and Galleries Commission (1992) *Standards in the Museum Care of Archaeological Collections*.
- Society of Museum Archaeologists (1993) *Selection, Retention and Dispersal of Archaeological Collections. Guidelines for use in England, Wales and Northern Ireland*.
- Society of Museum Archaeologists (1995) *Towards an Accessible Archive. The Transfer of Archaeological Archives to Museums: Guidelines for Use in England, Northern Ireland, Scotland and Wales*.
- Standing Conference of Archaeological Unit Managers, 1991 revised 1997 *Health and Safety in Field Archaeology, Manual*
- Stow, J 1606 *Survey of London*
- Thornbury, W 1878 *Old and New London: Volume 3*
- Treasure Act 1996 *Code of Practice (2nd Revision)* 1996, DCMS
- Treasure (Designation) Order 2002, TSO

8 NMR OASIS archaeological report form

8.1 OASIS ID: molas1-204453

Project details

Project name	Quad Building (Kings College London), The Strand, London, WC2R
Short description of the project	Seven evaluation pits were excavated in the basement of the building. In addition a borehole transect and window sampling was undertaken. Natural gravels at the northern end of the site were truncated by the current/previous development on the site, evidenced by brick foundation walls. At the southern end of the site, the gravels were recorded 5.2m below ground level, overlain by foreshore deposits. Above the foreshore deposits, up to 4.2m of post-medieval dumping deposits was recorded. One of the boreholes and three of the window samples recorded the possible remains of a wall comprising stone, chalk, mortar and a thin layer of cemented green sand, at 2.7m below ground level and may indicate the east-west medieval and or later Thames river wall.
Project dates	Start: 15-12-2014 End: 19-12-2014
Previous/future work	No / Yes
Any associated project reference codes	KGQ14 - Sitecode
Type of project	Field evaluation
Site status	Area of Archaeological Importance (AAI)
Site status	Conservation Area
Current Land use	Other 2 - In use as a building
Monument type	CHALK WALL Medieval
Monument type	STONE WALL Medieval
Monument type	STONE WALL Post Medieval
Methods & techniques	"Augering", "Environmental Sampling", "Targeted Trenches"
Development type	Public building (e.g. school, church, hospital, medical centre, law courts etc.)
Prompt	Planning condition
Position in the planning process	After full determination (eg. As a condition)

Project location

Country	England
Site location	GREATER LONDON CITY OF WESTMINSTER CITY OF WESTMINSTER Quad Building (Kings College London), The Strand, London
Postcode	WC2R
Study area	2750.00 Square metres

Site coordinates TQ 30799 80854 51.510956026 -0.114923707046 51 30 39 N 000 06 53 W Point

Height OD / Depth Min: -0.26m Max: 5.54m

Project creators

Name of Organisation	MOLA
Project brief originator	MOLA project manager
Project design originator	Laura O Gorman
Project director/manager	Laura O'Gorman
Project supervisor	Jonathan Hutchings
Type of sponsor/funding body	Kings College London
Name of sponsor/funding body	Kings College London

Project archives

Physical Archive Exists?	No
Digital Archive recipient	LAARC
Digital Archive ID	KGC14
Digital Media available	"Images raster / digital photography","Survey","Text"
Paper Archive recipient	LAARC
Paper Archive ID	KGC14
Paper Media available	"Context sheet","Diary","Drawing","Report","Section","Unpublished Text"

Project bibliography 1

Publication type	Grey literature (unpublished document/manuscript)
Title	Quad Building, (Kings College London), The Strand, London WC2R: An archaeological evaluation report
Author(s)/Editor(s)	Askew, P
Date	2015
Issuer or publisher	MOLA
Place of issue or publication	48 Eagle Wharf Road, London. E1 7ED

Description A4 paper report

Entered by Portia Askew (paskew@mola.org.uk)

Entered on 20 February 2015



Fig 1 Site location



Fig 2 Evaluation trench and borehole location



Fig 3 Photograph of evaluation trench 1 showing the remains of part of early Victorian wall, relating to the building that predated the present one (looking north)



Fig 4 Photograph of evaluation trench 2 showing natural gravel (looking east)



Fig 5 Photograph of evaluation trench 3 showing the remains of a medieval chalk wall foundation at the bottom of the picture (looking north)



Fig 5 Photograph of evaluation trench 4 showing demolition rubble relating to the building that preceded the present one (looking north)



Fig 7 Photograph of evaluation trench 5 showing 20th-century ground beam at the base of the trench (looking north)



Fig 8 Photograph of evaluation trench 6 (looking west)



Fig 9 Photograph of evaluation trench 9 showing part of a brick wall foundation of the previous building

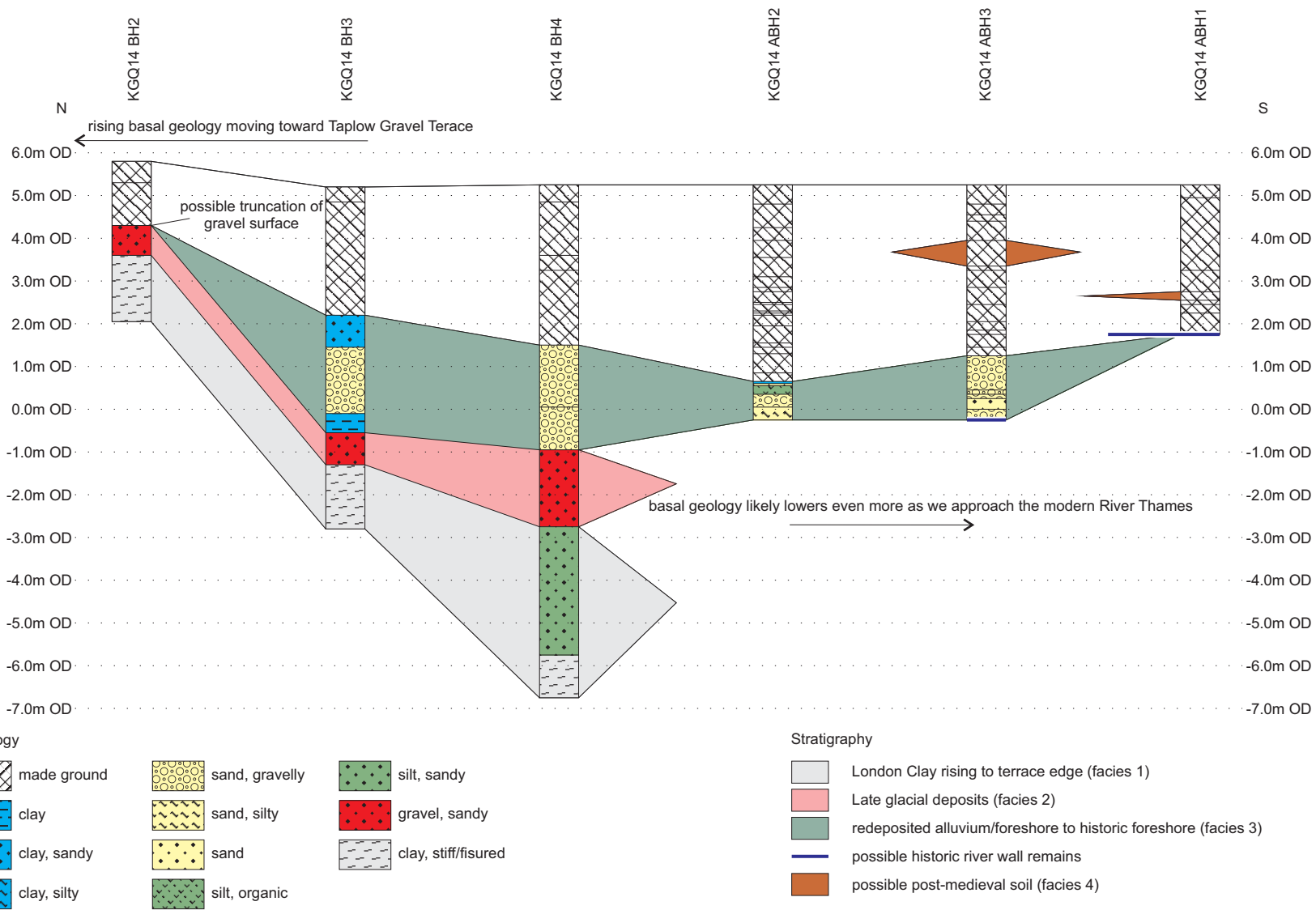


Fig 10 Borehole transect

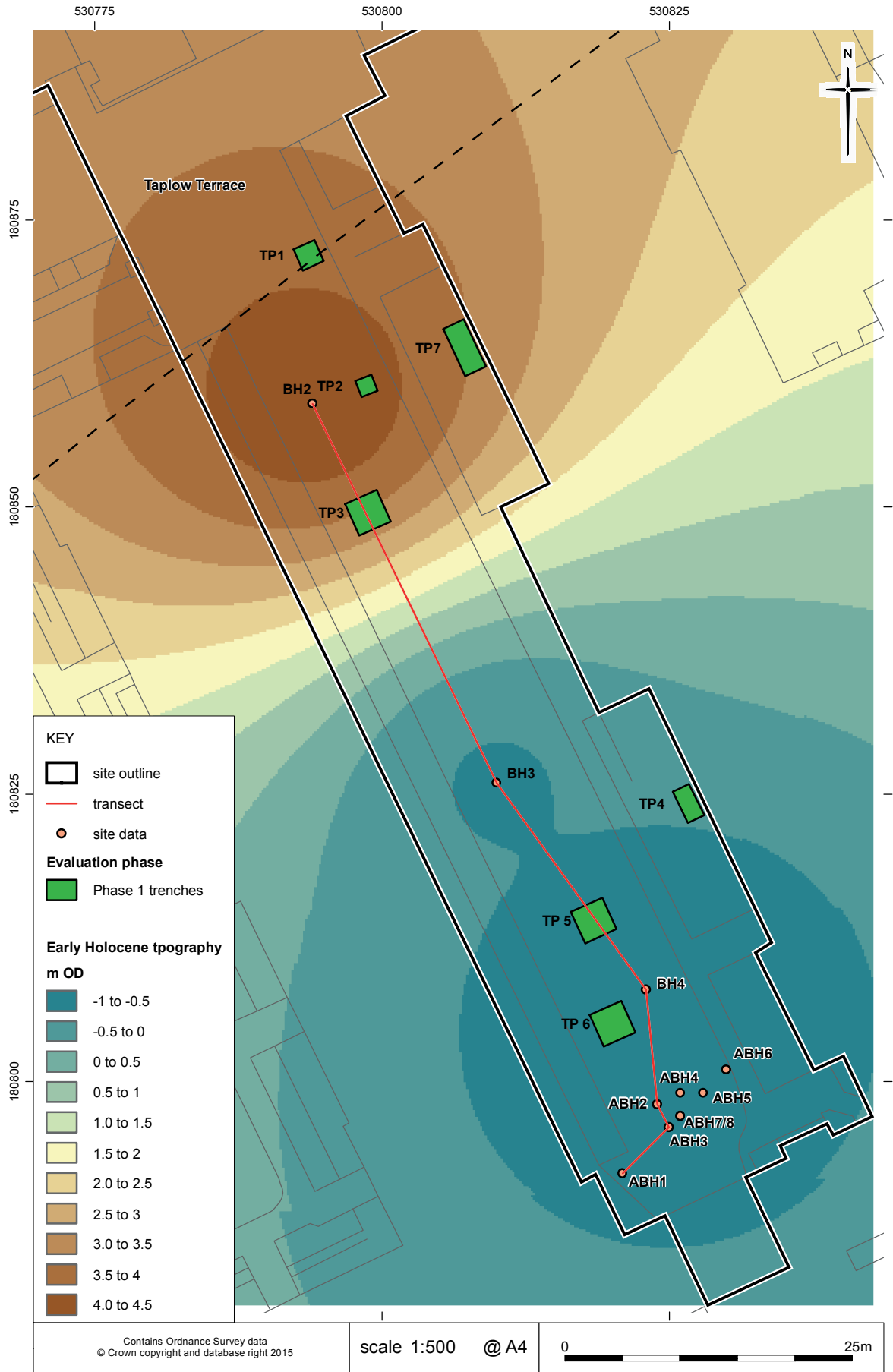


Fig 11 Early Holocen Topography