



19 QUEEN ELIZABETH STREET London SE1

London Borough of Southwark

Historic environment assessment

August 2013



**19 QUEEN ELIZABETH STREET
London
SE1 2LP**

Site Code QEL13

Report on an archaeological evaluation

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Summary (non-technical)

This report presents the results of an archaeological field evaluation carried out by Museum of London Archaeology (MOLA) on the site of 19 Queen Elizabeth Street, London, SE1. The report was commissioned from MOLA by The Third Quarter (QE Street) Limited.

Field evaluation is site-based assessment: small-scale, sample-based exploratory investigation designed to test the conclusions of a preliminary desk-based study (Historic Environment Assessment: HEA, MOLA 2013a). The field evaluation is required by London Borough of Southwark in order to provide additional material information on the archaeological implications of a planning scheme for redevelopment of the site (prior to determination of the application).

The results of field evaluation have helped to refine and amplify the initial interpretation of the archaeological potential of the site in the HEA. The evaluation trench (located in the present open car park) revealed 1.20m depth of post-medieval dumped infill deposits, consistent with the documentary evidence which suggests that this was an external yard and back garden area behind former buildings fronting Queen Elizabeth Street. These deposits were part of the reclamation of a much earlier marshy area evidenced by a further c. 7.62m depth of alluvial deposits forming part of an unusually deep natural water channel. Samples suggest that this sequence represents a substantial timescale, beginning as a fast flowing channel in the Mesolithic period (about 10,000 years ago) gradually silting into a marshy sedge backwater and then a water meadow, prior to the post-medieval land reclamation. Because this was an open waterway during the Bronze Age (c 3,000 years ago) the rare evidence of early agriculture of that period found elsewhere in the locality – a principal objective of the field evaluation – was not present.

The field evaluation has therefore concluded that the archaeological potential of the site is lower than anticipated and that further on-site fieldwork is unlikely to be necessary. However the deposit sequence recovered from samples through the channel contains evidence of the evolution of the local landscape and environment over perhaps 8,000 years. It is therefore recommended that further off-site assessment and analysis of the palaeo-environmental evidence (eg pollen and diatom subsamples) is carried out, including radiocarbon dating of any suitable organic material in order to provide a chronology. It is recommended that the results of the geoarchaeological analysis be reported in a short note in the London Archaeologist, and should also be included within the MOLA on-going London wide Early Holocene topography project. This would then constitute a mitigation strategy for the archaeological impact of the development scheme.

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1 Introduction

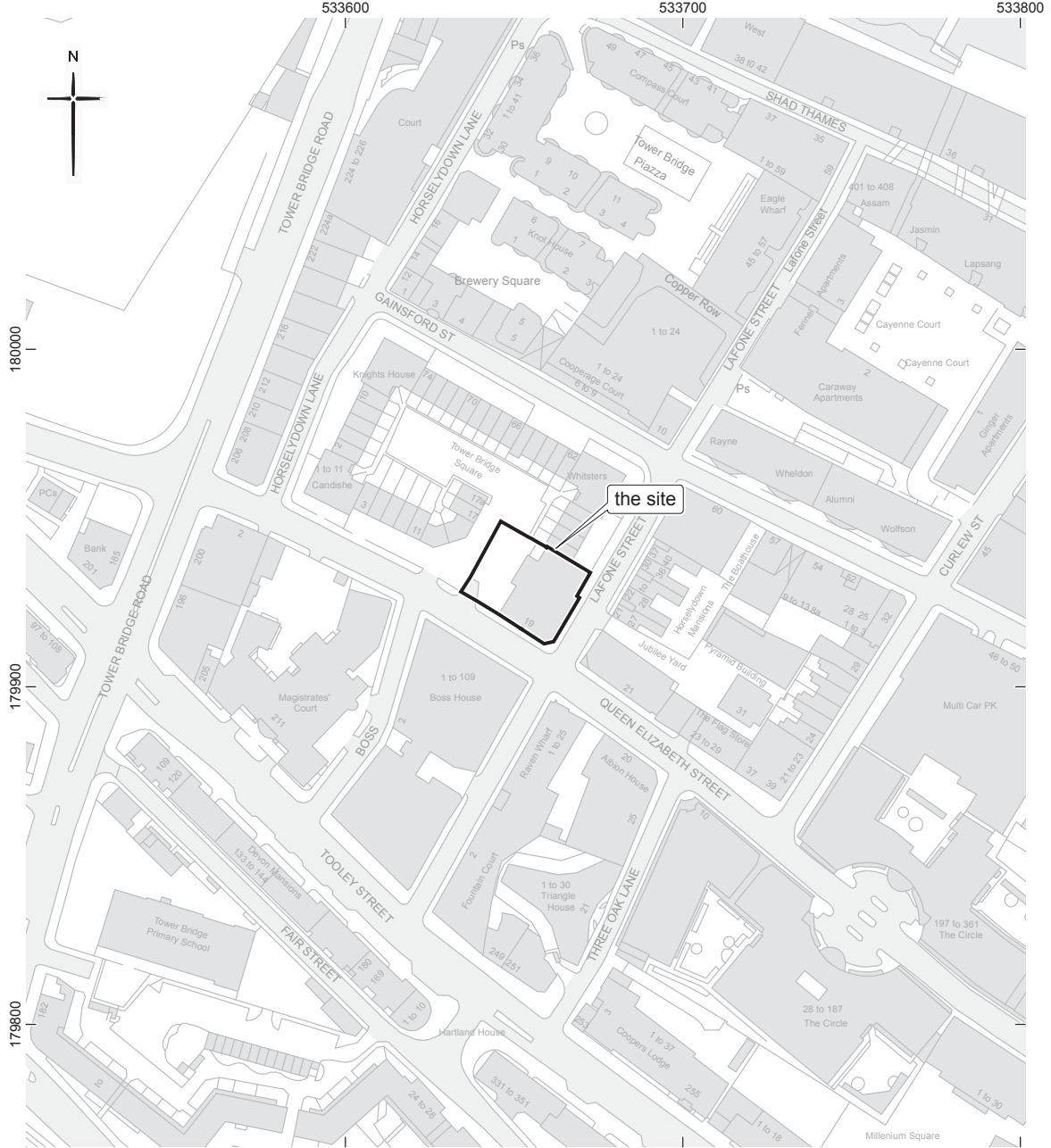
1.1 Site background

The evaluation took place at 19 Queen Elizabeth Street, London, SE1, hereafter called 'the site'.

The site lies on the north side of Queen Elizabeth Street at the junction with Lafone Street and is bounded to the north by houses fronting onto Lafone Street and to the west by Tower Bridge Square. The centre of the site lies at National Grid reference 533657 179926 (see Fig 1). The site includes an early 20th-century three storey building and an open ground-level car park to the west. Ground level within the car park is c 4.57m above Ordnance Datum (OD), the standing building has a basement with a finished floor level of c 2.1m OD (1.9mbgl). The site code is QEL13.

A desk-based *Historic Environment Assessment* was previously prepared, which covers the whole area of the site (MOLA, 2013a) The *Assessment* document should be referred to for information on the natural geology, archaeological and historical background of the site, and the initial interpretation of its archaeological potential.

A pre-determination archaeological field evaluation was subsequently carried out within the car park area of the site in July 2013. The evaluation consisted of one trench 2m x 4m x 3.20m deep. Two auger samples were sunk into the base of the trench to recover the full geoarchaeological sequence. Natural gravels were observed at c. -4.67m OD.



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Scale 1:2,000 @ A4

0 100m

Fig 1 Site location

1.2 Planning and legislative framework

The legislative and planning framework in which the archaeological exercise took place was summarised in the *Written Scheme of Investigation* which formed the project design for the evaluation (see Section 1.2, MOLA, 2013b).

The policy context in which this pre-determination field evaluation was undertaken is set out in national guidelines (*Dept. of Communities and Local Government 2012*), in particular paragraphs 128 and 135.

1.3 Origin and scope of the report

This report was commissioned by The Third Quarter (QE Street) Limited, and produced by Museum of London Archaeology (MOLA). The report has been prepared within the terms of the relevant Standard specified by the Institute for Archaeologists (IFA, 2001).

Field evaluation, and the *Evaluation report* which comments on the results of that exercise, are defined in the most recent English Heritage guidelines (English Heritage, 1998) as intended to provide information about the archaeological resource in order to contribute to the:

- formulation of an appropriate response or mitigation strategy to planning applications or other proposals which may adversely affect such archaeological remains, or enhance them; and/or
- formulation of a proposal for further archaeological investigations within a programme of research

1.4 Aims and objectives

All research has been undertaken within the priorities established in the Museum of London's *A research framework for London Archaeology, 2002*

The following research aims and objectives were established in the *Written Scheme of Investigation* for the evaluation (MOLA 2013b, Section 2.2):

Because of the limited sample achievable at the pre-planning stage the evaluation objectives were fairly broad:

- What is the level and profile of the underlying natural sands and gravels of the Horselydown Eyot? Are these truncated by riverine processes or does an original land surface survive?
- Is there any evidence of prehistoric, particularly Bronze Age settlement or land management on this part of Horselydown Eyot? The main objective will be to assess the nature of any surviving alluvial sequence and whether it contains evidence of regression interludes when river level was low enough to allow prehistoric land utilisation for early farming. This will include the sampling of any associated palaeo-environmental indicators that may allow the sequence of alluvial deposits and human interaction with the local landscape to be characterised and dated.

- Was the site subject to marine transgression and rising river levels during the Roman, Saxon or medieval periods with associated evidence of embankment, reclamation or drainage to create and protect agricultural land? In the medieval period there was systematic land and river management in the area under the auspices of the Knights of St John of Jerusalem, including water mills on the Neckinger.
- When did permanent reclamation, occupation and urbanisation begin in this part of Horsleydown? Is there evidence of previous 17th-19th century buildings as suggested from historic maps?

2 Topographical and historical background

The topographic and archaeological background to the project has been covered in detail within the desk-based Historic Environment Assessment (MOLA 2013a). A summary is presented here:

2.1 Topography

The site lies c 190m south of the River Thames. The general area is naturally low-lying, within the floodplain of the river. The natural geology of river terrace gravel has been eroded by a series of secondary river channels to form islands (eyots).

Archaeological work in the area has established the outline of an island about 700m east–west and 300m north–south at its greatest extent (Horselydown Eyot). It extends eastward beyond Tower Bridge to the inlet St Saviour’s Dock (the mouth of the former river Neckinger that marked the eastern edge of the eyot). The site location is towards the northern edge of the island.

As sea and river levels fluctuated over time, flooding caused the deposition of alluvium over low-lying parts of the eyots. The site is situated c 45m to the south-west of the gravel/alluvial interface on Horsley Down eyot. Within the alluvium are layers of peat, which formed during periods when water levels were relatively low (marine regressions). The alluvium is extensive in central and east London, and further down the estuary it can be very thick. The alluvium, and the plant and animal remains it contains, can provide valuable palaeo-environmental information about the nature of the surrounding environment and human interaction with it, in relation to on-going changes in river regime.

2.2 Archaeology

Previous archaeological investigations have shown that eyots in the Thames at Westminster, Southwark and Bermondsey were often the focus of prehistoric settlement and agricultural activity (*Merriman 1992, 262*). These landscape horizons may occur within or beneath alluvial peats and silts although they were vulnerable to erosion as a result of subsequent rises in river level and so the state of preservation varies.

Evidence from investigations in the site vicinity suggests that during the Mesolithic period the site was in an area of marshy ground crossed by river channels. Human activity is largely characterised by finds of flint tools and waste rather than structural remains. At the 241–247 Tooley Street site (site code TLS95), c 80m to the south of the site a Mesolithic or Neolithic broken flint blade, waste flake and burnt flint were recovered from a palaeosoil (buried soil). More flints were recovered from alluvial layers above this.

During the Bronze Age it is likely the site was located, at times, on a dry island within the Thames close to or within an area of settlement and cultivation. Ard marks recorded at 10–16 Lafone Street (site code LAF96), c 55m to the south of the site, represent rare examples of the material remains of prehistoric cultivation, dated by associated pottery to the late Neolithic or Early Bronze Age. Evidence of cultivation in the form of marks in a sandy ploughsoil, made by spade and ard, a form of prehistoric plough. A wooden artefact thought to be part of an ard was found during an archaeological evaluation at Three Oak Lane (TKL99), c 75m to the south of the

site in 1999. The excavation also revealed evidence of structures, with a profusion of post-holes and stake-holes, some with the wood still *in situ*. The large post-holes, which were up to 1.3m diameter and 650mm deep, suggest a large and significant structure.

It is likely that during the Iron Age, the island on which the site is located became increasingly marshy and subject to flooding which resulted in the area being less intensively occupied than it had been in the Bronze Age.

During the Roman period the Southwark (Borough) island was the main focus of settlement and a bridge across the Thames. The Horsley Down eyot was probably in a marshy area on the periphery of Roman occupation.

Archaeological excavation at Potters Field (site code POE94), c 130m to the west, recorded dry land surfaces formed during the Late Iron-Age/early Roman period. A natural channel was recorded cutting the surface of these sands and running down towards the south where organic deposits within the overlying alluvium may be the result of a 'ponding' effect in this area. Overlying this channel and the possible dry land surface were alluvial clay deposits between 1.5m and 2m thick which represent periods of inundation dating from the Roman period onwards. The Roman land surface was recorded at between 0.95m OD and 1.28m OD. Evidence from sites in the vicinity suggests that there was occupation in the 3rd century, presumably following a marine regression.

During the early medieval period the site was located in an area of unoccupied marshland. No structures or artefacts of early medieval date have been recovered from within the site vicinity. It is probable that owing to the post-Roman marine transgression, the area was too severely inundated to permit any significant level of exploitation during these centuries. However the presence of Tooley Street, which crosses the middle of Horselydown Eyot, does suggest that this strip of higher ground was known to those who laid out the thoroughfare in the early medieval period.

The site continued to be largely uninhabited marsh land until the 14th century after which time the site was probably open grazing land. Until the later medieval period the low-lying area which now forms north Southwark was prone to flooding, and consisted of marsh and tidal mudflats surrounding a number of higher eyots. At 10–16 Lafone Street site archaeological evidence shows that flooding probably made the site uninhabitable until the medieval or early post-medieval, period. This boggy tract of land upon which the site was located, was crossed by numerous minor watercourses. The landscape was gradually transformed by land reclamation, drainage schemes and the construction of river defences. By the late medieval period, there was a certain amount of industry in the area. In the 1450s Sir John Fastolf rented out property at the corner of Tooley Street and Horselydown Lane, to three dyers and four fullers (MOLAS 2001, 17).

The earliest detailed map to show the site and its surrounds is Faithorne and Newcourt of 1658. The area to the north and east of the site, along the river frontage and Savory Dock, appears to be built up, but the site itself is located in an area of open ground to the rear of these properties. The site appears to have been open ground, possibly used for grazing until the late 17th century when buildings are indicated on the Morgan and Lee map of 1682. It is uncertain if these buildings extended to the west of the site. By the second half of the 18th century cartographic sources show the site was occupied by buildings. Rocque's map of 1746 shows the

site to the north of a tenter ground, associated with the production of cloth, and to the west of a timber yard. This map shows the site as occupied by buildings fronting John Street, which later became Boss Street, on the western side of the site and buildings fronting onto a street referred to as Goat Yard on the eastern side.

Horwood's map of 1799 shows a row of five houses fronting Queen Street, with gardens to the rear and a building fronting a yard in the south. The western side of the site was occupied by gardens of 1–4 John Street. Various phases of structures occupied the site until the 20th century when by this time the site was used for warehousing. The location close to the docks and wharves along the waterfront meant a large number of warehouses were built to store imported goods such as cereal, hops and other food stuff (*Weinreb and Hibbert 1995, 60*). A brick date plaque on the current building at 19 Queen Elizabeth Street shows it was constructed in 1904. The 1914 Ordnance Survey map shows the current building standing on the eastern side of the site. This map shows the western side of the site occupied by gardens and outhouses of the Boss Street houses.

The London County Council World War II bomb damage map (*Saunders 2005, map 77*) shows the building at 19 Queen Elizabeth Street had been damaged by a V1 rocket. The houses fronting Boss Street to the west of the site had been damaged beyond repair and the western area of the site is shown as a clearance area.

The 1950 Ordnance Survey map shows the gardens and outbuildings on the western side of the site had been demolished during the Second World War had been replaced by a warehouse fronting onto Boss Street with an access way to the west of 19 Queen Elizabeth Street. The northern half of Boss Street including the warehouse was demolished for the Tower Bridge Square development to the west and north of the site which was completed in 1987. The area to the west of the early 20th century 19 Queen Elizabeth Street building is now open ground and in use as a car park.

3 The evaluation

3.1 Methodology

All archaeological excavation and monitoring during the evaluation was carried out in accordance with the preceding *Written Scheme of Investigation* (MOLA, 2013b)

An evaluation trench 2m x 4m was excavated within the car park within the western area of the site (Fig 2).

The slab was broken out and cleared by contractors under MOLA supervision. The trench was excavated by machine to a depth of 3.20m (bgl) by the contractors, and monitored by a member of staff from MOLA. The archaeological and geoarchaeological deposits were fully recorded by MOLA staff.

Geoarchaeological sampling consisted of a sequence of six monolith tins (blocks of undisturbed sediment) being taken through the stratigraphy from the south facing section of the trench. The monolith tins were hammered in to cleaned section faces to form a continuous, overlapping sequence. The heights of each monolith was related to Ordnance Datum and they were then cut from the section, wrapped in cling film and will be retained in the MOLA cold store until a decision is made on the requirement for off-site analysis. The deposits exposed in the trench section were examined and their characteristics recorded. A preliminary interpretation of their mode of deposition and the environments represented was made.

In order to understand the full geoarchaeological sequence, two auger holes were cored using a Cobra power auger at the southern end of the trench. Coring ceased at the level of river terrace gravels. Sediments were recorded in the field and samples were taken for further analysis. Both the auger samples were described using standard sedimentary criteria (relating to colour, compaction, texture, structure, bedding, inclusions, and clast-size).

The location of the evaluation trench was recorded by MOLA by offsetting from adjacent standing walls, and subsequently plotted onto the OS grid. A Temporary Bench Mark (TBM) of 4.57m OD was established within the site by traversing from a Bench Mark on the corner of Lafone Street and Gainsford Street (4.61m OD).

A written and drawn record of all archaeological deposits encountered was made in accordance with the preceding *Written Scheme of Investigation* (MOLA, 2013b)

The site has produced: 1 trench location plan; 7 context records; 2 section drawings at 1:20; and 32 photographs. In addition 1 box of finds was recovered from the site.

The site finds and records can be found under the site code QEL13 in the MoL archive.

3.2 Results of the evaluation

For trench location see Fig 2.

<i>Evaluation Trench 1</i>

Location	Centre of car park in the western area of the site	
Dimensions	2m by 4m by 3.20m depth Augers to 8.19m	
Modern ground level/top of slab	4.57m OD	0.00m BGL
Base of modern fill/slab	4.21m OD	0.34m BGL
Base of post-medieval dumping	2.95m OD	1.60m BGL
Base of alluvial clay (4)	1.39m OD	1.77m BGL
Top of channel deposits	1.85m OD	2.62m BGL
Base of channel deposits	-3.77m OD	5.10m BGL
Base of trench	-4.67m OD	6.00m BGL

Trench 1 revealed a silted up palaeochannel, located at 1.87m OD overlain by post-medieval external dump deposits. The results of which are detailed below.

3.2.1 Geoarchaeological results

Jason Stewart

The sedimentary sequence represents the silting up of a deep palaeochannel around the eyot. The augered deposits represented an often fast flowing channel and probably dated to the early to mid-Holocene (Mesolithic). The deposits sampled in the monolith tins represented a far quieter, late prehistoric/historic backwater series of deposits which slowly infilled the channel to a point where reed-like or grassy vegetation established and the site area stabilised. By the post medieval period the site was probably a water meadow (i.e. seasonally wet) environment when water management systems were put into place (e.g. drainage ditches).

Monolith Sampling

Overall, the section revealed a sequence of silty clay, sands and silty sands which show possible evidence of management in the form of a possible timber stake and an unworked piece of burnt flint, which is overlain by a thick deposit of homogeneous clay (4). Deposit (4) contained evidence of well preserved Terrestrial Molluscs and a piece of medieval roof tile dating to 1200-1480 and comprised of Fabric 3090, with two round nail holes and a glaze spot. The sediments are recorded with their preliminary interpretation below.

QEL13 South facing section of Trench 25/7/13						
	OD height:	4.55				
Context	from (m BGL)	to (m BGL)	from (mOD)	to (mOD)	Description	Interpretation
4	1.60	2.76	2.95	1.77	Firm light yellowish brown slightly silty clay with rare mollusc fragments, rare charcoal flecks and rare rounded medium gravel clasts.	Semi-terrestrial weathered alluvial deposit with anthropogenic inclusions/disturbance

5	2.76	3.06	1.77	1.49	Firm mid yellowish brown silty clay with moderate Fe stained root channels	Semi-terrestrial alluvial deposit with evidence of vegetation
6	3.06	3.64	1.49	0.67	Soft dark blue grey silt with lenses of fine sand with some evidence of Fe stained root channel and rare fine plant fibres	Semi-terrestrial alluvial deposit with evidence of vegetation and possible flood events
7	2.62	3.08	1.83	1.47	Soft sticky light brownish grey slightly clayey silt with frequent patches of Fe staining	Semi-terrestrial weathered alluvial deposit

Table 1: Sampled trench section description and preliminary interpretation

Augering

Two auger holes, AH1 & AH2, were drilled through the sequence and into to the floodplain gravels in the south west and south east corners of the trench respectively. The sediments recorded with their preliminary interpretation are listed below.

QEL13 AH1 South Western corner of Trench 30/7/13						
	OD height:	1.33				
unit	from (m BGL)	to (m BGL)	from (mOD)	to (mOD)	Description	Interpretation
1.10	0.00	0.50	1.33	0.83	Firm dark blue grey clay with rare rooting and plant fibres	Alluvial deposit with evidence of vegetation
1.9	0.50	0.57	0.83	0.76	Soft light greyish brown medium to coarse sandy silt	Alluvial deposit
1.8	0.57	0.95	0.76	0.38	Light greyish yellow medium clay sand	Channel or flood deposit
1.7	0.95	1.30	0.38	0.03	Light orange grey firm fine sandy silt	Channel deposit
1.6	1.30	1.40	0.03	-0.07	Light grey orange sandy silt	Channel deposit
1.5	1.40	2.00	-0.07	-0.67	Soft light orangey grey silty fine sand	Channel deposit
1.4	1.00	2.80	0.33	-1.47	Void	Void

1.3	2.80	4.00	-1.47	-2.67	Soft mid yellowish orange slightly silty fine to medium sand becoming coarse from 3.10m bgl increasing coarse fraction and becoming stoney with depth	Channel deposit
1.2	4.00	4.95	-2.67	-3.62	Void	Void
1.1	4.95	6.00	-3.62	-4.67	Wet compacted mid orange brown medium to coarse sand with abundant fine to medium gravels	River gravels

Table 2: AH1 sedimentary log and provisional interpretation

QEL13 AH2 South Eastern corner of Trench 30/7/13						
	OD height:	1.33				
unit	from (m BGL)	to (m BGL)	from (mOD)	to (mOD)	Description	Interpretation
2.9	0.00	0.50	1.33	0.83	Firm dark blue grey clay with rare rooting and plant fibres	Alluvial deposit with evidence of vegetation
2.8	0.50	0.57	0.83	0.76	Soft light greyish brown medium to coarse sandy silt	Alluvial deposit
2.7	0.57	1.00	0.76	0.33	Light greyish yellow medium clay sand	Channel deposit
2.6	1.00	1.32	0.33	0.01	Light grey orange sandy silt	Channel deposit
2.5	1.32	1.70	0.01	-0.37	Soft light orangey grey silty fine sand	Channel deposit
2.4	1.70	2.00	-0.37	-0.67	Soft mid yellowish orange slightly silty fine to medium sand becoming coarse from 3.10m increasing coarse fraction and becoming stoney with depth	Channel deposit
2.3	2.00	2.50	-0.67	-1.17	Void	

2.2	2.50	5.10	-1.17	-3.77	Soft mid yellowish orange slightly silty fine to medium sand becoming coarse from 3.10m increasing coarse fraction and becoming stoney with depth	Channel deposit
2.1	5.10	6.00	-3.77	-4.67	Wet compacted mid orange brown medium to coarse sand with abundant fine to medium gravels	River gravels

Table 3: AH2 sedimentary log and provisional interpretation

3.2.2 Archaeological results

Overlying alluvium (4) were a series of post-medieval external dump layers. Deposit (3) consisted of a firm, dark brown/black clayish silt with frequent flecks of charcoal and occasional CBM and post-medieval pot, including a sherd of RBOR porringer handle dated to 1550-1900. The deposit extended trench wide and measured 0.20m in depth, and was truncated by a later N-S ceramic drain and manhole. Deposit (3) was sealed by a trench wide dump of crushed mortar and CBM frags (2) 0.30m deep, which was truncated by the same ceramic drain. Deposit (2) contained two pot sherds of PMR; TGW BISC dated to 1580-1900. Dump (2) was in turn sealed by another firm dark brown/black clayish silt dump deposit 2m x 4m and 0.73m deep, also cut by the ceramic drain (see Fig 3).

3.3 Assessment of the evaluation

GLAAS guidelines (English Heritage, 1998) require an assessment of the success of the evaluation 'in order to illustrate what level of confidence can be placed on the information which will provide the basis of the mitigation strategy'.

In the case of this site the evaluation trench has successfully established that the site lies on a deep and often fast flowing palaeochannel tentatively dated to the early to mid-Holocene (Mesolithic), which once cut through the Horselydown Eyot. The palaeochannel became slower running during the late prehistoric/historic periods, gradually silting up, and subsequently being sealed by a thick deposit of naturally deposited alluvial clay. Archaeological evidence of human activity/occupation consisted of post-medieval external dump deposits.

The western edge of the palaeochannel was not discovered within the evaluation trench, and so there is a very low potential for evidence of prehistoric human activity within the western area of the site. It is also possible that there is evidence of post-medieval structural remains towards the northern and western limits of the site, beyond the scope of the evaluation trench.

4 Archaeological potential

4.1 Realisation of original research aims

- *What is the level and profile of the underlying natural sands and gravels of the Horselydown Eyot? Are these truncated by riverine processes or does an original land surface survive?*

Context (6) appeared to exhibit rooting which could imply a semi-terrestrial environment stable enough to support plant life, but not an inhabited land surface. At best the site area was probably a seasonally wet, water meadow-like environment. The underlying natural sands and gravels lie at approximately -4.7m OD.

- *Is there any evidence of prehistoric, particularly Bronze Age settlement or land management on this part of Horselydown Eyot? The main objective will be to assess the nature of any surviving alluvial sequence and whether it contains evidence of regression interludes when river level was low enough to allow prehistoric land utilisation for early farming. This will include the sampling of any associated palaeo-environmental indicators that may allow the sequence of alluvial deposits and human interaction with the local landscape to be characterised and dated.*

No evidence of prehistoric activity was observed within the trench. The alluvial sequence onsite consisted of bands of sandy silt and silty sands representative of the silting up of the channel, probably through the late prehistoric and historic periods. Radiocarbon dating of the lowest organic material over the sands (Units 1.9 or 2.8) could provide a chronology for the change in the fluvial environment.

Samples taken from the monolith tins and from the auger holes could provide a palaeoenvironmental reconstruction of the environment through time.

- *Was the site subject to marine transgression and rising river levels during the Roman, Saxon or medieval periods with associated evidence of embankment, reclamation or drainage to create and protect agricultural land? In the medieval period there was systematic land and river management in the area under the auspices of the Knights of St John of Jerusalem, including water mills on the Neckinger.*

There is little direct information regarding marine transgression and rising river levels during the historic period, although indirect evidence of environmental change might be gleaned through a plant microfossil assessment of the sediments sampled. There is a possibility that the nearby timbers could be related to some sort of anthropogenic water management strategy

- *When did permanent reclamation, occupation and urbanisation begin in this part of Horsleydown? Is there evidence of previous 17th-19th century buildings as suggested from historic maps?*

Although no 17th-19th century buildings were discovered within the trench, evidence of post-medieval dump deposits dating to 1550-1900 were observed overlying naturally deposited alluvium (4) which contained a fragment of roof tile dated 1200-

1480, suggesting a reclamation and occupation date of at least the mid-16th Century, with some, possibly small scale, human activity during the medieval period.

4.2 General discussion of potential

The evaluation has shown that the potential for survival of ancient ground surfaces (horizontal archaeological stratification) on the site is low due to the presence of a large palaeochannel running N-S through the site. There is low potential for prehistoric ground surfaces on the edge of the palaeochannel (not found within the evaluation), and a moderate potential for post-medieval buildings and ground surfaces. Such survival is likely to be extremely limited in certain areas because of truncation from later drainage, such as revealed within the evaluation trench. The palaeochannel will also limit the potential for prehistoric and Roman survival. The average depth of archaeological deposits where they do survive is likely to be c. 1-2m bgl.

The geoarchaeological samples taken from the section and the augerholes have potential to reconstruct the changing environment of the channel particularly in the historic period. To this end, it is suggested eight pollen and eight diatom subsamples should be submitted for assessment. Furthermore, the more organic sedimentary units should be radiocarbon dated (if possible) to try to establish a chronology for the profile. The results of this further work would be written up in *London Archaeologist*, and the levels at the base of the channel, representing the early Holocene topography, should be put into MOLA's on-going database for modelling environmental change in the Southwark area.

4.3 Significance

Whilst the archaeological remains are undoubtedly of local significance there is nothing to suggest that they are of regional or national importance. The site would provide local palaeoenvironmental data as well as useful data about the environment. It would also feed into our understanding of the Horsleydown Eyot and the environment during prehistoric occupation, and later water management.

5 Assessment by EH criteria

The recommendations of the GLAAS 1998 guidelines on *Evaluation reports* suggest that there should be:

'Assessment of results against original expectations (using criteria for assessing national importance of period, relative completeness, condition, rarity and group value)

Overall, the evaluation has resulted in a coherent interpretation of a simple but relatively well-preserved archaeological sequence that could be clarified by further analysis. The principal objective, to clarify the possible presence of evidence of prehistoric agriculture, has been achieved albeit by means of negative evidence.

Criterion 1: period

The sequence evaluated covers several thousand years. Although the upper post-medieval deposits will be well dated from artefacts, the same will not be the case for earlier periods, represented by sparsely used water meadow, marsh and channel environments. Here chronology will be reliant upon any samples suitable for absolute dating techniques such as C14.

Criterion 2: rarity

There is nothing to suggest that any of the likely archaeological deposits are rare either in a national or regional context.

Criterion 3: documentation

Whilst there may be considerable contemporary documentation for the later medieval period from c 1300 on, the truncated and fragmentary nature of archaeological remains from the post-medieval period mean it is unlikely that any of documentation will be specific enough to relate to individual features.

Criterion 4: group value

Although the site evidence is not of great significance in isolation, it has the potential to add to the body of evidence from other sites in the locality, particularly in interpreting the changing prehistoric environment and land use.

Criterion 5: survival/condition

The evaluation demonstrated that the upper archaeological remains will be horizontally truncated in places by later drainage and manholes but that the deeper channel environment is relatively well preserved.

Criterion 6: fragility

The organic alluvial deposits are likely to be vulnerable to both changing environmental conditions (eg water table) and to damage during construction work.

Criterion 7: diversity

The deposit sequence has accumulated over a substantial period of time, implying substantial but gradual landscape change. However, at each chronological stage the archaeological evidence is likely to be fairly straightforward and homogeneous.

Criterion 8: potential

The results of the evaluation trench have revealed the potential for post-medieval land reclamation deposits, and possibly the remains of associated buildings observed in various post-medieval maps (MOLA, 2013a).

The potential for direct evidence of human settlement and land use activity from earlier periods is very low due to the presence of a palaeochannel which runs N-S down the length of the site. The eastern edge of the channel is likely to be beneath the existing building of 19 Queen Elizabeth Street but the western extreme may lie beyond the site.

There is a significant potential for palaeo-environmental evidence for changing landscape conditions within the channel and its surroundings.

6 Proposed development impact and recommendations

The proposed redevelopment at 19 Queen Elizabeth Street, London, SE1 will involve a change of use of the existing early 20th-century building, from office to mixed office and residential. The existing building would be refurbished internally while retaining the façade. A new building would be constructed on the adjacent open car park plot to the west to a height of four storeys (BlueBottle pre-planning proposal, date 10/07/13). The new building would have a basement; details of the proposed foundations are not known at present but are assumed here to be piled.

The existing single-storey basement has a finished floor level (FFL) of c 2.1m OD (c 1.9mbgl), and covers the entire footprint of the current building. Under current proposals this basement would be extended westwards, beneath the proposed new building, to cover the entire site footprint with the same FFL as the existing basement, apart from in the south-west corner where the basement would have an FFL approximately 0.3m deeper (BlueBottle, drg QE-22, rev P1, date 28/06/13; BlueBottle, drg QE-29, rev P1, date 28/06/13). The basement foundation slab thickness is not currently known but assumed to be c. 0.5m thick.

Assuming the information above is correct, the impact of this on the surviving archaeological deposits will be to remove everything to a level of at least 1.60m OD (2.4m bgl). Extrapolating from the results of the evaluation trench this would include all existing post-medieval deposits and the majority of alluvial deposit (4), but will not affect the palaeochannel deposits.

Given the potential for the environmental samples to reconstruct the changing natural environment, particularly during the prehistoric period, it is recommended that pollen and diatom subsamples be submitted for further assessment, while the more organic deposits undergo radiocarbon dating (where possible). The results of the geoarchaeological analysis should be reported in a short note in the London Archaeologist, and should also be included within the MOLA on-going London wide Early Holocene topography project. This would then constitute a mitigation strategy for the archaeological impact of the development scheme.

The decision on the appropriate archaeological response to the deposits revealed within 19 Queen Elizabeth Street, London, SE1 rests with the Local Planning Authority and their designated archaeological advisor.

7 Acknowledgements

The author would like to thank James Schindler, Londonewcastle; Chris Constable, Senior Archaeology Officer, Southwark Council; Sylvia Warman, English Heritage Science Advisor

8 Bibliography

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9 NMR OASIS archaeological report form

10 OASIS ID: molas1-156294

Project details

Project name	19 Queen Elizabeth Street, London, SE1
Short description of the project	The site lies on the north side of Queen Elizabeth Street at the junction with Lafone Street and is bounded to the north by houses fronting onto Lafone Street and to the west by Tower Bridge Square. The centre of the site lies at National Grid reference 533657 179926. Ground level within the site is c 4.57m above Ordnance Datum (OD). The site includes an early 20th-century three story building and an open ground-level car park to the west. The standing building has a basement with a finished floor level of c 2.1m OD (1.9mbgl). A pre-determination archaeological field evaluation was carried out within the car park area of the site. The evaluation consisted of one trench 2m x 4m x 3.20m deep. The trench revealed 1.20m of post-medieval external dump deposits overlying a 1.20m deep deposit of natural alluvial clay which sealed silting deposits within a N-S orientated palaeochannel. The deposits within the palaeochannel were all sloping E-W. Two auger samples were taken to recover the full geoarchaeological sequence within the palaeochannel. Natural gravels were observed at c. -4.67m OD.
Project dates	Start: 18-07-2013 End: 31-07-2013
Previous/future work	No / Not known
Any associated project reference codes	QEL13 - Sitecode
Type of project	Field evaluation
Site status	Local Authority Designated Archaeological Area
Current Land use	Industry and Commerce 2 - Offices
Monument type	PALAEOCHANNEL Uncertain
Significant Finds	POT Post Medieval
Methods & techniques	""Targeted Trenches""
Development type	Urban residential (e.g. flats, houses, etc.)
Prompt	National Planning Policy Framework - NPPF
Position in the planning process	Pre-application

Project location

Country	England
Site location	GREATER LONDON SOUTHWARK SOUTHWARK 19 Queen Elizabeth Street
Postcode	SE1 2LP

Study area	1000.00 Square metres
Site coordinates	TQ 33657 79926 51 0 51 30 07 N 000 04 26 W Point
Height OD / Depth	Min: -5.00m Max: 3.00m

Project creators

Name of Organisation	MOLA
Project brief originator	MOLA
Project design originator	Pat Miller
Project director/manager	Laura O'Gorman
Project supervisor	Sarah Ritchie
Type of sponsor/funding body	Residential Developer
Name of sponsor/funding body	The Third Quarter (QE Street) Limited

Project archives

Physical Archive recipient	LAARC
Physical Archive ID	QEL13
Physical Contents	"Ceramics", "Wood"
Digital Archive recipient	LAARC
Digital Archive ID	QEL13
Digital Media available	"Images raster / digital photography"
Paper Archive recipient	LAARC
Paper Archive ID	QEL13
Paper Contents	"Stratigraphic"
Paper Media available	"Context sheet", "Matrices", "Plan", "Section"

Project bibliography 1

Publication type	Grey literature (unpublished document/manuscript)
Title	19 Queen Elizabeth Street, London, SE1 - An archaeological evaluation report
Author(s)/Editor(s)	Ritchie, S.
Date	2013

Issuer or publisher MOLA

Place of issue or
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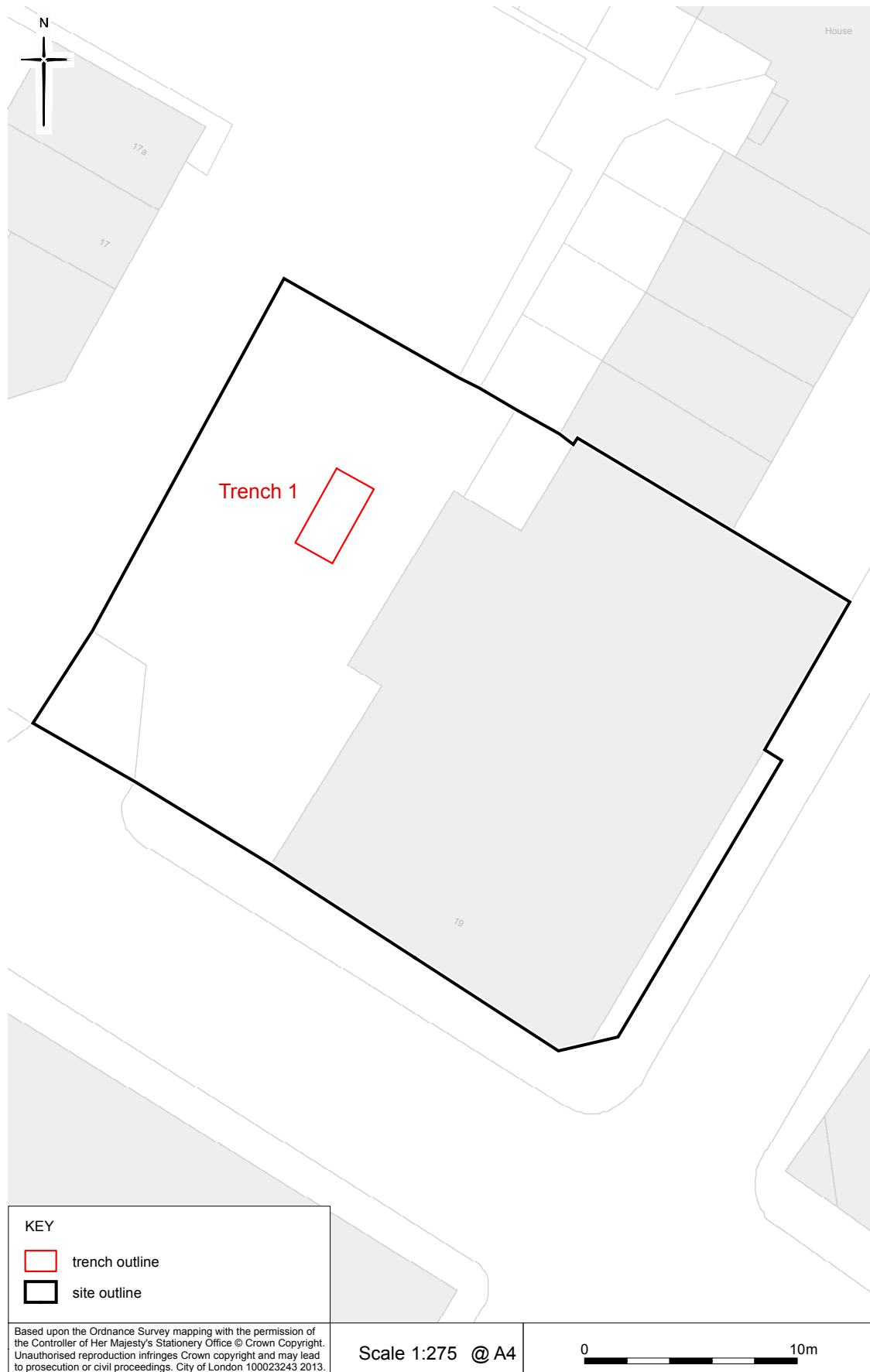


Fig 2 Trench location

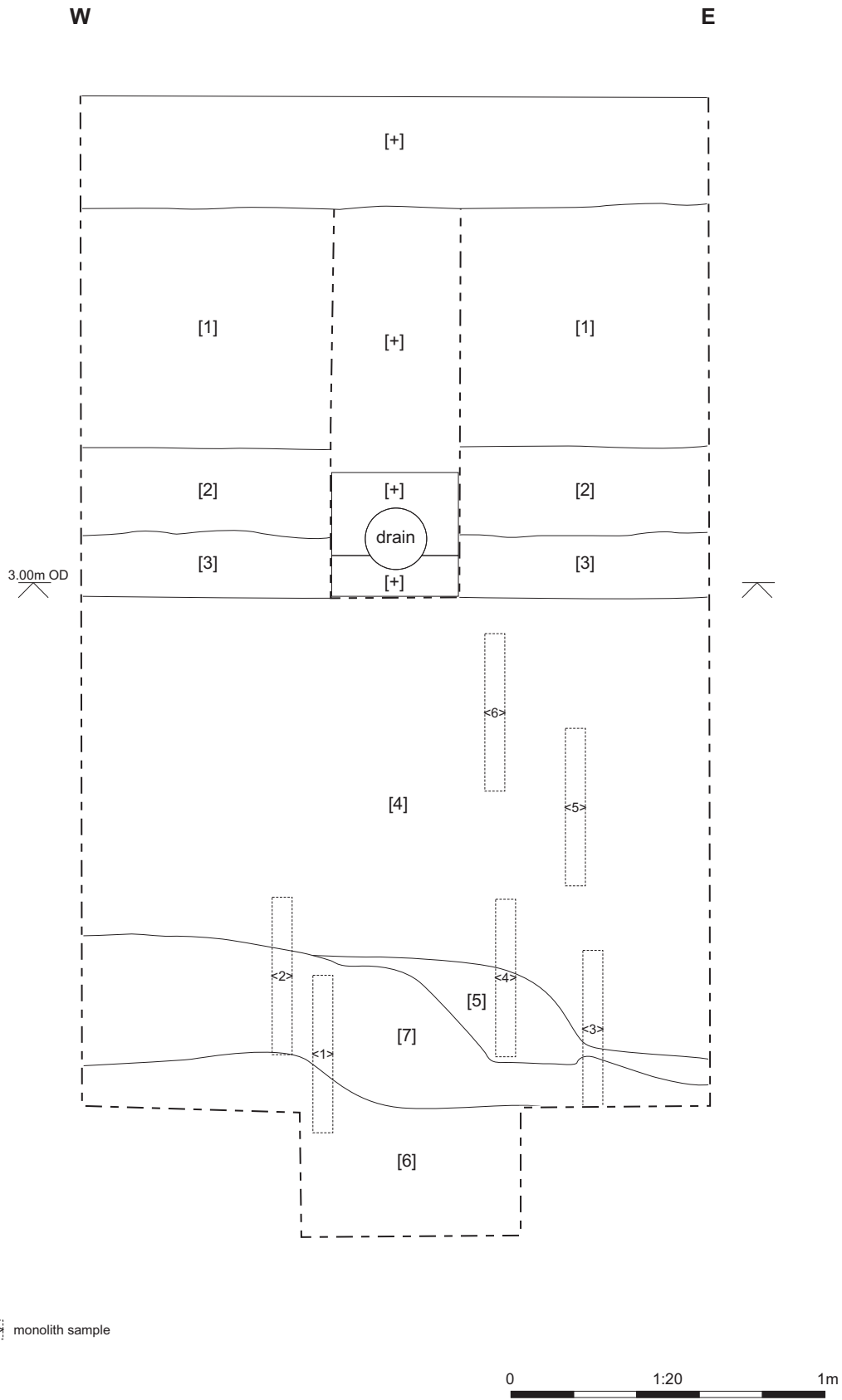


Fig 3 Section 1: South facing section of Trench 1



Fig 4 Contexts (1) – (4), facing north



Fig 5 Contexts (4) – (7), south facing section