



Foreshore-based Archaeological Evaluation report

**Site 21: King Edward Memorial Park
Foreshore (KEMPF)**

TTK14

Thames Tideway Tunnel

Foreshore-based Archaeological Evaluation Report King Edward Memorial Park Foreshore (KEMPF)

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Thames Tideway Tunnel

Foreshore-based Archaeological Evaluation Report King Edward Memorial Park Foreshore (KEMPF)

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Executive summary

- EX 1.1 This report was commissioned from Wessex Archaeology by Atkins on behalf of Thames Tideway Tunnel Ltd. It presents the results of a foreshore-based archaeological evaluation carried out by Wessex Archaeology at King Edward Memorial Park Foreshore (KEMPF), a Thames Tideway Tunnel project site. The evaluation included: parametric sonar survey, targeted walkover survey, hand augering, geoarchaeological and palaeoenvironmental assessment, and the production of a foreshore deposit model. The report also takes account of data from previous investigations on the Site and its surroundings, including the results of gap analysis on bathymetric survey data (Wessex Archaeology 2013); geotechnical and historic borehole data (Appendix A.4); and information and drawings collated for the Environmental Statement (TTT 2013).
- EX 1.2 The PS survey suggests that there is a significant depth of deposits on the foreshore overlying the London Clay, which appeared to lay beyond the penetration depth of the survey equipment (**Figure 2**); this interpretation is supported by historic borehole data. No specific individual sub-river features or riverbed features potential were mapped within the Site. However, just outside and southwest of the Site a feature was identified that could be the silted-up channel to the Shadwell Basin (a known later medieval and post-medieval shipyard). This is significant as it suggests that dredging may not have affected potential archaeological survival within the Site.
- EX 1.3 The targeted walkover survey was successful in identifying a variety of *in situ* timber structures on the foreshore of the Site; importantly many of these were previously unknown and so are new assets (**Figures 3-4**). Although the date of many of these is probably post-medieval, the newly recorded assets are presently undated. These structures include a well preserved barge bed with an associated timber revetment in the central foreshore; a possible timber jetty/slipway associated with an outlet in the west of the Site; and further possible structures in the east, including a probable jetty extending into the river. At least one possible ship's timber was identified although – given the proximity of the Site to Shadwell Basin – others are likely to be re-used in such structures. All of the identified timber structures will be directly impacted by the construction of the proposed foreshore CSO structure.
- EX 1.4 A range of unstratified finds (108 in total) were also recovered during the walkover survey. Most of the dateable artefacts recovered were post-medieval in date, with the exception of three sherds of Romano-British pottery and a single piece of prehistoric worked flint. This fits with the known artefacts previously recorded from the vicinity of the Site from the Greater London Historic Environment Record.
- EX 1.5 Due to the high concentration of magnetic anomalies revealed by the client's Unexploded Ordnance Survey (UXO) survey, penetrative data for the foreshore at KEMPF was very limited. No vibrocores were taken by the

TTT project for this site, nor was mechanical coring carried out during the evaluation. Hand augering was deemed to be safe to proceed, and was completed with limited success due to the stony active beach deposits.

- EX 1.6 Using available data (Appendix A.4), a geoarchaeological deposit model has been prepared for the Site. Four landscape zones were predicted (LZ1, LZ2, LZ3 and LZ4; see **Table 4.3**). Surface active beach deposits which exist across the foreshore (LZ1; up to 0.7m thick) overlie alluvium (LZ2; 0.8-1.7m thick) apart from in the southwest corner of the Site where river scour has removed the alluvium. Organic deposits of peat, silts and clays (LZ3; up to a maximum of 5m deep) are shown to underlie the alluvium in the west of the Site. Underlying river gravels (LZ4; 1.4m to 4m in thickness) are mapped across the foreshore above the London Clay.
- EX 1.7 Although the potential deeply buried deposit sequence could not be physically sampled during this evaluation and the precise date of the deposits is therefore uncertain, it is likely based on the known evidence within the vicinity, such as remains of a prehistoric forest located c.50m to the west of the Site in Shadwell Basin, that the organic deposits and alluvium could contain preserved organic prehistoric remains.
- EX 1.8 The evaluation concludes that the Site has an overall **Moderate** potential for the survival of archaeological remains, and that these are likely to be of **Medium High to High** significance to the identified research aims (OAWSI section 4). This concurs with levels anticipated in the initial assessment of archaeological potential set out in the Environmental Statement.
- EX 1.9 The alluvium and organic deposits appear to have only have been impacted by river scour in limited areas, and there is no evidence of dredging or significant modern development within the Site that may have affected predicted archaeological survival.
- EX 1.10 Overall it is concluded that the proposed development would have a direct impact on surviving archaeological remains or deposits, in relation to probable post-medieval *in situ* timber structures identified on the foreshore. The proposals would also have a major adverse effect on any surviving earlier remains (particularly prehistoric organic remains) buried within the predicted deep deposit sequence.
- EX 1.11 It is recommended that targeted archaeological investigation, including environmental sampling, should record *in situ* identified probable post-medieval assets (of varying low to high significance), as well as any earlier prehistoric remains (medium to high significance) that may survive within the deeper organic deposits and alluvium modelled within the Site. Monitoring of scour effects and implementation of scour protection measures should also be considered.
- EX 1.12 This evaluation has shown the potential significance of the Site to contribute towards the Route-wide Heritage Themes (RWHTs); and the themes which this Site has the potential to augment have been revised in the light of this evaluation. The nature of future interpretation is largely dependent on the results of any mitigation.

1 Introduction

1.1 Purpose of this report

- 1.1.1 The purpose of this evaluation report relating to the King Edward Memorial Park Foreshore (KEMPF) Thames Tideway Tunnel (TTT) project site is:
- a. To present the results of a foreshore-based evaluation, which included: parametric sonar survey, targeted walkover survey, hand augering and geoarchaeological and palaeoenvironmental assessment.
 - b. To provide information on the character, extent, quality, date, preservation and significance of archaeological deposits and/or palaeoenvironmental remains surviving at the Site likely to be affected by the TTT project through assessment of results of the above, and production of a foreshore deposit model.
 - c. To provide conclusions regarding predicted archaeological survival and significance across the Site.
 - d. To assess the significance of the evaluation results within the wider local and regional context and TTT Archaeological Research Framework.
 - e. To outline suitable mitigation options.
- 1.1.2 The above is in accordance with the Site Specific Archaeological Written Scheme of Investigation (SSAWSI; ref.1000-ENV-ZZZZZ-ZZZ-ZZ-RU-100044-P01). This SSAWSI was approved by the London Borough of Tower Hamlets' Archaeological Advisor prior to the start of work on site.
- 1.1.3 This document refers to archaeological approaches and definitions set out in the Overarching Archaeological Written Scheme of Investigation ([OAWSI](#)). The OAWSI forms part of the DCO, and is appended to the Environmental Statement. It sets out the overall mitigation strategy, procedures, standards and techniques to be followed across the Thames Tideway Tunnel project (the 'project').
- 1.1.4 This report is produced for Thames Tideway Tunnel Ltd. and will be submitted to the London Borough of Tower Hamlets. The results of this programme of evaluation works will inform the need for, design of, and programme of further mitigation to be undertaken by the Employer's Archaeological Contractor (EAC) during the Main Works phase of the project.
- 1.1.5 A field evaluation, and the reported results of that exercise, are defined in the most recent English Heritage guidelines (GLAAS 2009 *Standards for Archaeological Work*) as:
- a. An exercise to define archaeological remains rather than to totally remove them.

- b. To assess the presence or absence of archaeological remains their extent, nature quality, date and character in relation to the impact of the proposed development.
- c. To provide a sufficient sample of the area of impact to enable a suitable mitigation strategy to be developed.

1.2 Site location and topography

- 1.2.1 The King Edward Memorial Park Foreshore site, hereafter called ‘the Site’, is located on the northern bank of the River Thames in the London Borough of Tower Hamlets. The Site comprises approximately 2 hectares (centred on National Grid Reference 535585 180688) and is bounded by the park to the north and a block of flats called Free Trade Wharf lie to the northeast. The River Thames bounds the Site to the south-east and Shadwell Activity Centre to the southwest. The western edge of the Glamis Road forms the western boundary of the Site (**Figure 1**).
- 1.2.2 In the northern half of the Site, within the park, the ground slopes gently downwards towards the Thames, from approximately 107.0m Above Tunnel Datumⁱ (ATD) to approximately 105.5m ATD at the riverfront embankment. There is a drop of 3m down into the park from The Highway to the north of the Site, at 110.0m ATD, reflecting the edge of the higher terrace gravels and the Thames floodplain on which the Site is located. There is a drop of approximately 4.5m from the top of the river wall down to the foreshore in the southern half of the Site. The top of the foreshore lies at 100.5m ATD. The lower part of the foreshore lies at approximately 97.0–98.0m ATD. The riverbed dips from 95.5m ATD to 64.0m ATD in the south-west limit of the Site.
- 1.2.3 Full details concerning the geology and topography of the Site can be found in the ES (Vol 21, Section 7).

1.3 Evaluation aims and objectives

- 1.3.1 All archaeological work on the project is considered within the context of the project specific Archaeological Research Framework, included in Appendix B of the OAWSI. The Framework groups together the potential types and classes of heritage assets that might be found at TTT sites and draws on existing archaeological research frameworks and strategies for Greater London, e.g. *A Research Framework for London Archaeology* (MoLA & English Heritage, 2002) and *Greater Thames Estuary Historic Environment Research Framework* (Heppell 2010).
- 1.3.2 For evaluation at the King Edward Memorial Park Foreshore site, the following Route-wide Heritage Themes (RWHTs) within the Archaeological Research Framework are considered relevant:
 - a. Palaeoenvironment and prehistory

ⁱ ATD is equivalent to 100m above Ordnance Datum (aOD)

b. Settlement patterns and boundaries

1.3.3 For the evaluation the following questions were specified in the SSAWSI (Section 2.3):

- a. *What is the topography of the foreshore at present, and how does this change over time (scour, sedimentation etc.)?*
- b. *What is the depositional sequence at the Site?*
- c. *Is there any evidence for the survival of deposits of palaeoenvironmental significance?*
- d. *Is there any evidence of prehistoric to post-medieval activity on the Site?*
- e. *Is there any evidence of later medieval shipbuilding on the Site?*
- f. *Is there any evidence of nautical timbers re-used within later post-medieval structures on the Site?*
- g. *Does evidence survive that may be associated with the construction of extant post-medieval heritage assets (King Edward Memorial Park, Grade II listed slipway or Rotherhithe Tunnel Air Shaft)?*
- h. *What is the character, date, condition and significance of deposits encountered?*
- i. *What is the extent of archaeological survival across the Site?*
- j. *What is the (seasonal) influence of tidal patterns and storm events on the archaeology of the foreshore?*

1.4 Organisation of the report

1.4.1 The report is set out into the following sections:

Section 2: Historical and archaeological background; this provides a brief summary of the potential and significance of the archaeology likely to be encountered on the Site. This is summarised from Section 7, of Vol 21 of the Environmental Statement (ES).

Section 3: Methodology; this sets out the methods used in the evaluation (as defined in the SSAWSI), and quantifies the physical and drawn archive (i.e. numbers of plans and sections and boxes of finds).

Section 4: Results; this presents the results of the evaluation, including the deposit sequence recorded in each vibrocore/augerhole. Additional data is used to demonstrate the relationship between deposits located on the foreshore and those sequences landward of the river wall through deposit modelling. This section also assesses the reliability of the results, noting any constraints encountered.

Section 5: Archaeological potential and significance; this responds to each of the site specific questions identified to guide the evaluation, and how the results contribute to the project wide research themes. This section also discusses the predicted archaeological survival across the Site, and how the results refine the understanding of the significance of the archaeology as previously defined in the ES.

Section 6: Predicted impacts and recommendations; this assesses the impact of the development on the archaeological resource and provides recommendations as to an appropriate mitigation strategy.

2 Historical and archaeological background

2.1 Introduction

- 2.1.1 A desk-based assessment for this Site and its defined study area is reported within Volume 21 (Section 7, and detailed in Appendix E) of the Environmental Statement (ES). The ES should be referred to for detailed information on the archaeological and historical background of the Site and an initial interpretation of its archaeological potential: this information is briefly summarised below.
- 2.1.2 Known historic environment assets (HEA references from the ES) are discussed where relevant in the text below; those indicated in bold (HEA) are shown on **Figure 3**.

2.2 Previous archaeological investigations

- 2.2.1 A number of previous archaeological investigations are known to have occurred within close proximity to the Site, although none within the Site itself. In the 1990s, the Thames Archaeological Survey (TAS) surveyed the adjacent foreshore at Shadwell to the south-west of the Site, and at Ratcliffe to the north-east, and noted mainly post-medieval structural remains and finds (HEA 44-47, 52-54, ES Vol 21 Appendix E). An evaluation to the north-east at Free Trade Wharf, revealed traces of an 18th century dock, 19th century and later river walls, and buildings with basements (HEA 41, ES Vol 21 Appendix E).
- 2.2.2 Further details of past archaeological investigations carried out on the opposite bank of the Thames at Rotherhithe where 17th-19th century waterfront revetments, docks and ship breaking yards are well evidenced and are detailed in ES Vol 21 Appendix E. Details of past investigations inland and north of the Site, including those associated with extensive post-medieval glassworks industry, are also provided in the ES.

2.3 Historical and archaeological context

Prehistoric (500,000 BC – 43 AD)

- 2.3.1 During the early prehistoric period, the Site lay within an area of freshwater pools, streams, marshes and islands on the flood plain within close proximity to the higher river terraces. The remains of a prehistoric forest of probable Mesolithic or Neolithic date, recorded c.50m to the west of the Site in Shadwell Basin (HEA 85, ES Vol 21 Appendix E), indicate that some areas of higher, drier, land existed in the vicinity of the Site. Such areas were subsequently buried beneath alluvium following a rise in water levels from the later prehistoric onwards when the Site would have lain in intertidal marshes. Access to marshland and higher ground could have provided attractive resources as well as a means of communication and transport for prehistoric people. Despite this there are few known prehistoric finds within the ES study area. A pit or posthole discovered

within the park, 25m east of the Site, is recorded as possibly prehistoric (**HEA 19**), although no further details are known. A Neolithic axe was recovered from the Thames, close to the Rotherhithe foreshore (HEA 26, ES Vol 21 Appendix E).

Romano-British (AD 43 – 410)

- 2.3.2 During the Roman period (AD43–410) the Site lay approximately 1.8km to the east of the Roman city and approximately 650m to the south-east of an area of Late Romano-British settlement in Shadwell. Excavations at Tobacco Dock, Shadwell have provided evidence of clay-and-timber buildings, burial activity and a substantial well preserved masonry bath house (Douglas *et al* 2011). The Site lay within low-lying intertidal marshland which was probably frequently flooded. The gravel terrace close to the northern edge of the Site may have been used for farming. The line of an east-west Roman road (**HEA 15**) from *Londinium* to Ratcliffe is thought to have followed the present line of The Highway, just north of the Site. Several roadside cemeteries have been excavated approximately 750m to the north-west of the Site (outside the ES baseline area). A lead coffin burial was discovered in 1858 beside St. Paul's Shadwell c.115m to the west of the Site (HEA 86, ES Vol 21 Appendix E), which may indicate an isolated roadside burial or possibly a roadside cemetery. An evaluation (HEA 38, ES Vol 21 Appendix E), approximately 145m to the north of the Site revealed a large east-west aligned Roman ditch.

Early medieval (AD 410 – 1066)

- 2.3.3 In the early medieval (Saxon) period, the Site was situated within the manor (estate) of Stepney. The manor was extensive and roughly corresponds to the modern Borough of Tower Hamlets. The place name derives from the Old English *Stybba's hythe* (Stebenhythe) indicating a landing place. This was possibly located at Ratcliff Cross c.600m to the north-east of the Site, where a small settlement is thought to have developed. The Site was located within the intertidal marshland and would have been prone to flooding and unsuitable for occupation. The resources of the marshland may have been exploited for a range of activities including animal grazing and fishing. A line of vertical timber posts aligned north-east to south-west (**HEA 2**) was identified on the foreshore during a site visit for this project's ES, approximately 20m to the west of the Site. These might conceivably be the remains of a fish trap dated to this period or the later medieval period. Two Saxon spearheads (HEA 18, ES Vol 21 Appendix E) were discovered approximately 70m to the west of the Site.

Medieval (AD 1066 – 1485)

- 2.3.4 In the later medieval period the Site lay immediately east of the settlement and shipyard at Shadwell (**HEA 17**) and a wharf at Bell Wharf, lay adjacent to the northern boundary of the Site. The marshland along the riverfront within which the Site lies began to be drained and reclaimed in this period, and river walls may have been constructed. Medieval pottery has been recovered from the foreshore within the Site (**HEA 1C**).

Post-medieval (AD 1485 – present)

- 2.3.5 It is likely that the construction of river walls and flood defences, as well as land reclamation, continued throughout the early post-medieval period within the Site. Buildings were constructed all along the riverfront between Wapping Marsh and Ratcliffe. Much of the riverfront rapidly developed into an industrial area from 16th century onwards that included roperies, tanneries, breweries, wharves, smiths and taverns. Further inland much of the area remained extensive open fields. By 1670, the local population had grown and the St. Paul Shadwell parish was created, centred on the Church of St. Paul's, approximately 75m to the west of the Site (HEA 87, ES Vol 21 Appendix E).
- 2.3.6 Historic maps examined for the ES show increasing industrialisation and development: the eastern part of the Site was occupied by wharves, timber and coal yards, and warehouses, whilst the western and north-western part of the Site was occupied by housing and industrial buildings. Shadwell Market (**HEA 1A**) lay within the north-western part of the Site from the 17th to the mid-19th century.
- 2.3.7 By the mid–late 19th century two major developments had taken place close to the Site: the Thames (Rotherhithe) Tunnel (**HEA 8**) was constructed immediately west of the Site with a Grade II listed air shaft (**HEA 31**) and Shadwell Old Basin was constructed as part of the London Docks, with its entrance to the south-west of the Site. The nearby remains of possible barge beds and shipyard debris (HEA 44–48, ES Vol 21 Appendix E) probably date to this period.
- 2.3.8 At the end of the 19th century, the slum housing on the Site was cleared and a new industrial complex of refrigeration works and a fish market, with a large pontoon occupying the centre of the foreshore, was constructed within the eastern half of the Site. A project by the council to develop a park to commemorate King Edward VII begun before the war was completed by 1922; this involved the demolition of the Shadwell fish market and housing. During the 1920s the North East Storm Relief Sewer outlet (**HEA 1I**) was incorporated into the embankment wall within the Site.
- 2.3.9 Several known remains within the Site are likely to be associated with post-medieval riverfront activity. These include a post-medieval river wall/flood defence (**HEA 1D**), two chalk surfaces identified as a possible barge beds (**HEA 1E** and **1M**), two drains (**HEA 1B** and **1F**), and three stone dump deposits (**HEA 1H**, **1N** and **1R**). The ES site survey in 2011 also observed that a large part of the foreshore was occupied by horizontal timbers lying in an east to west alignment, some of which appeared to be re-used ships' timbers (ES Vol 21 Plate E.10). In some cases it was uncertain if timbers were a scatter or part of a structure (**HEA 1G** and **1S**). Also recorded are two timber piled jetties (**HEA 1J/1L** and **1Q**) and a cobbled outfall apron (**HEA 1P**) beneath the 1920s North East Storm Relief Sewer outlet (**HEA 1I/1O**), with which it is probably contemporary. Many similar riverside post-medieval remains are known from the immediate surroundings of the Site and are detailed in ES Vol 21 Appendix E.

2.4 Relevant recent foreshore investigations

- 2.4.1 The Thames Discovery Programme (TDP) began in 2008 building on the Museum of London's Thames Archaeological Survey (1993-1999). Work is ongoing on one of their foreshore sites at Rotherhithe (LAARC site code FSW03), which lies adjacent and to the south-east of the KEMPF Site, and at Wapping (LAARC site code FTH04), located on the opposite Thames foreshore.
- 2.4.2 Investigations in 2009-2014 were focussed at the eastern end of the foreshore survey area where a large number of nautical timbers were recorded forming a possible slipway; these are likely to represent the remains of ship breaking and building on the foreshore during the 18th century. Other recorded structures include access features associated with the Mayflower public house, barge beds, and widespread artefact scatters of Delftware kiln waste and animal bone representing localised waterfront activity.ⁱⁱ
- 2.4.3 Investigations in 2009-2010 at Wapping recorded a probable 19th century causeway, a possible 18th century ship's rudder, a large post-medieval roughly dressed tree-trunk, and a brick structure which may be associated with London Dock.ⁱⁱⁱ

2.5 Summary of potential and significance from ES

- 2.5.1 A summary of the Site's archaeological potential and significance by period is given in **Table 2.1**; as identified in the ES (Vol 21 Table 7.10.1).

ⁱⁱ <http://www.thamesdiscovery.org/riverpedia/rotherhithe-riverpedia>

ⁱⁱⁱ <http://www.thamesdiscovery.org/riverpedia/wapping-riverpedia>

Table 2.1: KEMPF archaeological potential and significance by period

Overall site potential: Moderate potential for prehistoric land surface and medieval and later remains. Site of overall Medium high – High significance . (OAWSI, para 8.4.5).
High potential for palaeoenvironmental remains (Medium or High significance)
Uncertain, possibly Moderate potential for isolated redeposited prehistoric artefacts (Low significance)
Uncertain, possibly Moderate potential , for prehistoric settlement and riverfront activity (Medium or High significance)
Uncertain, possibly low potential , for Roman remains associated with marshland activity (Low or Medium significance)
Moderate potential for early medieval remains, including fish traps (Medium or High significance)
Moderate potential for later medieval remains associated with land reclamation (Low significance)
Moderate potential for later medieval remains of shipbuilding, barge beds, jetties and piers (Medium or High significance)
High potential for post-medieval industrial buildings, wharves, and warehouses landward of the river wall (Low significance)
High potential for post-medieval remains of shipbuilding, barge beds, jetties and other structures on the foreshore (Low or Medium significance) including post-medieval structures with re-used nautical timbers (High significance)

3 Evaluation Methodology

3.1 Introduction

- 3.1.1 The methods applied to the evaluation of the Site included:
- Condition Monitoring – based on comparison of bathymetry data collected at quarterly intervals to track changes in the topography of the foreshore and riverbed of the site;
 - Marine Geophysics (Parametric Sonar);
 - Targeted walk over survey;
 - Hand augering recording and assessment; and
 - Deposit Modelling.
- 3.1.2 It should be noted that vibrocoreing and mechanical coring were not possible for health and safety reasons at this Site due to the high concentration of magnetic anomalies revealed by client UXO survey. Although these are most likely due to the large amount of clinker and ash on the Site, these made the identification of genuine UXOs difficult (Ref G Swinbourne, client meeting of 28/1/14).
- 3.1.3 The Condition Monitoring programme is undertaken using third party bathymetry data, collected by Port of London Authority (PLA) for TTT, and is reported on separately at roughly quarterly intervals. The first Condition Monitoring report has been issued (Wessex Archaeology 2014; TTT document reference forthcoming). More detailed methodologies for the other techniques are set out below.
- 3.1.4 All archaeological investigations were carried out in accordance with the SSAWSI (ref.1000-ENV-ZZZZZ-ZZZ-ZZ-RU-100044-P01) for the evaluation works at this site. All recording was carried out to the format and standards detailed with the *Archaeological Site Manual* (MOLAS 1994).
- 3.1.5 The site code, as allocated by the Museum of London Archaeological Archive and Research Centre (LAARC), is referenced: TTK14. This site code was used on all records, retained artefacts and samples that form part of the Site archive.

Data and samples acquired prior to Evaluation

- 3.1.6 The scope of evaluation works as set out in the SSAWSI required the utilisation of data and samples acquired prior to the start of the evaluation. In addition to large numbers of geotechnical borehole data used in deposit modelling, these include:

Geoarchaeological vibrocores

- 3.1.7 No vibrocores have been retrieved from within the Site due to the high concentration of magnetic anomalies revealed by client UXO survey;

therefore only existing available borehole data has been utilised for the purposes of the deposit modelling (**Appendix A.4**).

Non-archaeological marine geophysical data

- 3.1.8 TTT has gathered non-archaeological marine geophysical data over the course of the pre-consent phase of the project for engineering purposes, to inform understanding of ground conditions on the Site.
- 3.1.9 The data acquired prior to September 2013 comprises processed sidescan sonar and multibeam bathymetry datasets from multiple surveys. This data has been subjected to gap analysis in order to assess its suitability for use in identifying any unusual seabed structures that could be shipwrecks or other anthropogenic debris (Wessex Archaeology 2013; document ref. 1000-ENV-ZZZZZ-SGR-YE-RG-100001-P01).
- 3.1.10 The results of this gap analysis report show that the data were unsuitable for use in archaeological interpretation. Although not directly applicable to defining archaeological potential, this result has helped develop the methodology for this evaluation (SSAWSI; 100-RG-ENV-00000-000162).

3.2 Parametric sonar survey

- 3.2.1 The marine geophysical data were collected by Wessex Archaeology on board the Port of London Authority (PLA) vessel Galloper between the 9th and 14th June 2014. A gridded line system was set out for the survey in order to ensure maximum coverage of the Site (**Figure 1**). Due to the intertidal nature of the Site, the survey was planned around the tides in order to gain maximum information, with lines furthest out into the main Thames channel run at a lower tide and the closest lines (and cross lines) run around high tide.
- 3.2.2 The marine geophysical data used for this report were assessed for quality and their suitability for archaeological purposes, and rated using the Wessex in-house criteria defined below in **Table 3.1**.

Table 3.1: Criteria for assigning geophysical data quality rating

Data Quality	Description
Good	Data which are clear and unaffected by weather conditions or sea state. The dataset is suitable for the interpretation of standing and partially buried metal wrecks and their character and associated debris field. These data also provide the highest chance of identifying wooden wrecks and debris.
Average	Data which are affected by weather conditions and sea state to a slight or moderate degree. The dataset is suitable for the identification and partial interpretation of standing and partially buried metal wrecks, and the larger elements of their debris fields. Wooden wrecks may be visible in the data, but their identification as such is likely to be difficult.
Variable	This category contains datasets with the quality of individual lines ranging from good to average to below average. The dataset is suitable for the identification of standing and some partially buried metal wrecks. Detailed interpretation of the wrecks and debris field is likely to be problematic. Wooden wrecks are unlikely to be identified.

- 3.2.3 The marine geophysical data have been rated as “**Average**” using the defined criteria. This is due to several survey limitations; i) equipment penetration was limited in places, likely due to the hard substrate (sands and gravels) identified during previous vibrocore surveys, and ii) the shallow depth of water meant data was obscured by seabed multiples. These represent site environmental limitations, which affect the quality of data in the same way regardless of the equipment used.
- 3.2.4 The parametric sonar (PS) data were acquired using an Innomar SES 2000 Compact Parametric Sub-bottom Profiler system, operated at a dual frequency of 10kHz/100kHz. Positioning data for the survey was provided by an Applanix PosMV Inertial navigation unit. The data was logged by the PLA during the survey using HyPack, and recorded directly along with the PS data (recorded as both *.raw* and *.ses* files) in Innomar’s SESwin software.
- 3.2.5 The PS data were initially viewed and processed using Innomar’s ISE post-processing software. This program, along with the accompanying SES Convert software, was mainly used to convert the positioning data to British National Grid and the file formats to *.sgy* and *.xtf*. Images of the data acquired along each survey line were also taken. The converted PS data were processed using Coda Seismic+ software. This software also allows the data to be visualised with user selected filters and gain settings in order to optimise the appearance of the data for interpretation. The shallow seismic data was interpreted with a two-way travel time (TWTT) along the z-axis. In order to convert from TWTT to depth, the velocity of the seismic waves was estimated to be 1,600ms⁻¹. This is a standard estimate for the speed of sound through shallow unconsolidated sediments. The data was then interpreted using the lower frequency (10kHz) data within Seismic+, as this was found to produce better penetration, with comparisons back to the original dual frequency data set.
- 3.2.6 The PS data was interpreted and integrated with available archaeological and geotechnical borehole data across the Site (as detailed with the results). A discrimination flag was then added to all identified features in order to discriminate against those which are not thought to be of an archaeological interest. These flags are ascribed by type of non-archaeological and archaeological interest as shown below in **Table 3.2**.
- 3.2.7 The grouping and discrimination of information at this stage is based on all available information and is not definitive. It allows for all identified features of potential archaeological interest to be highlighted, while retaining all the information produced during the course of the geophysical interpretation for further evaluation should more information become available.

Table 3.2: Types of identified palaeogeographic features within the Site

Non-Archaeological	U2	Feature of non-archaeological interest
Archaeological	P1	Feature of probable archaeological interest, either because of its palaeogeography or likelihood for producing palaeoenvironmental material
	P2	Feature of possible archaeological interest

3.2.8 Occasionally, small possible mounds were also observed on the riverbed and recorded. For anomalies on the riverbed, the discrimination flags are ascribed as shown below in **Table 3.3**.

Table 3.3: Types of identified riverbed anomalies within the Site

Non-Archaeological	U1	Not of anthropogenic origin
	U2	Known non-archaeological feature
	U3	Non-archaeological hazard
Archaeological	A1	Anthropogenic origin of archaeological interest
	A2	Uncertain origin of possible archaeological interest
	A3	Historic record of possible archaeological interest with no corresponding geophysical anomaly

3.3 Targeted walkover survey

3.3.1 Existing available survey data, aerial photography and Greater London Historic Environment Record (HER) data was examined and plotted within a CAD GIS system and was used to generate a site briefing document in order to identify key features and survey data gaps and enable a degree of targeting for the walkover survey.

3.3.2 The walkover survey was undertaken on the 29th-30th September 2014. Works on site consisted of the identification, examination and recording of features, layers and structures. Recording comprised allocation of a unique context-based record number to each feature, and a full written, drawn and photographic record was made, as appropriate, using the Wessex Archaeology *pro forma* recording system.

3.3.3 A survey-grade GPS was used on Site to accurately plot all *in situ* remains and this data was incorporated into the CAD GIS model.

3.3.4 Object numbers (ON) were allocated at the time of the survey to artefacts, only when an artefact's position was considered potentially significant and/or the artefact was of intrinsic value.

3.3.5 In the context of the foreshore environment, and the relatively constrained tidal window within which the targeted walkover survey was undertaken, archaeological remains were not 'excavated' *per se*. However, limited hand-investigation was employed as necessary, particularly to obtain

artefactual and/or palaeoenvironmental evidence where sampling was required to meet the evaluation objectives. Care was taken to preserve the integrity of any archaeological features or complex deposits in order to preserve the information as fully as possible for any future archaeological investigation.

- 3.3.6 The targeted walkover survey was not intended as a full condition survey of known assets (HEA from the ES) present on the foreshore. However, where further information could be gained to address the aims of the evaluation, appropriate recording and sampling of known assets was undertaken. The walkover survey aimed also to identify and record any assets previously not known and surface collect any artefacts present on the safely accessible foreshore at the time of the survey (i.e. to record new assets).
- 3.3.7 The recovery of finds on Site and retention of artefacts and the archive was carried out in accordance with the methodology set out in the SSAWSI.

3.4 Geoarchaeological hand augering

- 3.4.1 The purpose of hand augering is primarily to record and sample the possibly high-potential sequences in areas impractical to access via mechanical coring methods.
- 3.4.2 Augering by hand was attempted where possible along the entirety of the foreshore exposed at the time of the evaluation during which time the deposits were recorded from five locations and recorded by Wessex Archaeology's geoarchaeologist on Site, following Hodgson (1997). The location of the auger holes is illustrated in **Figure 1**.
- 3.4.3 A gouge augering system was utilised for rapidly recording strata: a 1m long, 3cm diameter open-sided sampling chamber, was pushed downwards through the strata manually using a T-bar handle. Extendible 1m rods were used where necessary. This system is not suitable for obtaining laboratory samples due to the open-sided chamber, but is ideal for recording and identifying strata prior to sampling via Russian auger if appropriate.
- 3.4.4 In this case, no deposits suitable for Russian auger sampling were recorded.
- 3.4.5 The elevations and locations of the auger holes were surveyed in by GPS.

3.5 Deposit model construction

- 3.5.1 Due to the small number of deposit records available at the time, and the age of some of those records, the accuracy with which they represent the present day sequence of deposits especially on the foreshore would be questionable. As such no deposit models in the form of DEM's or thickness plots were constructed.

- 3.5.2 As a result only vertical profiles of deposits along three transects were constructed (Transect A, B and C). In order to create these transects available data points from the Site and vicinity were entered into a digital database (Rockworks 15). For this Site, as no geoarchaeological vibrocores retrieved specifically for the TTT project, this was based on the hand auger logs (**Appendix A.2**), available borehole data and ‘pseudopoints’ based upon geophysical data (**Appendix A.4**).
- 3.5.3 At this Site, a total of 17 deposit records were entered. The distribution of selected data points most relevant to this analysis is illustrated in **Figure 5**.
- 3.5.4 During modelling, each identified lithological unit (gravel, sand, silt etc.) is 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. The grouping of these deposits is based on the lithological descriptions, which define distinct depositional environments.
- 3.5.5 Thus, where suitable contexts are present, a sequence of stratigraphic units^{iv} representing certain depositional environments and/or landforms can be reconstructed both laterally and through time for the site
- 3.5.6 Geoarchaeological interpretation of the resulting transects can be used to create a series of Landscape Zones (LZs) where appropriate made up of characteristic deposit sequences containing one or more stratigraphic units, and defining landforms and depositional environments.
- 3.5.7 In practice, the sequences recorded on most of the foreshore sites are limited in variability and depositional environments represented, and the number of stratigraphic units are therefore similarly limited.
- 3.5.8 The system of landscape zones and stratigraphic units has been retained nonetheless, in order to allow uniform approach between the sites, and easier correlation with deposit modelling from evaluation of the land-based sites. These have been supplemented by transects across the Site to show the sequence of deposits and their relative levels.

3.6 Quantification of the archive

- 3.6.1 Four boxes of finds were recovered from the Site.
- 3.6.2 The Site finds, samples and records can be found under the site code TTK14 at the offices of Wessex Archaeology, but will be deposited in the Museum of London Archaeological Archive and Research centre (LAARC) in due course.

^{iv} A geoarchaeological term defining a layer deposited under certain environmental conditions. For example, alluvial clays/silts deposited in intertidal salt marsh, or peats forming in wetland alder carr.

4 Results

4.1 Parametric sonar survey

Introduction

- 4.1.1 The approximate extents of deposits (>0.5m thick) overlying the London Clay have been mapped (**Figure 2**).
- 4.1.2 For this Site, no specific individual palaeogeographic features or riverbed features have been mapped within the Site.
- 4.1.3 The Site was mostly free of obstructions, though three small moored vessels proved obstacles to the survey. Despite this, good data coverage was obtained (**Figure 1**).
- 4.1.4 No vibrocores have been acquired from this site for the TTT project. Only one historic BGS borehole (**TQ38SE76**, dated 1885) is located within the Site, and one TTT borehole **SR2029** on the south-east boundary of the Site. However, a number of other historic BGS boreholes of various dates are available from around the nearby Shadwell Basin. These have been used as appropriate to aid the interpretation of the PS results (**Appendix A.4**). This interpretation has also taken into consideration of bathymetry data from the Site (**Appendix A.4**).

Results

- 4.1.5 The upper surface of the London Clay horizon was not identified within the PS data within the Site. Borehole **TQ38SE76** penetrated over 8m below the riverbed without sampling London Clay, suggesting the upper surface of the London Clay horizon is beyond the penetration of the PS equipment.
- 4.1.6 Although **TQ38SE76** is a historic borehole from 1885, other more recent boreholes from around Shadwell Basin indicate the presence of London Clay at similar depths. However, **SR2029** encountered London Clay at 2.8m below the riverbed on the south-east boundary of the Site.
- 4.1.7 This suggests a significant depth of deposits may survive below the riverbed within the Site (**Figure 2**); however, the PS survey alone has been unable to determine the nature of these deposits. Information from the historic boreholes suggests a significant depth of peat, possibly of Mesolithic age (ES Vol. 21), could be present below the foreshore at the western end of the Site.
- 4.1.8 No individual shallow palaeogeographic features or possible above-riverbed mounds of archaeological potential were identified within the Site.
- 4.1.9 Only one distinct feature was identified within the PS data. This feature was located outside and to the south-west of the Site, and is characterised by a well-defined basal reflector and single phase of fill (example transect, **Figure 2**). The orientation of the feature relative to the Shadwell Basin indicates it is possibly the silted-up remnants of a dredged channel maintained to allow access to the Shadwell Basin during the period when

it was a working dock. Due to its location outside of the Site, it has not been numbered for the appendix.

Summary

- 4.1.10 The PS data did not identify the upper surface of the London Clay, probably because it lay beyond the penetration depth of the PS equipment. This fact, together with historic borehole data, suggests that there is likely to be a significant depth of deposits below the riverbed within the Site.
- 4.1.11 From comparison of the historic borehole records and taking erosion into account based on the modern foreshore profile, deposit modelling has shown potentially up to 5m of peat (at its deepest by the river wall) may be preserved on the foreshore at the west end of the Site under the active beach deposits (**Figure 6**).
- 4.1.12 No individual shallow palaeogeographic features or possible mounds of archaeological potential were identified within the Site, although just outside the Site to the south-west a feature was identified that could be the silted-up channel to the Shadwell Basin. This is significant as it suggests that dredging in relation to the Shadwell Basin does not appear to have effected potential archaeological survival within the Site.

4.2 Targeted walkover survey

Introduction

- 4.2.1 The walkover survey was undertaken on the 29th-30th September 2014.
- 4.2.2 Numerous *in situ* remains were recorded on the foreshore of the Site, including a well preserved barge bed and timber revetments associated with a metal outflow pipe (previously known from the ES) and a number of timbers (new assets, not previously known), as detailed below and shown in **Figures 3-4**.
- 4.2.3 A relatively small quantity of unstratified finds (108 in number) was recovered from the exposed foreshore (unstratified context **9000**) during the walkover survey (**Appendix A.1**). These are quantified by material type in **Table 4.1**, and detailed below. The finds were recovered as a sample of the material present on, and presumably eroding from the Site, in this active foreshore environment. The location of any finds allocated with Object Numbers (ON) is shown in **Figure 3**. However, none of these finds were *in situ* within archaeological deposits and are as stated above unstratified artefacts lying on an active foreshore. Most of the dateable artefacts recovered were post-medieval in date, with the exception of three sherds of Romano-British pottery and a single piece of prehistoric worked flint.

Table 4.1: All finds by context (number/weight (g))

Material	Number	Weight (g)
Pottery	65	2883
CBM	2	48
Clay Pipe	19	223

Material	Number	Weight (g)
Flint	1	8
Glass	15	231
Animal Bone	3	79
Iron	1	534
Copper Alloy	2	38
Other Metal	1	1
Stone	4	23
Leather	1	
Shell	1	15
Worked Shell	1	1
Coconut Shell	2	17
Ceramic	1	10
Slag	2	135
Resin	1	24
Carbon Rod	1	16
Rubber	3	16
Plastic	4	96

In situ remains on the foreshore

- 4.2.4 An extensive layer (**9002**) was recorded in the central part of the Site that is interpreted as a probable barge bed of likely post-medieval date. It consisted of a layer of sub-rounded and sub-angular chalk blocks which was overlain by a layer of sub-angular stones, measuring a maximum of 30.5m long by 13.25m wide (**Plate 1**). This is likely to be related to **HEA 1E** and **1M** describing chalk of a possible barge bed, although there is a slight discrepancy in location, and possibly also **HEA 1N**, a layer/surface of stone: all these were identified during the Site walkover for the project's ES in 2011.
- 4.2.5 A group of six timber posts, found driven in at varying angles into the foreshore (**9004 C-H**) were located on a north-east to south-west alignment, close to the southern edge of barge bed **9002** and are likely to form a revetment structure associated with the well preserved barge bed (**Plate 1**). This timber structure represents a new asset on the Site, as it does not appear to relate to any known nearby assets, as **HEA 1G** records a scatter of timbers to the east of the sewer outlet. Each post was square and measured approximately 0.10m by 0.10m (**Plate 2**) and protruded approximately 0.15-0.35m above the present foreshore. Two other timbers were considered to be related to this revetment structure: plank **9004B** measuring 2.4m in length lay on edge aligned north-west to south-east, at right angles to the post alignment (**9004 C-H**), although not joined to it and was degraded at its south-eastern end (**Plate 3**). At the opposing north-western end, plank **9004B** appeared to be joined to a vertical square post **9004A** (**Plate 4**), although this could not be definitely concluded as too little of the timbers was exposed above the level of the foreshore. Timbers **9004A** and **B** are interpreted as a 'tie', aligned at right angles to the revetment providing strength to the barge bed structure, or are a possible indication of the structure functioning as a grid iron.

- 4.2.6 A single timber vertical post (**9001**; **Plate 5**) was located near the north-east corner of the barge bed, and is unlikely to be associated with revetment **9004**. It was rectangular measuring 0.12m by 0.06m and protruded 0.41m above the foreshore. It could possibly have functioned as a mooring post. Again this is a new asset, previously unrecorded.
- 4.2.7 The 12m wide cobbled slipway relating to the North East Storm Relief Sewer outlet built 1921-1928 (**HEA 1P**) was mapped extending into the river (**Plate 6**).
- 4.2.8 To the east of the cobbled slipway, was an area of large sawn timber blocks and a dump of ceramic rubble with areas of degraded concrete (group **9008**), which may or may not be associated with each other. Some timber blocks were dispersed, although at the western edge six blocks formed a north-west to south-east alignment (**Plates 7-8**) and were firmly secured into the foreshore; the suggestion is therefore that they are structural. Due to the tidal constraints of the walkover survey little detailed recording was possible on this feature, and therefore the interpretation of this possible structure remains open.
- 4.2.9 Just offshore from this location, further timbers could be observed in the river (**Plates 7-8**) and these likely relate to **HEA 1Q** recorded as a timber jetty of uncertain date. Also by the eastern boundary of the Site, a scatter of horizontal timbers was observed near the low water mark and are associated with **HEA 1S**.
- 4.2.10 To the west of the barge bed **9002**, a group of partially exposed timbers mainly consisting of sawn rectangular planks (**9003A-F**; **Plate 9**) was recorded. One of the planks had a clear iron fixing attached suggesting possible interpretation as a re-used ship's timber. The arrangement of this group suggests that they have been disturbed, although the timbers may represent some kind of collapsed structure as they were well embedded into the foreshore's surface gravels. It is possible that they could be associated with the barge bed to the east, or activity undertaken here. A further partially exposed timber plank (**9003G**; **Plate 10**) lay 6m south-west from the others and therefore may not be associated with them. These are new assets on the Site and do not appear to have been known from the ES.
- 4.2.11 In the west of the Site, two vertical timber posts (**9005** and **9006**; **Plate 11**) were recorded and again appear to be new assets, not known from the ES. Timber post **9005** was the only circular post identified during the walkover measuring 0.13m in diameter and exposed above the foreshore to a height of 0.31m. Timber post **9006** was square measuring 0.06m² and was exposed to a height of 0.12m above the foreshore. The difference in size and shape suggests they are unlikely to be associated with each other.
- 4.2.12 A group of piled timber posts and horizontal planks were recorded (**9007**; **Plates 12-14**) and formed a structure measuring approximately 6.5m by 3.5m, possibly a revetment around a timber outflow pipe (**Plate 13**) or perhaps more likely a jetty above an outflow pipe. The outflow pipe was visible from the river and was traced underlying the foreshore's surface by ground penetrating radar (GPR) to the river wall (**Figure 3**). It is likely that the concrete between the timbers was added at a later date to strengthen

the structure and possibly create a slipway abutting the structure to the east. Structure **9007** is directly related to **HEA 1K** and **1L**.

Pottery

- 4.2.13 Sixty-six sherds of pottery were recovered, of which three are Romano-British, sixty-two post-medieval, and two undated. All sherds are at least lightly abraded, and a high proportion have suffered considerable abrasion in the riverine environment, removing any surface treatments.
- 4.2.14 The three Romano-British sherds comprise one of Samian (SAM), one of sandy greyware (SAND), and one in an unidentified whiteware (MISC). All are very heavily abraded. The whiteware sherd appears to belong to the base of a candlestick; the other two sherds are base sherds, but the vessel forms are uncertain.
- 4.2.15 The post-medieval assemblage comprises a range of earthenwares, stonewares, tinglazed earthenwares, porcelain and refined wares, and includes some imported wares. The earthenwares include both white Border wares (BORDG, BORDY) and redwares (PMR). One of the latter is from a late white-slipped bowl with manganese marbling, both the remainder are likely to date earlier in the post-medieval period; they include a side-handled bowl. There are also one sherd of Midlands Purple (MPUR), and three sherds of Staffordshire-type feathered slipware (STSL), two from platters and one from a cup or bowl. Imports in this category comprise two sherds of North Italian Marbled Slipware (NIMS), one from a bowl, and one from a closed form, possibly a costrel or jug.
- 4.2.16 Apart from three sherds of German stonewares (FREC, WEST), of 17th to 18th century date, all of the stonewares are assumed to be of indigenous manufacture (NOTS, ENGS, ENGS BRST). The majority appear to represent containers for beverages, ink and other foodstuffs and household goods. Proprietary marks include those of Batey's (operating from at least the 1870s), and Beaufoy & Co (company established 1730), both London-based drinks manufacturers. One flagon bears the stamp of a wine and spirits supplier in Shadwell, and one soda bottle is stamped with the (bottle) manufacturer's name (Baileys of London). There is also a lid in the form of a thick disc, with a heavy central knob.
- 4.2.17 Most of the tinglazed earthenware sherds (TGW) are particularly badly abraded; all are assumed to be of English manufacture, and they include both monochrome and polychrome examples. One sherd belongs to a fluted bowl, and the remainder are also likely to be from open forms.
- 4.2.18 There are two sherds of porcelain, one from a small cat figurine (ENPO), and one from a small bowl (CONP) with the backstamp of a company in Maastricht, Netherlands.
- 4.2.19 Refined wares (JACK, PEAR, REFR, REFW, TPW) are also quite badly worn. It is likely that most if not all represent tablewares.
- 4.2.20 Undated wares comprise one small body sherd in a coarse shelly ware (**ON 22**), either late prehistoric/early Romano-British, or early medieval; and one sherd in a non-distinctive sandy fabric, in an unknown form (flattish sherd with applied 'flange' at right angles).

Ceramic Building Material

- 4.2.21 Two fragments of tile were recovered from the Site. This included a fragment of unglazed roof tile with a crimped edge and a square nail hole, and a very worn fragment of 18th century tin-glazed tile.

Clay Pipe

- 4.2.22 Nineteen pieces of clay pipe, weighing a total of 223g, were recovered. The pipes were visually assessed and compared with the chronology published by Atkinson and Oswald (1969).
- 4.2.23 The earliest bowls recovered from the site are dated to 1640–60 (type AO10). Other examples of mid-late 17th century pipes include four examples of type AO18 (1660–80), and later 17th–early 18th century pipes were represented by three examples of type AO22. One of these pipes had a very faint maker's mark of ES, which could represent either Edward Steele (1686) or Edward Smith (1699) (Atkinson and Oswald 1969, 214).
- 4.2.24 Eighteenth century pipes recovered from the site include four examples of type AO25. One of these pipes had a partial spur mark (C/?).
- 4.2.25 One example of a 19th century pipe was recovered; this was identified as type AO28 (1820–40).
- 4.2.26 One unidentifiable bowl fragment was also recovered, as were three unidentifiable stem fragments.

Flint

- 4.2.27 One waste flake was recovered from the Site, this is typologically prehistoric but is not closely dateable.

Glass

- 4.2.28 Fifteen fragments of glass weighing a total of 231g were recovered from the Site. The assemblage included bottle glass, vessel glass, decorative items and marbles. All the glass recovered was of 19th or 20th century date.
- 4.2.29 The bottle glass consisted of one base from a green glass bottle, embossed with part of a maker's name (E & J BU..., with a cat motif) and a partial shoulder and neck of a clear blue-green glass rectangular bottle. Two clear glass and one clear blue-green glass bottle stoppers were also recovered.
- 4.2.30 The vessel glass consisted of one clear red glass vessel fragment, with a decorative flared rim, an opaque blue glass lid fragment with a ribbed pattern above a foliate design, and an opaque purple glass base from a small jar or pot.
- 4.2.31 Other glass recovered from the site included a heavy clear glass moulded tapering cylinder, which was possibly part of a decorative knop or lid fitment. An opaque green glass hollow teardrop-shaped cylinder was also recovered; this was probably a bead or other decorative item. Four glass marbles were also recovered.

Animal Bone

- 4.2.32 Three fragments of animal bone weighing 79g were recovered. The assemblage was rapidly scanned to ascertain species, skeletal element, butchery and gnawing marks.
- 4.2.33 The assemblage is composed of butchery waste and domestic food refuse; the bones comprise two of sheep bones (tibia and metatarsal), and one of cattle (first phalanx).

Metal finds

- 4.2.34 A small assemblage of metal finds was recovered, including iron, copper alloy and other metal finds.
- 4.2.35 Only one iron item was recovered. This appears to be the framework of a reinforced shoe or, more probably, a work boot, comprising toe cap and a strip surrounding the sole. The date is uncertain but it is unlikely to be earlier than 19th century.
- 4.2.36 Two copper alloy items were recovered. One is a flat rectangular copper alloy strip, bent at one end and had rivet or punch holes along both of the long edges. The second comprises a hollow hexagonal tube, containing a hollow cylindrical tube, one end sealed by a tapering circular fitment. The function of this item is unknown.
- 4.2.37 One globular button of miscellaneous metal was also recovered.

Stone

- 4.2.38 The two stone items recovered comprise a circular stone with a hole drilled through the top, probably used as a weight; and three joining fragments of a hollow white stone tube, possibly used as a fine grinding or polishing tool.

Leather

- 4.2.39 One leather shoe sole was recovered. This is the sole of a right-foot shoe with circular copper alloy pins along both sides of instep. The toe of the shoe has square iron pins and an iron strip around the edge. The heel of the shoe is very worn.

Shell

- 4.2.40 One piece of oyster shell was recovered (left hand valve, i.e. consumption waste). Worked shell was also recovered in the form of a small button.
- 4.2.41 Two fragments of coconut shell were also recovered.

Other finds

- 4.2.42 Other finds include a blue and white ceramic kiln spacer; two fragments of ironworking slag; a circular resin rod; a hollow carbon rod; rubber items including a bottle stopper and a washer; and a small group of plastic items including children's toys and a Post Office account card.

4.3 Geoarchaeological and palaeoenvironmental assessment

Introduction

- 4.3.1 No vibrocores were available for assessment as none were obtained from the Site for the TTT project.
- 4.3.2 Hand augering was carried out on the Site on the 29th-30th September 2014. Hand augering proved to be problematic due to the impenetrable stony surface deposits; however five auger locations were successful. The location of the auger holes is illustrated in **Figure 1**.
- 4.3.3 The detailed descriptions for the hand auger points are tabulated in **Appendix A.2**, and the results summarised below.

Results

Hand augering

- 4.3.4 Due an impenetrable stony surface covering much of the foreshore only five auger locations were recorded. Where hand augering was possible the deposits consisted of between 0.25m to 0.7m of a sandy silty clay with gravels which formed the active beach deposits (**Appendix A.2**).

Summary

- 4.3.5 The hand augering results suggest that active beach deposits that vary in thickness of between 0.25m and 0.7m exist over the entirety of the foreshore and vary in makeup from a sandy silty clay with gravels to a compact, impenetrable (by hand auger) stony layer.
- 4.3.6 Although the active beach deposits identified by hand augering are of relatively low palaeoenvironmental significance in themselves, the parametric sonar survey and schematic cross sections (transects A-C) suggest that a deep sequence of deposits with an overall high palaeoenvironmental potential/moderate significance consisting of organic deposits, alluvium, and river gravels may survive beneath them.

4.4 Geoarchaeological deposit model

Introduction

- 4.4.1 The following sections present a sub-surface deposit model for the Site. This was constructed by extrapolating stratigraphic deposits identified within the data across the whole of the Site, including outlying points (**Appendix A.4**).
- 4.4.2 It is considered that there is insufficient data to generate reliable Digital Elevation Models (DEMs) or thickness plots, with only seven deposit records, mostly of limited depth, located within the Site.
- 4.4.3 The results best suit examination in schematic cross section, and are displayed in the form of three transects (A, B and C, **Figure 5 and 6**) and described in **Appendix A.3**.

Stratigraphic Units

- 4.4.4 Although not all recorded directly within the Site, six major stratigraphic units are known to exist in the area of the Site. These units are summarised in **Table 4.2** below, and listed in stratigraphic order from the oldest to the most recent.
- 4.4.5 The gravel units mapped – with the exception of active beach deposits - are grouped under the collective term of ‘river gravels’.

Table 4.2: Summary of stratigraphic units

Stratigraphic unit	Lithology/Description	Chronology	Environment of deposition
1. Lambeth Group	Clay, silt and sand.	Palaeogene, c. 56 to 66 million years ago	Swamps, estuaries and deltas
2. London Clay	Clay, silt and sand.	Palaeogene; 34 to 56 million years ago	Deep sea marine deposits
3. River gravels (including Terrace Gravels, e.g. Shepperton)	Coarse grained sands and gravels	Late Devensian, c 18–15,000 BP or Holocene	High energy river regime (e.g. cold climate braided if Pleistocene)
4. Organic deposits	Organic silts, clays and peats	Holocene	Temperate climate Stabilisation/channel edge deposits
5. Alluvium	Minerogenic silts, sands and clays	Holocene	Temperate climate Channel/Channel edge/waterlogged environment
6. Active beach deposits	Sands, sandy gravels and soft muds	Broadly Saxon to Modern, mostly post-medieval	Tidal foreshore environment

Results

- 4.4.6 The results are shown as transects in **Figures 6** and discussed in **Appendix A.3**. The interpretation of the data is also displayed as a plan-view of landscape zones (LZs) in **Figure 5**.
- 4.4.7 Four major landscape zones were predicted across the Site (LZ1, LZ2, LZ3 and LZ4), which is summarised in **Table 4.3** below.

Table 4.3: Summary of Landscape Zones

Landscape Zone	Description	Archaeological potential/ significance ^v	Palaeoenvironmental potential/significance ^{vi}
LZ1	<p>Area characterised by the presence of sediments in the form of active beach deposits on the surface of the foreshore, comprised of silts, sands, and gravels. Up to 0.7m in thickness across the foreshore Site.</p>	<p>Negligible potential for intact terrestrial strata. Probably early medieval to post-medieval in date, but mainly post-medieval. High potential for post-medieval remains of shipbuilding, barge beds, jetties and other structures on the foreshore (Low or Medium significance) including post-medieval structures with re-used nautical timbers (High significance). Moderate potential for later and early medieval river-associated structures (Medium or High significance) and isolated artefacts of prehistoric–post-medieval date.</p>	<p>Moderate potential for remains of Low significance within low-energy tidal muds.</p>
LZ2	<p>Low/medium energy alluvial deposits occasionally with coarser inwashes. Of indeterminate date. Ranging from 0.8m thick at top of foreshore in west of Site to 1.7m thick in east of Site. Underlying LZ1.</p>	<p>Low to Moderate potential for possible intact Holocene terrestrial strata – deposit extends laterally from landward side of river wall. Moderate potential for later and early medieval river-associated structures (Medium -High significance) Low potential for Roman marshland activity (Low-Medium significance). Moderate potential for prehistoric marshland activity (Medium-High significance) And isolated artefacts of</p>	<p>High potential for remains of Medium significance within low-energy alluvium.</p>

^v The significance level is determined using the criteria in Section 7 of ES Vol 2 Methodology

^{vi} Ibid.

		above periods.	
LZ3	<p>Area characterised by periods of stabilisation promoting peat formation together with periods of marine inundation.</p> <p>Organic peats, silts, and clays, of indeterminate date, up to maximum of 5m deep in west of Site.</p> <p>Underlying LZ2.</p>	<p>Moderate potential for intact Holocene terrestrial strata – deposit extends laterally from landward side of river wall.</p> <p>Moderate potential for prehistoric riverfront/wetland activity (with organic preservation) or settlement on areas of higher drier ground (Medium-High significance).</p> <p>Low potential for Roman marshland activity (Low-Medium significance).</p> <p>And redeposited artefacts of prehistoric–Roman date.</p>	High potential for remains of Medium significance
LZ4	<p>River gravel units of indeterminate date. May include silts and sands as well as gravel sediments.</p> <p>Ranging up to 1.4m to 4m in thickness across foreshore Site.</p> <p>Underlying LZ2 and LZ3.</p>	<p>Low-Moderate potential for Holocene fluvial gravel strata (could preserve timber archaeological remains within low energy silts, as well as isolated artefacts in silts, sand and gravels– significance depends on date and type of any remains).</p> <p>Moderate-High potential for Pleistocene river gravel to be present, if Pleistocene then negligible potential for archaeological remains.</p>	Low-Moderate palaeoenvironmental potential within low energy silts

- 4.4.8 LZ1 is mapped over the entire area of the foreshore, southwards of the river wall (**Figure 5**), although it may have been locally impacted by the pipe outlet at the west end of the site and the outfall area of the storm drain, identified during the targeted walkover survey. Although not recorded in the historical deposit records used in Transect A, active beach deposits forming an impenetrable stony layer were observed on the surface of the foreshore to the west of Transect B where they were noted during this evaluation's hand augering survey.
- 4.4.9 The alluvial deposits representing LZ2 were only recorded in Transect A and C, and due to the effects of river scour were likely to still survive under the intertidal zone only in Transect A, but across the whole of Transect C. As such LZ2 is predicted over most of the Site with the exception of the south-west corner due to apparent removal by scouring. From the produced transects the indications are that alluvial deposits extend out from the landward side of the Site and predate the construction of the embankment.
- 4.4.10 The organic deposits representing LZ3 were only recorded within the Site in Transect A overlying the river gravels from the river wall to the southern Site boundary. Deposit modelling indicates that these organic deposits extend out from the landward side and predate the construction of the embankment. The predicted extent of LZ3 is based purely on its location within Transect A and so its tentative mapping should be treated with caution. It may be more extensive to the east but this is unconfirmed as there were no records deep enough on the foreshore along Transect B to confirm the presence of organic deposits, or their absence. No organic deposits were recorded on the landward side of Transect B where the deposits were recorded as made ground overlying river gravels. Neither were organic deposits recorded in Transect C.
- 4.4.11 LZ4 represents the silts, sands and gravels of the river gravels, as recorded across the whole of Transect A and C over the entirety of the transects and therefore predate the construction of the embankment. There were no river gravels recorded on the foreshore of Transect B as the hand augering could not penetrate deep enough, but they were recorded on the landward side of Transect B and so they are likely to be present here. Therefore LZ4 was mapped over the entirety of the Site.

4.5 Overall reliability of the results

- 4.5.1 The data quality of the parametric sonar survey was defined as **average**. Data coverage was good, despite three moored vessels which proved small obstacles to the survey.
- 4.5.2 The walkover survey at the Site was successfully completed. In the far east of the Site, full recording of new assets was not possible due to the incoming tide; however, a photographic record was completed in order to achieve the objectives of the evaluation within the constraints of the short tidal window.
- 4.5.3 The auger survey was completed with limited success on this Site due to the impenetrability of the stony deposits across much of the foreshore.

None of the auger holes managed to penetrate below these active beach deposits into the underlying, potentially deep, sequence of deposits on the foreshore of the Site.

- 4.5.4 Due to the presence of magnetic anomalies on the Site, no recent coring has been undertaken, and the deposit modelling was based on a small number of borehole records were largely derived from historical logs mostly of Victorian date, and as such many of the deposit records are not representative of the sequence, depths and thicknesses of the deposits as they are today due to erosion by river scour. Also used were the auger survey logs, but as noted above these did not manage to penetrate below active beach deposits and so too are limited in defining underlying deposits. As a result only three transects (A, B and C) were constructed and no DEM's or thickness plots were modelled.

5 Archaeological potential and significance

5.1 Review of aims and objectives

Site specific questions

5.1.1 Drawing on the results presented in Section 4, the following is concluded in relation to each of the objectives detailed in para 1.3.3:

a. What is the topography of the foreshore at present, and how does this change over time (scour, sedimentation etc.)?

5.1.2 Bathymetry data has been assessed as part of the ongoing condition monitoring programme of the foreshore sites. This programme compares foreshore topographical data to evaluate the rate and significance of sediment erosion and deposition at each site. The results of the first monitoring report (Wessex Archaeology 2014; TTT document reference forthcoming) conclude that between October 2013 and March 2014, only very small amounts of accumulation (up to +0.4m) has occurred, towards the river bank and associated with known mooring points of small vessels within the Site.

b. What is the depositional sequence at the Site?

5.1.3 Surface active beach deposits ranging in thickness from 0.25m to 0.7m are present across the foreshore of the Site.

5.1.4 At the west end of the Site these active beach deposits overlie a sequence of deposits comprised of possibly up to 0.8m of alluvium at the top of the foreshore over up to approximately 5m of organic deposits. The organic deposits are potentially only located in an area of the foreshore at the west end of the Site (LZ3: **Figure 5**), although as this is based on limited deposit modelling data, this should be treated with caution and they may be present further eastwards (see para 4.4.10).

5.1.5 At the east end of the Site the active beach deposits overlie alluvium up to 1.7m thick which in turn overlies river gravels.

5.1.6 The river gravels were recorded across the Site ranging in thickness from approximately 1.4m at the lower end of the intertidal zone at the west end of the Site to up to approximately 4m thick at the top of the foreshore by the river wall at the east end of the Site. Across the Site the river gravels overlie the London Clay.

c. Is there any evidence for the survival of deposits of palaeoenvironmental significance?

5.1.7 No cores were available for palaeoenvironmental assessment from the Site and so there is no direct evidence from this evaluation. However, deposit modelling has indicated that organic deposits of peat and organic clays may still survive at a thickness of up to 5m in the west of the Site; such deposits have a high potential to contain palaeoenvironmental remains (of medium or high significance).

5.1.8 Further deposits of palaeoenvironmental significance may survive as organic silts and clays within the alluvial deposits recorded across the Site.

d. Is there any evidence of prehistoric to post-medieval activity on the Site?

- 5.1.9 A number of *in situ* archaeological remains were recorded on the foreshore of the Site during the targeted walkover, some of these were previously known mainly from observations made during the ES site visit, whilst others are new assets recorded for the first time during this evaluation. Most of these assets are likely to be post-medieval in date, although all the new timber assets recorded are presently undated.
- 5.1.10 A well preserved barge bed was recorded covering a 30m length of the central foreshore, the layers of chalk and angular stone (**9002**) were previously known but the timber revetment (**9004**) approximately 20m long was recorded for the first time. At least one probable timber tie aligned at right angles provided strength to the barge bed structure or is a possible indication of the structure functioning as a grid iron.
- 5.1.11 To the west of the barge bed, a group of timbers consisting of sawn planks (**9003**) included at least one possible ship timber (with an iron fixing) was located. Their arrangement was rather irregular so their interpretation is presently unclear, although they may have formed part of a collapsed structure. Importantly these were also newly recorded assets, along with other singular timber posts (**9005** and **9006**).
- 5.1.12 In the west of the Site, another timber structure (**9007**) was recorded, measuring approximately 6.5m by 3.5m, it consisted of a group of piled timber posts and horizontal planks and is interpreted as a jetty above a known outflow pipe. Concrete was probably added later to the structure to strengthen it and possibly create a slipway on its eastern side. This structure had been previously known from the ES walkover.
- 5.1.13 In the east of the Site, the known cobbled slipway relating to the North East Storm Relief Sewer outlet was mapped. To the east of the outlet, the remains of another possible structure of uncertain nature was recorded (group **9008**) which consisted of large sawn timbers blocks some of which formed an alignment and were firmly secured into the foreshore. Other timber blocks were dispersed and also in this area was a dump of ceramic rubble and areas of degraded concrete. Again this is a new asset, previously unknown.
- 5.1.14 Just offshore from this location further timbers in the river were photographed that likely relate to a jetty of unknown date (**HEA 1Q**). Also in this location a scatter of horizontal timber (**HEA 1S**) were observed but not recorded during this survey due to incoming tide. Both of these features were known from the ES walkover.
- 5.1.15 The walkover survey also recovered 108 unstratified finds from the surface of the foreshore within the Site. Most of the dateable artefacts recovered were post-medieval in date, with the exception of three sherds of Romano-British pottery and a single piece of prehistoric worked flint.

e. Is there any evidence of later medieval shipbuilding on the Site?

- 5.1.16 At this evaluation stage, with the fieldwork limited to walkover survey and hand augering no evidence for this was discovered, although the potential for such remains is moderate.

f. Is there any evidence of nautical timbers re-used within later post-medieval structures on the Site?

- 5.1.17 At least one possible nautical timber was recorded on the Site (**9003A**) within a group of other timbers, although it was uncertain if these formed a structure or a scatter. There remains high potential for other nautical timbers to be re-used in the variety of post-medieval structures identified on the foreshore during the targeted walkover.

h. What is the character, date, condition and significance of deposits encountered?

- 5.1.18 From the three transects constructed from the available deposit records it is likely that significant terrestrial deposits of peats and organic clays and silts and alluvium extend out from the landward side of the river wall and exist on the foreshore of the Site. These underlie the active beach deposits on the surface of the foreshore that probably date from the early medieval to post-medieval period, although maybe mainly post-medieval.
- 5.1.19 Although the date of organic deposits within the Site is presently unconfirmed, the indications are that the organic deposits located at the west end of the Site underlying the alluvium may be of a possible Mesolithic to Bronze Age date, comparable to the prehistoric sites known from HER records within the vicinity such as the remains of a prehistoric forest of probable Mesolithic or Neolithic date c.50m to the west of the Site in Shadwell Basin (HEA 85, ES Vol 21 Appendix E). The likely presence of peat indicates areas of higher drier land within the floodplain within the Site. Such organic deposits can preserve organic archaeological remains such as timber trackways used to traverse marshland areas and boats.
- 5.1.20 The overlying alluvium may date from the later prehistoric period onwards when sea levels rose, and has the potential to preserve organic river-associated archaeological remains.

f. What is the extent of archaeological survival across the Site?

- 5.1.21 Comparison of the historical deposit records with the present profile of the foreshore at the west end of the Site (based on bathymetric data) shows approximately 5m of the upper part of the deposit sequence has been removed since the boreholes were taken in the late 19th century. However, up to 5m of organic deposits are likely to still exist in the west of the Site, likely to be deepest at the top of the foreshore by the river wall. Therefore archaeological survival within the organic deposits is likely to be good. River scour is the most likely reason for the removal of the top of organic deposits due to the location of the Site on a wide meander of the Thames; another reason is possible dredging, although the ES identified no evidence of this and the PS survey only identified deep dredging outside the Site's boundaries to the west, likely to be associated with an access channel to Shadwell Basin.

- 5.1.22 Elsewhere within the Site, deposit modelling indicates that river scour has only impacted on the alluvium underlying the active beach deposits in the south-west of the foreshore, elsewhere across the foreshore predicted archaeological survival within the alluvium is likely to be good.
- 5.1.23 There has been little modern development on the foreshore, except the river wall, the cobbled sewer outlet and the drain in the west of the Site. These will have only had localised relatively shallow impact on the deep sequence of deposits predicted within the Site.

g. What is the (seasonal) influence of tidal patterns and storm events on the archaeology of the foreshore?

- 5.1.24 Ongoing conditioning monitoring of the Site will provide a detailed assessment of tidal and storm event influences on the archaeology. Results are scheduled to be provided on a quarterly basis over the 2014/2015 assessment period, dependent on the rate of third-party resurvey.

5.2 Predicted archaeological survival

- 5.2.1 The results of this evaluation indicate the following predicted archaeological survival:

- **High potential** for palaeoenvironmental remains (**Medium to High significance**) particularly in deep organic deposits predicted on areas of the foreshore;
- **Moderate potential** for isolated redeposited prehistoric artefacts (**Low significance**);
- **Moderate potential** for prehistoric settlement and riverfront activity (**Medium or High significance**) within deep organic deposits and alluvium predicted on foreshore;
- Uncertain, possibly low potential, for Roman remains associated with marshland activity (**Low or Medium significance**);
- **Moderate potential** for early medieval remains, including fish traps (**Medium or High significance**);
- **Moderate potential** for later medieval remains associated with land reclamation (**Low significance**);
- **Moderate potential** for later medieval remains of shipbuilding, barge beds, jetties and piers (**Medium or High significance**);
- **High potential** for post-medieval industrial buildings, wharves, and warehouses landward of the river wall (**Low significance**); and
- **High potential** for post-medieval remains of shipbuilding, barge beds, jetties and other structures on the foreshore (**Low or Medium significance**) including post-medieval structures with re-used nautical timbers (**High significance**).

- 5.2.2 In summary, predicted archaeological survival largely reflects previous anticipated levels described in the OAWSI and ES (as summarised in Section 2 above), although given the potential depths and date of peat deposits, which may be present, the significance of palaeoenvironmental remains has been raised from **Low to Medium**, to **Medium to High**. The overall potential for archaeological survival remains **Moderate**.

5.3 Significance

- 5.3.1 Based on the results of the survey techniques employed to evaluate King Edward Memorial Park Foreshore, the overall significance of the archaeological and palaeoenvironmental potential of the Site is deemed to be **Medium High to High**.

5.4 Discussion

- 5.4.1 This evaluation, whilst confirming the overall moderate potential and medium high to high significance of the KEMPF Site, has also highlighted the likely nature of the deposit sequence that exists beneath the foreshore here and shown its predicted good archaeological survival.
- 5.4.2 Underlying relatively shallow active beach deposits, the deposit modelling indicates that there is a sequence of deep deposits, consisting of alluvium predicted across the majority of the foreshore (thickest in the east of the Site) with underlying organic deposits of peat, silts and clays in at least the west of the Site (up to a maximum of 5m thick), overlying river gravels up to 4m thick, above London Clay. Although these deposits were not physically encountered during this evaluation, due to their depth below the penetration of the PS equipment and the impenetrable surface deposits that prevented the hand auger from accessing them, deposit modelling indicates they have only have been impacted by river scour in limited areas, and there is no evidence of dredging or significant modern development within the Site that may have affected predicted archaeological survival.
- 5.4.3 Although presently undated, the organic deposits may be of possible Mesolithic to Bronze Age date, comparable to the remains of a prehistoric forest located c.50m to the west of the Site in Shadwell Basin. The likely presence of peat indicates areas of higher drier land within the floodplain at the Site. Such organic deposits can preserve prehistoric organic archaeological remains such as timber trackways used to traverse marshland areas and boats, as evidenced from known examples in the wider Thames (e.g. at Silvertown; Crockett 2002). The alluvium may date from the later prehistoric period onwards when sea levels rose; it has the potential to preserve organic river-associated archaeological remains.
- 5.4.4 The targeted walkover survey recorded a variety of likely post-medieval (potentially also medieval) structures on the foreshore of the Site, some were known from identification during the ES Site walkover, but many were new assets previously unrecorded. These included: a well preserved barge bed with two surface stone layers and an associated timber revetment (the latter previously unknown) in the central foreshore; a

possible timber jetty/slipway (possibly of more than one phase) associated with an outlet in the west of the Site; and further possible structures in the east including a probable jetty extending into the river. At least one possible ship's timber was identified, although others are likely (given the proximity of the Site to the known later medieval and post-medieval shipyard in Shadwell Basin) to be re-used in such structures. All of the identified timber structures will be directly impacted by the construction of the proposed foreshore CSO structure.

5.4.5 This evaluation has shown the potential significance of the Site to contribute towards the Route-wide Heritage Themes (RWHTs). Dependent on the results of any proposed mitigation work, these themes can now be revised in the light of the evaluation to include :

- Theme 1: Palaeoenvironment and prehistory;
- Theme 2: Settlement patterns and boundaries;
- Theme 3: River management, transport, infrastructure and trade;
- Theme 4: London's water systems and public health; and
- Theme 5: Industries associated with the Thames and its tributaries

5.4.6 Future interpretation could highlight the proximity of the proposed foreshore structure to the ship building and repair industry within the vicinity of the Site, and - pending mitigation results - how any of the identified archaeological remains within the Site potentially relate to this.

5.4.7 However, the nature of future interpretation may be altered significantly depending upon the nature and date of any remains recorded during mitigation.

6 Predicted impacts and recommendations

- 6.1.1 The following predicted impacts of the proposed works at King Edward memorial Park Foreshore have been identified:
- Construction of cofferdams and campshed; construction of CSO shaft and associated chambers, culverts and outfall apron; and scour around temporary structures will have a direct impact on any surviving archaeological and palaeoenvironmental remains described in section 5.2 above.
- 6.1.2 It is recommended that targeted archaeological investigation and recording, including geoarchaeological/palaeoenvironmental sampling, be undertaken within the area of the temporary cofferdam and foreshore ground works to record *in situ* post-medieval (and potentially medieval) assets, many of which have been newly identified during this evaluation exposed on the surface of the foreshore. Any future works should also aim to record any surviving remains (particularly prehistoric) that may survive within the deep organic and alluvial deposits predicted on the Site's foreshore.
- 6.1.3 Monitoring of scour effects and implementation of scour protection measures should also be considered.
- 6.1.4 Further to the recommendations set out above, mitigation options will be reviewed and developed in detail with the main works contractor, during the detailed design phase. The proposed mitigation strategy will then be set out in a SSAWSI, to be submitted to and approved by the London Borough of Tower Hamlets' Archaeological Advisor prior to the commencement of any on-site enabling and construction work.

Appendix A: Specialist reports

A.1 Finds

Table A.1.1: Targeted walkover survey: all finds

Site Code	Context No	Object No	Material Type	Object Type	No.	Wt. (g)	Comments	Pot Fabric Code	Pot Form Code	Clay Pipe Ref
TTK 14	9000		Pottery	base sherd	1	36	worn	BORDG		
TTK 14	9000		Pottery	body sherd	1	38	very worn; glazed int	BORDG		
TTK 14	9000		Pottery	body sherd	1	5	glazed int & ext	BORDG		
TTK 14	9000		Pottery	body sherd	1	14	glazed int & ext; worn	BORDG		
TTK 14	9000		Pottery	base sherd	1	16		BORDY		
TTK 14	9000		Pottery	base sherd	1	37	backstamp PREGOUT & Co / MAASTRICHT / PORSELEIN / MADE IN HOLLAND	CONP	BOWL,PPOT	
TTK 14	9000		Pottery	profile	1	365	Thick, flat lid with heavy knop	ENGS	LID,PPOT	
TTK 14	9000		Pottery	base sherd	1	43	Stamped mark just above base: TOW.. /SUPERIOR / SAL... / 187.	ENGS	BOT GING,PPOT	
TTK 14	9000		Pottery	rim sherd	1	8		ENGS	BOT,PPOT	

Site Code	Context No	Object No	Material Type	Object Type	No.	Wt. (g)	Comments	Pot Fabric Code	Pot Form Code	Clay Pipe Ref
TTK 14	9000		Pottery	base sherd	1	46	Stamped mark just above base; GINGER BEER, with Britannia trade mark (possibly Batey's); worn	ENGS	BOT GING,PPOT	
TTK 14	9000		Pottery	body sherd	1	13	Very abraded	ENGS		
TTK 14	9000		Pottery	body sherd	1	25	stamped mark on shoulder [Merc]hant; worn	ENGS		
TTK 14	9000		Pottery	body sherd	1	57	stamped mark on shoulder: Wine & [Spirits] / WHI ... / SHAD[WELL]; worn, ochre-dipped	ENGS BRST	FLAG,PPOT	
TTK 14	9000		Pottery	body sherd	1	26	shoulder; stamped mark ...& Co	ENGS	BEER GING,PPOT	
TTK 14	9000		Pottery	rim sherd	1	63	ink bottle, pourer	ENGS	INK,PPOT	
TTK 14	9000		Pottery	rim sherd	1	33	ink bottle, pourer	ENGS	INK,PPOT	
TTK 14	9000		Pottery	body sherd	1	167	Unusual form: cylinder with rounded end, attached to flat surface	ENGS BRST		
TTK 14	9000		Pottery	base sherd	1	43		ENGS		
TTK 14	9000		Pottery	rim sherd	1	86	Stamped mark BATEY'S; worn	ENGS	BEER GING,PPOT	

Site Code	Context No	Object No	Material Type	Object Type	No.	Wt. (g)	Comments	Pot Fabric Code	Pot Form Code	Clay Pipe Ref
TTK 14	9000		Pottery	body sherd	1	75	stamped mark on shoulder: BAILEYS LONDON; ochre-dipped	ENGS BRST	FLAG,PPOT	
TTK 14	9000		Pottery	body sherd	1	24	Mark on shoulder, illegible	ENGS BRST		
TTK 14	9000		Pottery	body sherd	1	93	applied dec; thick-walled; water filter	ENGS BRST	FILT,PPOT	
TTK 14	9000		Pottery	body sherd	1	26	stamped label [GIN]GER BEER / Beaufoy & Co / Trade Mark [est]abd 1730 / ...Y & Co	ENGS BRST	BEER GING,PPOT	
TTK 14	9000		Pottery	figurine	1	9	Cat figurine, head end only	ENPO		
TTK 14	9000		Pottery	body sherd	1	6	Applied medallion	FREC		
TTK 14	9000		Pottery	base sherd	1	23		JACK		
TTK 14	9000		Pottery	base sherd	1	72	Roman whiteware candlestick?	MISC		
TTK 14	9000		Pottery	body sherd	1	34		MPUR		
TTK 14	9000		Pottery	body sherd	1	52	marbled slip ext & int	NIMS	BOWL,PPOT	
TTK 14	9000		Pottery	body sherd	1	26	marbled slip ext only; worn	NIMS	JUG,PPOT	
TTK 14	9000		Pottery	body sherd	2	18	very worn; rouletted dec	NOTS		
TTK 14	9000		Pottery	rim sherd	1	13	blue feather edge	PEAR	PLAT,PPOT	

Site Code	Context No	Object No	Material Type	Object Type	No.	Wt. (g)	Comments	Pot Fabric Code	Pot Form Code	Clay Pipe Ref
TTK 14	9000		Pottery	handle	1	78	horizontal looped side handle	PMR	BOWL HAND,PPOT	
TTK 14	9000		Pottery	base sherd	1	202	v worn; narrow base, glazed int (yellow), pale-firing fabric	PMR		
TTK 14	9000		Pottery	body sherd	1	20		PMR		
TTK 14	9000		Pottery	body sherd	1	90	handle stump; glazed int & ext	PMR		
TTK 14	9000		Pottery	handle	1	44	glazed	PMR		
TTK 14	9000		Pottery	body sherd	1	23	late white-slipped ware, with manganese marbling	PMR	BOWL,PPOT	
TTK 14	9000		Pottery	base sherd	1	50		REFR	TPOT,PPOT	
TTK 14	9000		Pottery	base sherd	1	114	backstamp WEDGWOOD	REFW		
TTK 14	9000		Pottery	handle	1	19	Very abraded	REFW		
TTK 14	9000		Pottery	base sherd	1	17	footring base	REFW		
TTK 14	9000		Pottery	rim sherd	2	24	v worn; moulded dec; dark red glaze	REFW		
TTK 14	9000		Pottery	base sherd	1	19	back stamp 11 over 69; very worn	REFW		
TTK 14	9000		Pottery	body sherd	1	12	flatware, dec int; very worn	REFW		
TTK 14	9000		Pottery	body sherd	1	12	very worn; dark red glaze, possibly MAJO?	REFW		
TTK 14	9000		Pottery	base sherd	1	70	Very abraded slip	SAM		

Site Code	Context No	Object No	Material Type	Object Type	No.	Wt. (g)	Comments	Pot Fabric Code	Pot Form Code	Clay Pipe Ref
TTK 14	9000		Pottery	base sherd	1	77		SAND		
TTK 14	9000		Pottery	body sherd	1	22	worn	STSL	DISH,PPOT	
TTK 14	9000		Pottery	body sherd	1	9		STSL	CUP,PPOT	
TTK 14	9000		Pottery	rim sherd	1	16	scalloped platter rim; worn	STSL	DISH,PPOT	
TTK 14	9000		Pottery	body sherd	2	50	polychrome dec int; very worn	TGW		
TTK 14	9000		Pottery	base sherd	1	100	large dish (footring base); very worn	TGW	DISH,PPOT	
TTK 14	9000		Pottery	rim sherd	1	13	fluted bowl, blue dec on pale blue	TGW	BOWL FLUT,PPOT	
TTK 14	9000		Pottery	body sherd	1	27	open form; very worn	TGW		
TTK 14	9000		Pottery	body sherd	1	15	body sherd with small hooked side handle; serving dish?	TPW		
TTK 14	9000		Pottery	body sherd	1	21	very worn; flatware	TPW		
TTK 14	9000		Pottery	base sherd	1	4	very worn	TPW		
TTK 14	9000		Pottery	body sherd	1	13	Proprietary stamp 'The Palme...'; worn	TPW		
TTK 14	9000		Pottery	body sherd	1	10	Applied medallion	WEST		
TTK 14	9000		Pottery	body sherd	1	9	blue & purple dec	WEST		
TTK 14	9000		Pottery	rim sherd	1	46	Green glazed vessel with very narrow mouth (or	XX		

Site Code	Context No	Object No	Material Type	Object Type	No.	Wt. (g)	Comments	Pot Fabric Code	Pot Form Code	Clay Pipe Ref
							spout?); stamp decoration; import??			
TTK 14	9000		Pottery	body sherd	1	44	very worn; flattish piece with applied 'flange' at right angles; form uncertain	XX		
TTK 14	9000	22	Pottery	Body Sherd	1	4	Coarse shelly ware, date unknown	XX		
TTK 14	9000		Animal Bone				1 x cattle 1st phalanx			
TTK 14	9000		Animal Bone				1 x sheep tibia			
TTK 14	9000		Animal Bone				1 x sheep metatarsal			
TTK 14	9000		Flint	flake	1	8				
TTK 14	9000		Clay Pipe	bowl	1	10	1680 - 1710. Faint maker's initials ES - possibly Edward Steele (1686) or Edward Smith (1699)			AO22
TTK 14	9000		Clay Pipe	bowl	1	14	1700 - 1770. Possible maker's mark C? - unreadable			AO25
TTK 14	9000		Clay Pipe	bowl	1	9	1640 - 1660. Very worn, slightly burnt.			AO10

Site Code	Context No	Object No	Material Type	Object Type	No.	Wt. (g)	Comments	Pot Fabric Code	Pot Form Code	Clay Pipe Ref
TTK 14	9000		Clay Pipe	bowl	1	15	1640 - 1660. Partial rouletting around rim of bowl.			AO10
TTK 14	9000		Clay Pipe	bowl	1	9	1640 - 1660.			AO10
TTK 14	9000		Clay Pipe	bowl	1	11	1820 - 1840			AO28
TTK 14	9000		Clay Pipe	bowl	3	27	1700 - 1770			AO25
TTK 14	9000		Clay Pipe	bowl	4	64	1660 - 1680			AO18
TTK 14	9000		Clay Pipe	bowl	2	38	1680 - 1710			AO22
TTK 14	9000		Clay Pipe	bowl	1	9	Unidentifiable bowl fragment			
TTK 14	9000		Clay Pipe	stem	3	17	Unidentifiable stem fragments			
TTK 14	9000		CBM	tile	1	22	Corner fragment of tile with crimped edges. Large square nail hole.			
TTK 14	9000		CBM	tile	1	26	C18th. Fragment of tin-glazed tile.			
TTK 14	9000		Glass	bottle	1	38	Green glass bottle base, 3/4 complete, embossed with E & J BU... and a cat motif			
TTK 14	9000		Glass	bottle	1	24	Partial shoulder and neck of a clear blue-green glass rectangular bottle			

Site Code	Context No	Object No	Material Type	Object Type	No.	Wt. (g)	Comments	Pot Fabric Code	Pot Form Code	Clay Pipe Ref
TTK 14	9000		Glass	vessel	1	32	Heavy clear glass moulded tapering cylinder - possibly part of a decorative handle or knob			
TTK 14	9000		Glass	vessel	2	29	2 x clear glass stoppers			
TTK 14	9000		Glass	vessel	1	14	1 x clear blue-green glass stopper			
TTK 14	9000		Glass	uncertain	1	5	Opaque green glass tapering hollow cylinder. Possibly a modern decorative item or bead.			
TTK 14	9000		Glass	vessel	1	30	Fragment of a clear red glass vessel with very decorative flared rim.			
TTK 14	9000		Glass	vessel	1	17	Opaque blue glass vessel fragment, possibly from a lid. Highly decorated with a ribbed pattern above a foliate design.			
TTK 14	9000		Glass	vessel	1	20	Opaque purple glass base of a small jar or pot			

Site Code	Context No	Object No	Material Type	Object Type	No.	Wt. (g)	Comments	Pot Fabric Code	Pot Form Code	Clay Pipe Ref
TTK 14	9000		Glass	object	1	9	Clear glass marble, very worn			
TTK 14	9000		Glass	object	1	5	Clear glass marble with blue, green and white interior			
TTK 14	9000		Glass	object	1	4	Blue glass marble with white swirls			
TTK 14	9000		Glass	object	1	5	Pearlescent blue glass marble			
TTK 14	9000		Ceramic	kiln furniture	1	10	Blue and white glazed kiln spacer cube			
TTK 14	9000		Organic	shell	2	17	coconut shell			
TTK 14	9000		Stone	Weight	1	19	Circular stone with hole drilled through top			
TTK 14	9000		Stone	object	3	4	Three joining fragments of a small stone cylinder with central hole drilled through.			
TTK 14	9000		Slag	slag	2	135				
TTK 14	9000		Shell	shell	1	15	Oyster shell, left hand valve, unmeasureable			
TTK 14	9000		Shell	button	1	<1	Small round button with 4 holes drilled through centre			

Site Code	Context No	Object No	Material Type	Object Type	No.	Wt. (g)	Comments	Pot Fabric Code	Pot Form Code	Clay Pipe Ref
TTK 14	9000		Resin	uncertain	1	24	Circular rod, streaked dark brown/grey			
TTK 14	9000		Carbon	carbon rod	1	16	Hollow circular rod			
TTK 14	9000		Iron	Patten	1	534	Patten to fit right foot. Iron frame to fit around base of shoe, and iron upper to secure toe			
TTK 14	9000		Copper Alloy	strip	1	20	Flat strip, bent at one end with unevenly-spaced rivet or punch holes along both long edges.			
TTK 14	9000		Copper Alloy	uncertain	1	18	Hollow hexagonal tube, containing hollow cylindrical tube. One end is sealed by a tapering circular fitment. Function unknown.			
TTK 14	9000		Other Metal	button	1	1	Semiglobular button, underdecorated with square fastening loop and three holes			

Site Code	Context No	Object No	Material Type	Object Type	No.	Wt. (g)	Comments	Pot Fabric Code	Pot Form Code	Clay Pipe Ref
							pierced on back			
TTK 14	9000		Leather	Shoe	1		Sole of right-foot shoe. Circular copper alloy pins along both sides of instep. Square iron pins and iron strip around toe. Heel is worn. No upper surviving.			
TTK 14	9000		Rubber	stopper	1	16	Bottle stopper, rouletting around top to aid grip, S on top of stopper			
TTK 14	9000		Rubber	washer	1					
TTK 14	9000		Rubber	loom band	1		Loom band, blue and green stripes			
TTK 14	9000		Plastic	toy	4	96	Children's toys: Jessie from Toy Story 2 and 3, Captain Hook, Leonardo Ninja Turtle, toy sword. Post Office account card.			

A.2 Geoarchaeological sediment descriptions

Table A.2.1: Hand auger points sediment descriptions

Location:		524162.97 175677.99	Borehole ID:	HA01	Comments: TTT King Edward Memorial Park Borehole HA01	
Level (top):		-1.7m OD	Drg:			
Depth		Context	Samples	Sediment description	Interpretation	
From surface	mOD					
0 – 0.7	-1.7 – -2.4			Dark grey silty sandy clay with fragments of CBM, pottery and fragments of re-deposited chalk	Active beach deposits	Fluvial sandy gravels and beach deposits.

Location:		535597 180664	Borehole ID:	HA02	Comments: TTT King Edward Memorial Park Borehole HA02	
Level (top):		-1.6m OD	Drg:			
Depth		Context	Samples	Sediment description	Interpretation	
From surface	mOD					
0 – 0.4	-1.6 – -2.0			Medium brown silty clay with occasion gravels <0.03m fragments of CBM, pottery and fragments of re-deposited chalk	Active beach deposits	Fluvial sandy gravels and beach deposits

Location:		535621 180678	Borehole ID:	HA03	Comments: TTT King Edward Memorial Park Borehole HA03	
Level (top):		-2.05m OD	Drg:			
Depth		Context	Samples	Sediment description	Interpretation	
From surface	mOD					
0 – 0.3	-2.05 – -2.35			Medium brown silty sandy clay with occasion gravels <0.03m, fragments of CBM, pottery and fragments of re-deposited chalk	Active beach deposits	Fluvial sandy gravels and beach deposits

Location:		535648 180699	Borehole ID:	HA04	Comments: TTT King Edward Memorial Park Borehole HA04	
Level (top):		-2.06m OD	Drg:			
Depth		Context	Samples	Sediment description	Interpretation	
From surface	mOD					
0 – 0.25	-2.06 – -2.31			Medium brown silty sandy clay with occasion gravels <0.03m fragments of CBM, pottery and fragments of re-deposited chalk	Active beach deposits	Fluvial sandy gravels and beach deposits

Location:		535621 180678	Borehole ID:	HA05	Comments: TTT King Edward Memorial Park Borehole HA03	
Level (top):		-2.05m OD	Drg:			
Depth		Context	Samples	Sediment description	Interpretation	
From surface	mOD					
0 – 0.3	-2.05 – -2.35			Medium brown silty sandy clay with occasion gravels <0.03m fragments of CBM, pottery and fragments of re-deposited chalk	Active beach deposits	Fluvial sandy gravels and beach deposits

A.3 Deposit modelling: transect descriptions

The locations of the transects are shown in **Figure 6**. Transects A-D are shown in **Figure 7**.

Transect A

Transect A ran north-west to south-east across the south-west end of the Site. The transect was approximately 177m long and included three deposit records, one (TQ38SE69) located on the landward side of the river wall, the other two (TQ38SE76 and TQ38SE77) located on the foreshore. All three records were historical (TQ38SE69 was drilled in 1898, TQ38SE76 and TQ38SE77 in 1885) and as such the data needs to be treated with caution.

The first deposit record (TQ38SE69) was located 54m to the north-west of the river wall where the deposits were recorded as 2.74m of made ground over 1.83m of alluvial silts and clays over 6.1m of organic deposits comprised of organic clays and peats. These organic deposits overlay 4.27m of river gravels which in turn overlay London Clay.

The second deposit record (TQ38SE76) was located approximately 45m to the southeast of the river wall on the foreshore where the deposit records were recorded as 1.83m of “rubbish”. Located where it is on the foreshore it can only be assumed that the term “rubbish” referred to a mixed deposit of silts clays and gravels probably with an anthropogenic input all reworked by fluvial action. This “rubbish” overlay 1.52m of alluvium over 3.97m of organic deposits over 0.91m of river gravels.

For the purposes of the transect figure (**Figure 6**) the “rubbish” has been grouped in with the upper part of the alluvium; this is inconsequential as the profile of the modern foreshore shows that this upper part of the alluvium has since been scoured away. Importantly, approximately 0.8m of the lower part of the alluvium could still be present on the upper part of the foreshore within the Site, adjacent to the river wall.

The third record TQ38SE77 was located approximately 116m along the transect to the southeast of the river wall. The deposits were recorded as 2.13m of alluvium (described as “mud” in the record) over 0.61m of river gravels over London Clay.

From comparison of the modern profile of the river bed based on bathymetric contour data (**Appendix A.4**) with the two historical deposit records located on the foreshore, it can be seen that up to 5 metres of sediment have been scoured away since the boreholes were taken. At the point where TQ38SE76 was located the deposits are now more likely to consist of organic deposits over river gravels. At the location of TQ38SE77 the deposits are now most likely to consist of just London Clay.

Transect B

Transect B ran north-west to south-east through the Site, 22m to the east of Transect A. There were two deposit records, TQ38SE349 on the landward side and HA01 on the foreshore.

The first deposit record TQ38SE349 was located on the land, 75m to the north-west of the river wall, where the deposits were recorded as 6.1m of made ground over 3.96m of river gravels over London Clay.

The second deposit record HA01 was located approximately 11m to the south-east of the river wall and consisted of 0.7m of active beach deposits. The deposits were recorded from hand augering undertaken as part of this evaluation and as such the top of the deposit record closely matches the modern profile of the river bed taken from bathymetric contour data (**Appendix A.4**). The hand auger was unable to penetrate deeper at this location and therefore the full depth of active beach deposits and the nature of the underlying deposits on the foreshore is uncertain.

Transect C

Transect C measured approximately 135m long and ran north-west to south-east across the north-east end of the Site. There were four deposit records, two (TQ38SE13 and TQ38SE59) were located on the landward side of the river wall and two on the foreshore (HA03 and SR2029). The first two records (TQ38SE13 and TQ38SE59) were historical and Victorian in date. Of the two records located on the foreshore SR2029 was taken in 2010 and HA03 during the evaluation.

The first deposit record TQ38SE13 was located approximately 42m to the north-west of the river wall where the deposits were recorded as 2.9m of made ground over 3.2m of alluvial deposits of silts, sands and occasional gravels overlaying 3.65m of river gravels over London Clay.

The second deposit record TQ38SE59 was located 14m to the north-west of the river wall where the deposits were recorded as 4.88m of made ground over 2.13m of alluvium over 4.72m of river gravels over London Clay.

The third deposit record HA03 was from a hand auger survey undertaken as part of the evaluation, the deposits encountered were recorded as 0.3m of active beach deposits. Below this depth the hand auger encountered impenetrable ground and so the full depth of active beach deposits and underlying deposits at this location is uncertain.

The fourth deposit record SR2029 was located on the river bed, 65m to the south-east of the river wall where the deposits were recorded as 0.6m of active beach deposits comprised of a sandy gravel with occasional brick, slate and ceramic fragments over 0.9m of clayey gravelly alluvium over 1.3m of river gravels over London Clay.

As a recently drilled borehole and auger hole the upper surface of SR2029 and HA03 closely match the plot of the profile of the river bed taken from bathymetric contour data (**Appendix A.4**).

A.4 Data References

Deposit record	Source	Easting	Northing	Elevation m OD	Total depth Metres
HA01	WA	535581.8	180659.3	-1.7	0.7
HA02	WA	535597	180664	-1.6	0.4
HA03	WA	535621	180678	-2.05	0.3
HA04	WA	535648	180699	-2.06	0.25
HA05	WA	535654	180711	-2.25	0.3
SR2029	TTT	535663	180646	-5.2	5
SR5015	TTT	535858	180741	-4.15	5
TQ38SE13	BGS	535610	180740	7.14	16.46
TQ38SE2915	BGS	535470	180610	5.2	13.3
TQ38SE2919	BGS	535472	180622	5.89	1
TQ38SE349	BGS	535550	180740	5.66	12.19
TQ38SE4090	BGS	535500	180550	-1.55	7.63
TQ38SE59	BGS	535600	180700	4.72	26.26
TQ38SE69	BGS	535540	180710	5.27	26.2
TQ38SE76	BGS	535580	180620	0.76	8.23
TQ38SE77	BGS	535620	180560	-4.88	22.1
TQ38SE86	BGS	535620	180710	5.03	16.46

Key to source

WA = Wessex Archaeology
 TTT = Thames Tunnel Tideway
 BGS = British Geological Survey

Data references

MoLA = 'MoLA monitored TTT core data supplied by client, ref. email from Suzanna Pembroke 31/3/14'

BGS = <http://www.bgs.ac.uk/data/boreholescans/home.html>

Bathymetry data: DDS-000690-WXARC_Bathymetry (Transmittal:
100/WXARC/000009 Date: 13/8/14 Filename:100-MD-GIS-WXARC-
000004)

Appendix B : NMR OASIS archaeological report form

OASIS DATA COLLECTION FORM: England

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Printable version

OASIS ID: wessexar1-216094

Project details

Project name	Foreshore-based Archaeological Evaluation, King Edward Memorial Park Foreshore
Short description of the project	Wessex Archaeology was commissioned to undertake a foreshore-based archaeological evaluation at King Edward Memorial Park Foreshore, a Thames Tideway Tunnel project site. The evaluation included parametric sonar survey, geoarchaeological and palaeoenvironmental assessment of cores, a walkover survey and and the production of a foreshore deposit model.
Project dates	Start: 09-06-2014 End: 05-03-2015
Previous/future work	Yes / Yes
Any associated project reference codes	102510.34 - Contracting Unit No.
Type of project	Field evaluation
Site status	None
Current Land use	Coastland 1 - Marine
Current Land use	Coastland 2 - Inter-tidal
Monument type	BARGE BED Post Medieval
Monument type	POST ALIGNMENT Uncertain
Significant Finds	CERAMIC Roman
Significant Finds	CERAMIC Post Medieval
Methods & techniques	"Augering","Fieldwalking","Geophysical Survey","Vibro-core"
Development type	Tunnel
Prompt	Planning condition
Position in the planning process	After full determination (eg. As a condition)
Solid geology	LONDON CLAY
Drift geology	ALLUVIUM
Techniques	Other

Project location

Country England

Site location	GREATER LONDON TOWER HAMLETS TOWER HAMLETS King Edward Memorial Park Foreshore
Study area	2.00 Hectares
Site coordinates	TQ 35692 80801 51.5093232535 -0.0444694936687 51 30 33 N 000 02 40 W Polygon
Site coordinates	TQ 35362 80592 51.5075242485 -0.0493025805136 51 30 27 N 000 02 57 W Polygon
Site coordinates	TQ 35692 80592 51.5074449213 -0.0445499338064 51 30 26 N 000 02 40 W Polygon
Site coordinates	TQ 35362 80801 51.509402586 -0.0492223355801 51 30 33 N 000 02 57 W Polygon
Height OD / Depth	Min: -6.50m Max: 5.00m

Project creators

Name of Organisation	Wessex Archaeology
Project brief originator	Wessex Archaeology
Project design originator	Wessex Archaeology
Project director/manager	David Norcott
Project supervisor	David Howell
Project supervisor	Richard Payne
Project supervisor	Gail Wakeham
Type of sponsor/funding body	Developer

Project archives

Physical Archive Exists?	No
Digital Archive recipient	Wessex Archaeology
Digital Contents	"none"
Digital Media available	"Database","GIS","Geophysics","Images raster / digital photography","Text"
Paper Archive recipient	Wessex Archaeology
Paper Contents	"none"
Paper Media available	"Report"

Project bibliography 1

Publication type	Grey literature (unpublished document/manuscript)
Title	Foreshore-based Archaeological Evaluation Report King Edward Memorial Park Foreshore

Author(s)/Editor(s)	Howell, D., Norcott, D., Payne, R. and Wakeham, G.
Other bibliographic details	102510.34
Date	2015
Issuer or publisher	Wessex Archaeology
Place of issue or publication	Salisbury
URL	http://oasis.ac.uk
Entered by	Richard Milwain (r.milwain@wessexarch.co.uk)
Entered on	29 June 2015

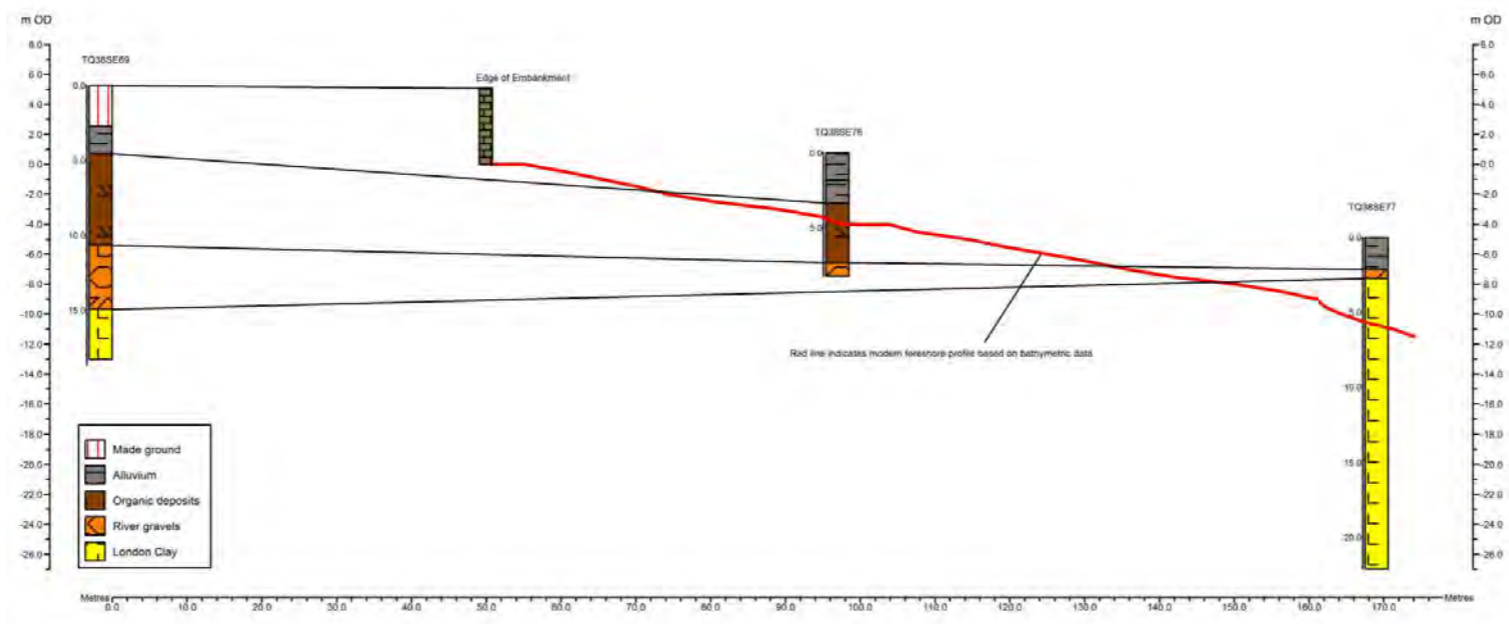
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Please e-mail [Historic England](#) for OASIS help and advice

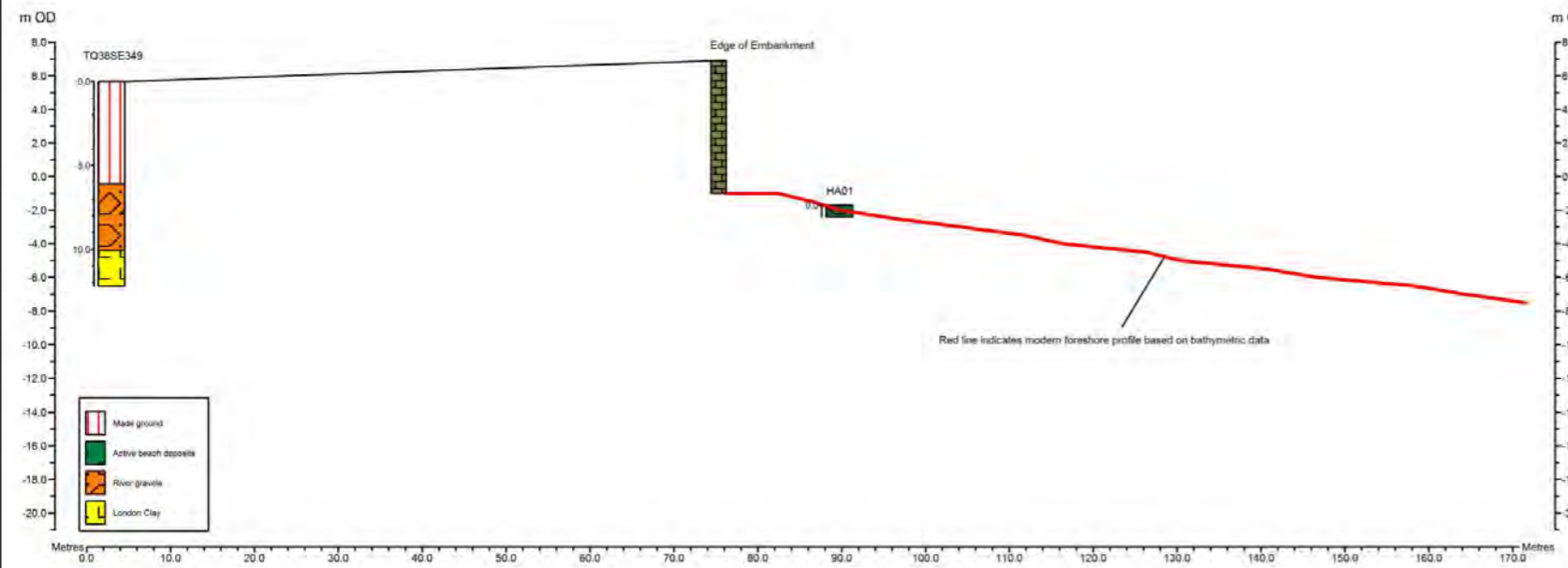
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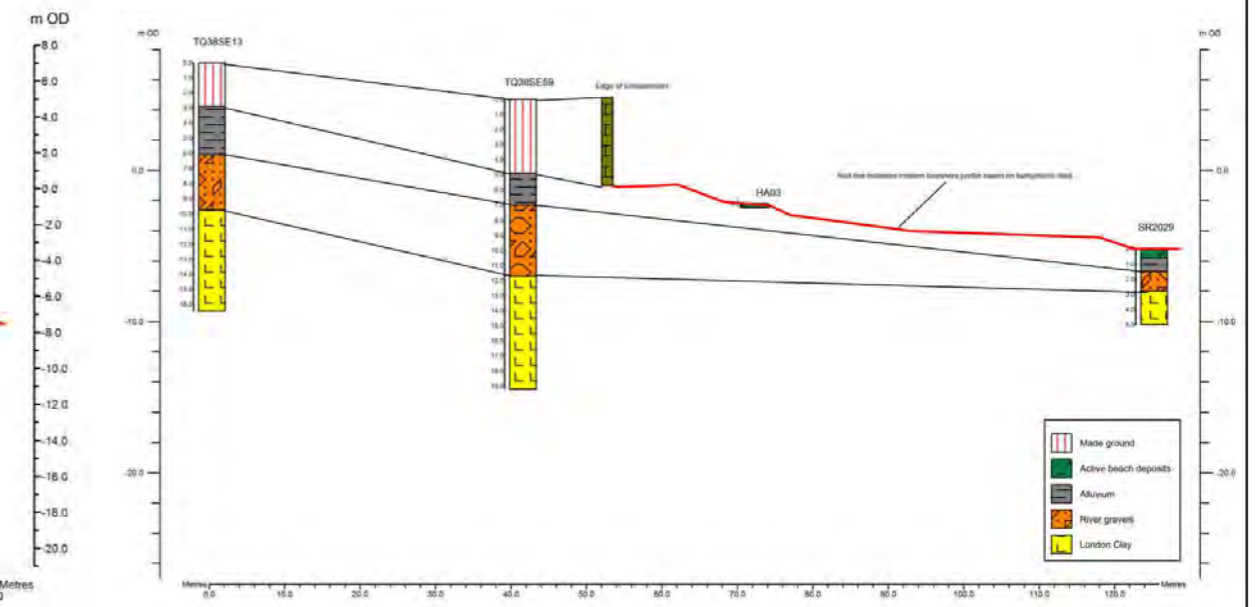
Figures



Transect A



Transect B

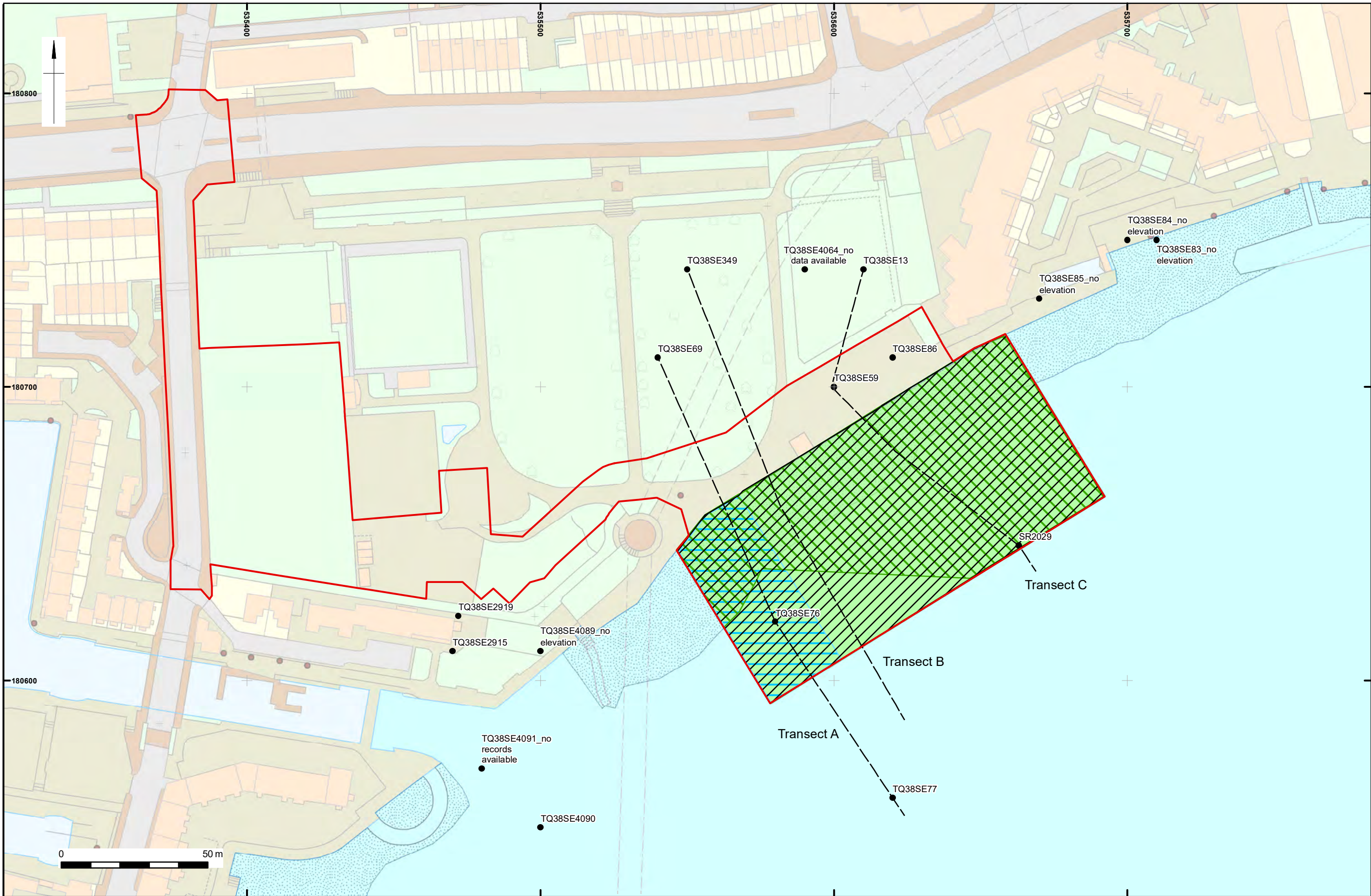



Transect C



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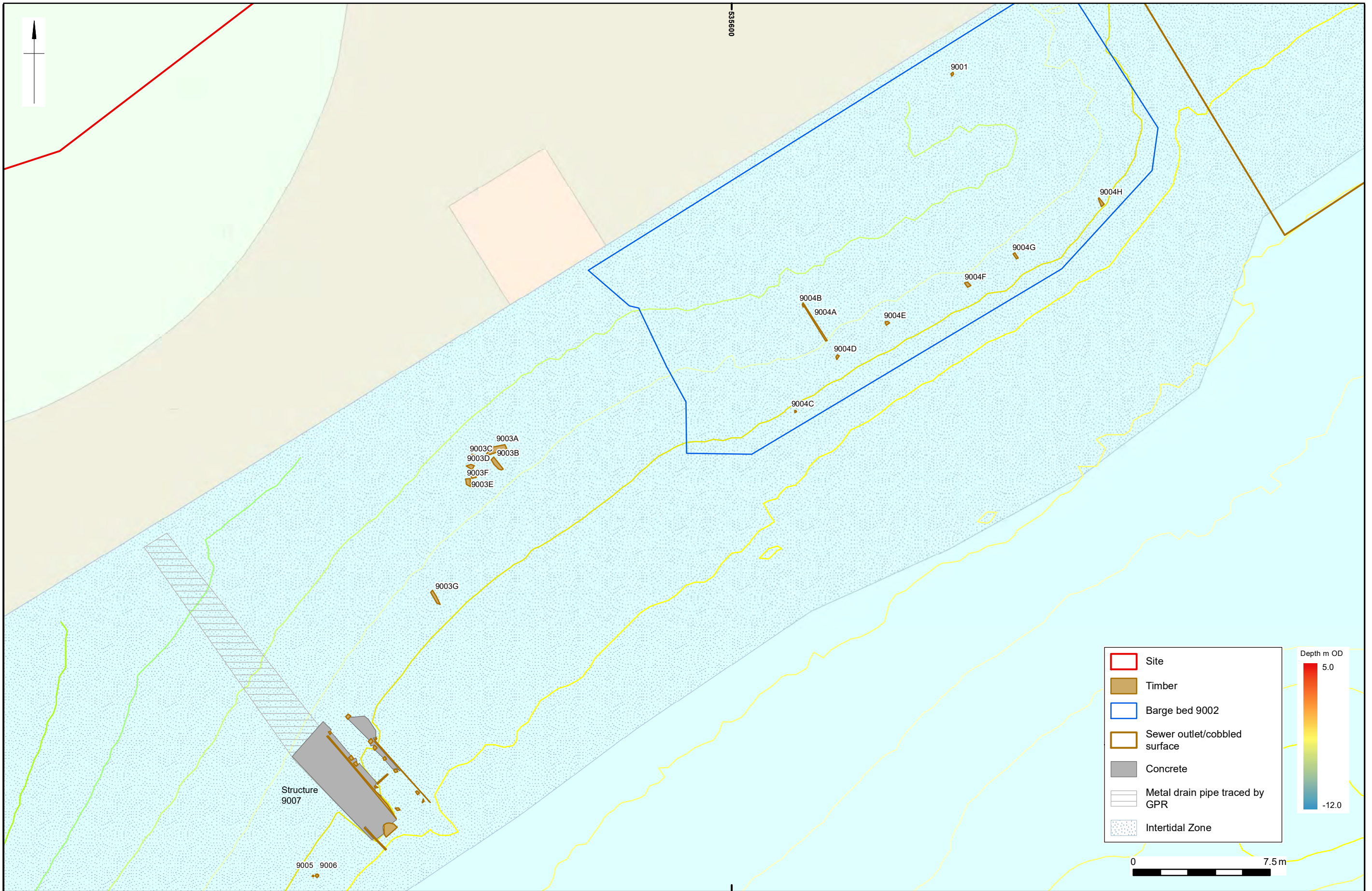
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 <p>Contains Ordnance Survey data © Crown copyright and database right 2013. This material is for client report only © Wessex Archaeology. No unauthorised reproduction.</p>	<p>Site</p> <p>Intertidal Zone</p>	<p>Borehole</p> <p>Transect</p>	<p>LZ1</p> <p>LZ2</p>	<p>LZ3</p> <p>LZ4</p>	Date: 03/03/15	Revision Number: 0
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					Path: X:\PROJECTS\102510\GIS\FigsMXD\Evals_DO\KEMP\Fig05mxd	

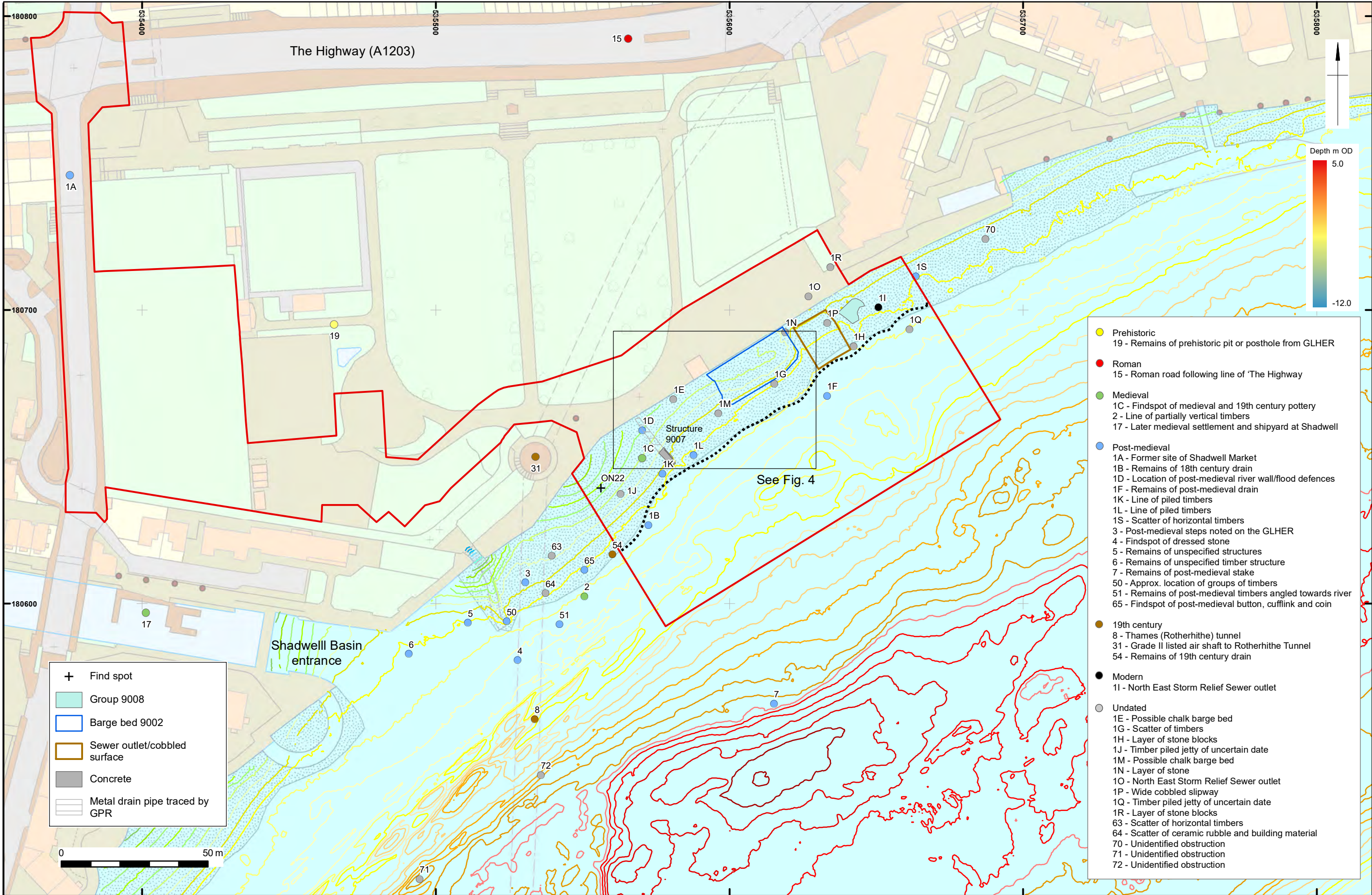
King Edward Memorial Park Foreshore Deposit Modelling: location of transects and predicted landscape zones

Figure 5




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- Prehistoric
 - 19 - Remains of prehistoric pit or posthole from GLHER
- Roman
 - 15 - Roman road following line of 'The Highway'
- Medieval
 - 1C - Findspot of medieval and 19th century pottery
 - 2 - Line of partially vertical timbers
 - 17 - Later medieval settlement and shipyard at Shadwell
- Post-medieval
 - 1A - Former site of Shadwell Market
 - 1B - Remains of 18th century drain
 - 1D - Location of post-medieval river wall/flood defences
 - 1F - Remains of post-medieval drain
 - 1K - Line of piled timbers
 - 1L - Line of piled timbers
 - 1S - Scatter of horizontal timbers
 - 3 - Post-medieval steps noted on the GLHER
 - 4 - Findspot of dressed stone
 - 5 - Remains of unspecified structures
 - 6 - Remains of unspecified timber structure
 - 7 - Remains of post-medieval stake
 - 50 - Approx. location of groups of timbers
 - 51 - Remains of post-medieval timbers angled towards river
 - 65 - Findspot of post-medieval button, cufflink and coin
- 19th century
 - 8 - Thames (Rotherhithe) tunnel
 - 31 - Grade II listed air shaft to Rotherhithe Tunnel
 - 54 - Remains of 19th century drain
- Modern
 - 11 - North East Storm Relief Sewer outlet
- Undated
 - 1E - Possible chalk barge bed
 - 1G - Scatter of timbers
 - 1H - Layer of stone blocks
 - 1J - Timber piled jetty of uncertain date
 - 1M - Possible chalk barge bed
 - 1N - Layer of stone
 - 1O - North East Storm Relief Sewer outlet
 - 1P - Wide cobbled slipway
 - 1Q - Timber piled jetty of uncertain date
 - 1R - Layer of stone blocks
 - 63 - Scatter of horizontal timbers
 - 64 - Scatter of ceramic rubble and building material
 - 70 - Unidentified obstruction
 - 71 - Unidentified obstruction
 - 72 - Unidentified obstruction

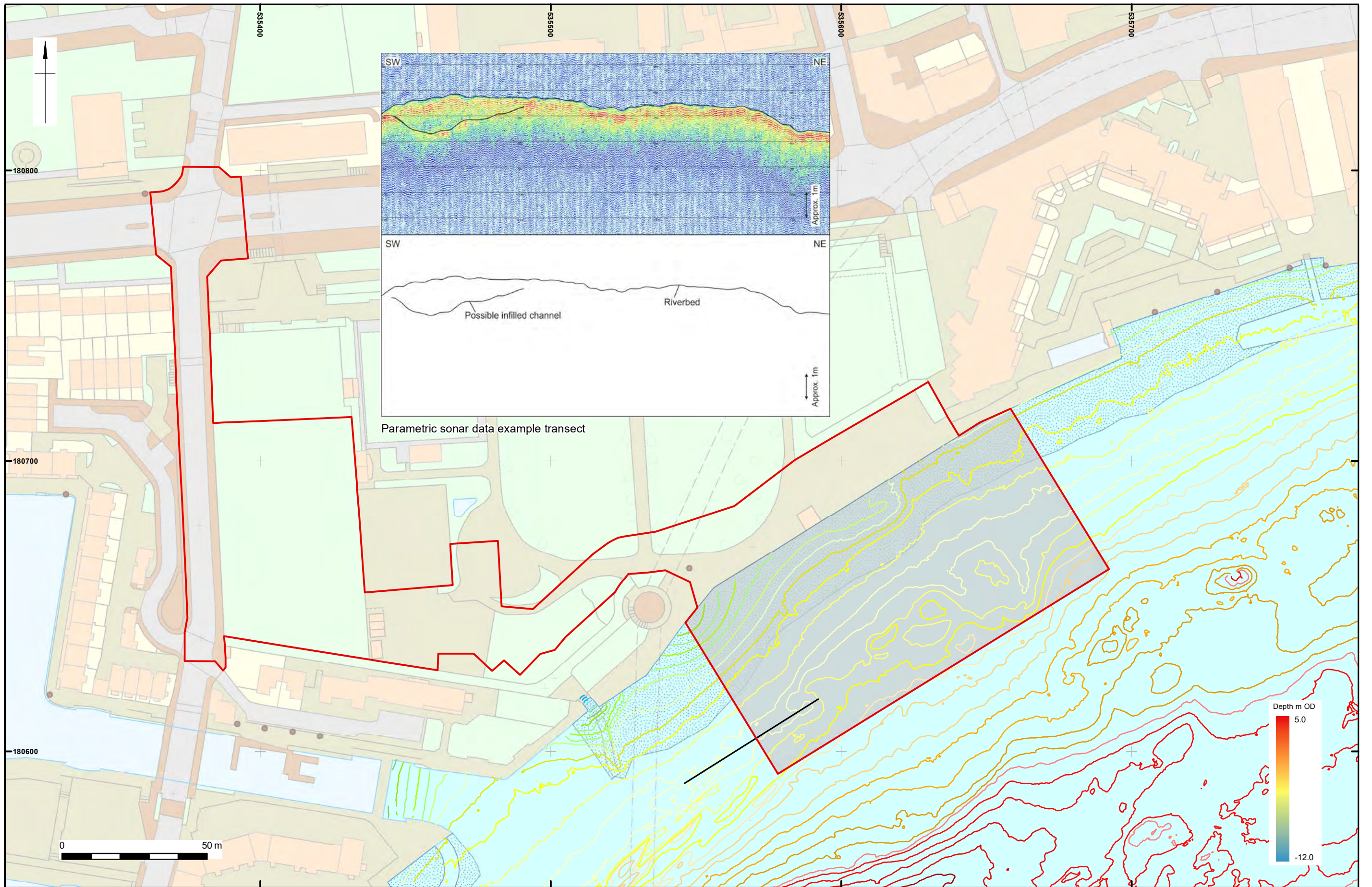
- + Find spot
- Group 9008
- Barge bed 9002
- Sewer outlet/cobbled surface
- Concrete
- Metal drain pipe traced by GPR



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	This material is for client report only © Wessex Archaeology. No unauthorised reproduction.	 Intertidal Zone	- - - - - Extent of walkover survey	Scale: 1:1250 at A3	Illustrator: KL
			Path: X:\PROJECTS\102510\GIS\FigsMXD\Evals_DO\KEMP\Fig03.mxd		

King Edward Memorial Park Foreshore targeted walkover results with known Historic Environment Assets (HEA) within site

Figure 3



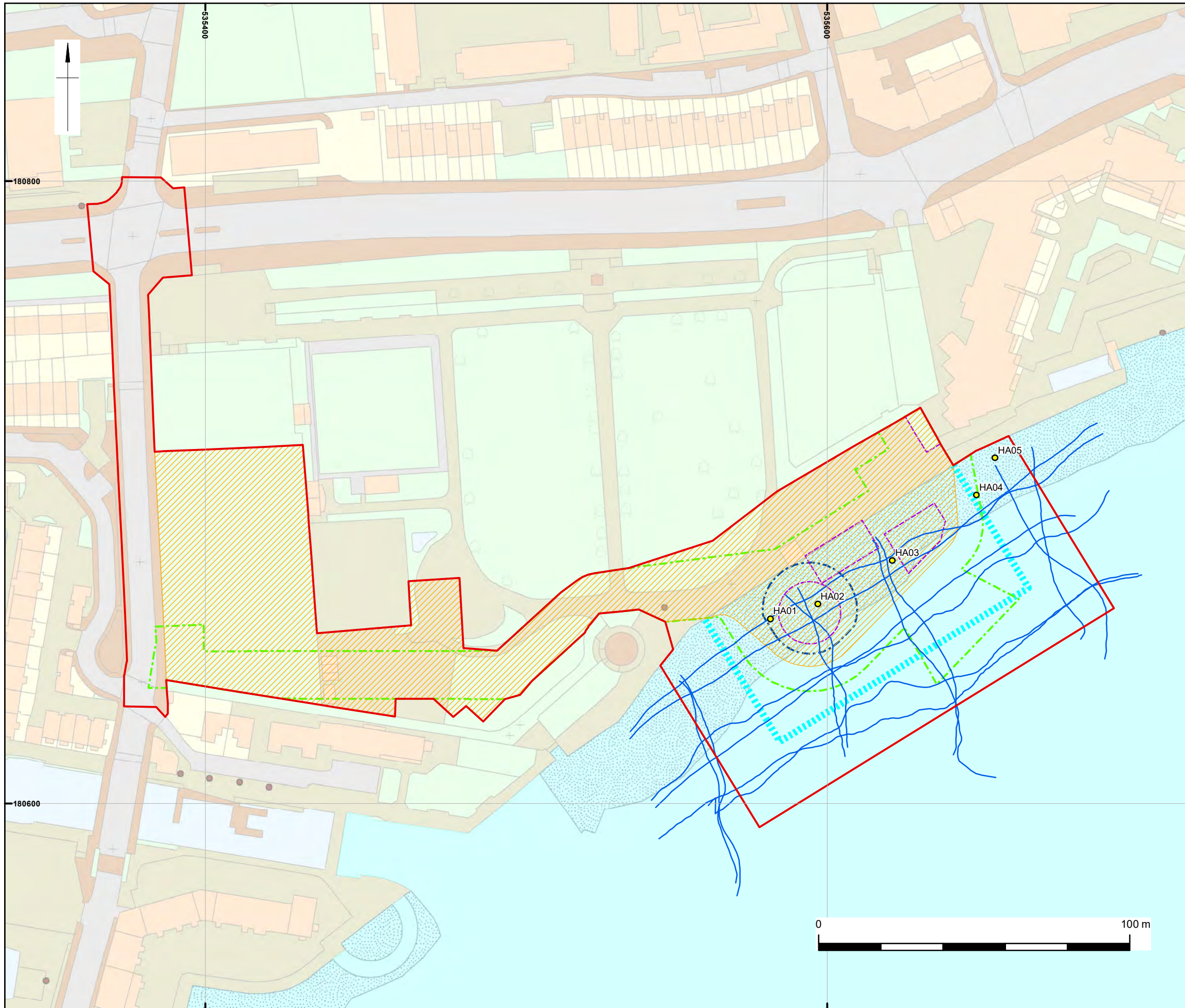
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- Site
- Transect
- Area with Pleistocene/
Holocene deposits
- Intertidal Zone

Date:	24/02/15	Revision Number:	0
Scale:	1:1250 at A3	Illustrator:	KL
Path:	X:\PROJECTS\102510\GIS\FigsMXD\Evals_DO\KEMP\Fig02.mxd		

King Edward Memorial Park Foreshore parametric sonar results

Figure 2



- Site
- Hand auger
- Parametric sonar survey lines
- Above-ground Structure Zone
- All Site Structure Zone
- Required Landscaping Area
- Shaft Zone
- Maximum extent of temporary works platform
- Intertidal Zone
- River Thames

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King Edward Memorial Park Foreshore evaluation location

Figure 1



Plate 8: View from north showing detail of group 9008 with alignment of sawn timber blocks of possible structure; and group of timber posts of possible jetty in the river in background



Plate 9: View from north of timber group 9003A-F



Plate 10: Detail of timber 9003A



Plate 11: Detail of timber posts 9005 and 9006

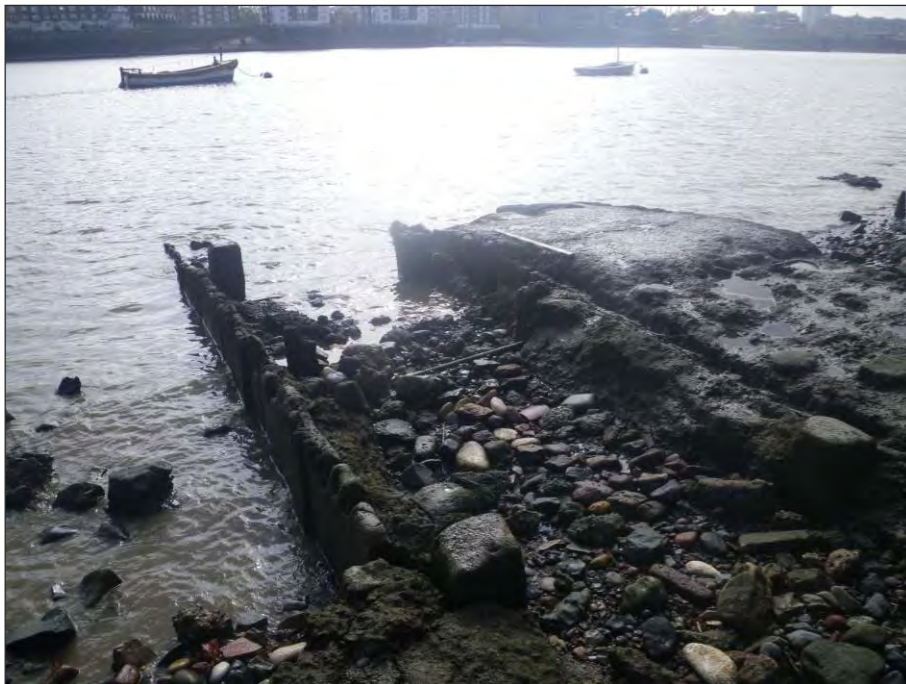


Plate 12: View from north of structure 9007



Plate 13: View from north-west showing detail of south-western part of structure 9007 with concrete infilling and timber covering outlet underneath



Plate 14: View from south-west of structure 9007 showing depth of concrete



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Plate 1: View from west of barge bed 9002 with timber post alignment 9004 on southern edge, by river



Plate 2: Detail of timber post 9004F



Plate 3: View from north of timber post 9004A and plank 9004B with post 9004D in background



Plate 4: View from south of timber post 9004A ?joining plank 9004B



Plate 5: Detail of timber post 9001



Plate 6: View from east of North Eastern Storm Relief sewer outlet and cobbled surface (HER ref 1P)



Plate 7: View from east of group 9008 – sawn timber blocks and ceramic dump; and group of timber posts of possible jetty in river



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