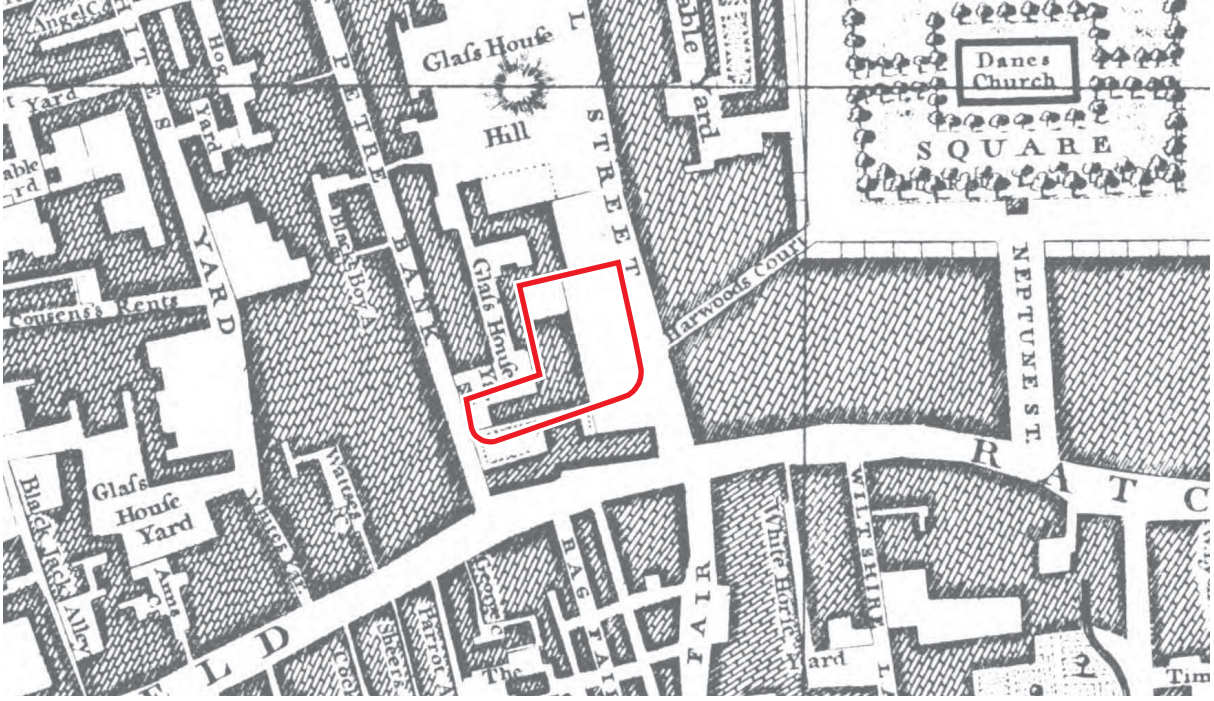

Ensign Court
28 Ensign Street
London E1

London Borough of Tower Hamlets

Report on archaeological evaluation

May 2016

MOLA

REGISTERED CIfA ORGANISATION

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ENSIGN COURT
28 Ensign Street
London E1

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A Report on the archaeological evaluation

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Summary

This report presents the results of an archaeological evaluation carried out by Museum of London Archaeology (MOLA) at Ensign Court, 28 Ensign Street, London, E1, in the London Borough of Tower Hamlets. The report was commissioned from MOLA by the Client, London and Quadrant Housing Trust.

The proposed scheme involves demolition of existing buildings in the southern part of the site and the construction of a new residential/commercial building. No basements are proposed, but piles and pile caps will be installed across the new building footprint. In addition the site will be subject to oversite bulk ground reduction to *c* 8–8.5m OD (1.8–2m below current ground levels); deep excavation will also be undertaken for drainage runs and an attenuation tank in the north-west corner of the site.

In accordance with an *Overarching Written Scheme of Investigation for Archaeological Mitigation (OAWSI hereafter)* (MOLA, 2015) an archaeological evaluation was carried out from 16th of March to 29th of April 2016.

Trench and borehole excavations were undertaken at seven locations across the site. Three boreholes and three trenches also with boreholes were located on the ground floor within the footprint of the existing building. A single trench was located in the open car park area to evaluate the area of the proposed attenuation tank. The evaluation successfully provided an overview of archaeological survival within the site.

Natural ground surfaces (river terrace gravels) were recorded at three locations. Trench 1 in the car park recorded a 2.3m thick sequence of archaeological deposits these comprised rubbish pits and layers, with evidence for gravel quarrying. Dating evidence indicates an overall range through the sequence from *c* 1180 to the 19th century with the bulk of the material dating from the 15th to 17th centuries. The sequence is interpreted as an external area used for waste disposal associated with domestic habitation in the early post-medieval periods. During the 17th and 18th centuries the site was partially in use as a glassworks. Later redevelopment includes a 19th century brick wall ground-raising.

Excavations within the existing building have demonstrated that the potential for archaeological deposit survival is very low. Previous modern construction at the site for the existing building appears to have removed all (pre 19th century) archaeology down to the level of natural gravels (7m OD on average). A low potential exists for deep cut features to be in this area (wells or quarry pits for example) surviving within any undisturbed areas of the terrace gravels.

The report concludes that the proposed redevelopment will impact on archaeological remains beneath the existing car park in the north section of the site. In addition to this, any cut features (pits, wells, and ditches for example) in the natural gravels at the south part of the site, would be impacted by the installation of piled foundations and associate enabling works.

A programme of archaeological excavation is recommended to record deposits in the north part of the site. At the south, under the existing building footprint, a programme of archaeological watching brief is recommended. The watching brief should be specifically targeted to mitigate areas of dense pile clustering, building and lift pit cores and any proposed deep drainage. Archaeological deposits identified during the watching brief should be subject to hand excavation and recording.

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1 Introduction

1.1 Site background

1.1.1 The proposed scheme involves demolition of existing buildings in the southern part of the site and the construction of a new residential/commercial building across the site footprint, including a currently undeveloped car park area in the northern half of the site. No basement is proposed, but piles and pile caps are proposed across the new building footprint.

1.1.2 In December 2013, London and Quadrant Housing Trust (the 'Applicant') submitted a planning application (LPA Ref. PA/13/03068) for the site. An historic environment assessment (HEA) was submitted as part of that application and an updated HEA was issued in March 2014. The *Archaeological Assessment* (MOLA, 2014) covered the whole area of the site. The 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. Full planning permission was granted on 29 January 2015.

1.1.3 Further to a condition on the Planning Consent, an *Overarching Written Scheme of Investigation for Archaeological Mitigation* was prepared by MOLA in September 2015, which formed the project design for the evaluation.

1.1.4 The archaeological evaluation was subsequently carried out by MOLA at Ensign Court, 28 Ensign Street, London, E1 from 16th of March to 29th of April 2016. This document is the Report on that work.

1.2 Planning background

1.2.1 The legislative and planning framework in which the evaluation took place was fully set out in the previous *Archaeological Assessment* (MOLA 2014, Section 9). To summarise here:

1.2.2 The evaluation was carried out to fulfil a condition attached to the Planning Consent given by Tower Hamlets Local Planning Authority (Consent reference: PA/13/03068; Condition number: 24).

1.3 Scope of the evaluation

1.3.1 Evaluation is defined by Historic England as intended to provide information about the archaeological resource in order to contribute to the:

1.3.2 - 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

1.3.3 - formulation of a proposal for further archaeological investigations within a programme of research.

1.3.4 An archaeological evaluation is a limited fieldwork exercise designed to test the conclusions of preliminary desk based work. It is not the same as full excavation.

1.3.5 The evaluation was carried out within the terms of the relevant Standard for evaluation specified by the Chartered Institute for Archaeologists (CIFA, 2014).

1.3.6 All work has been undertaken within the research priorities established in the

Museum of London's A research framework for London Archaeology, 2002.

1.3.7 All work was undertaken within research aims and objectives established in the *Overarching Written Scheme of Investigation for Archaeological Mitigation* for the evaluation (Section 1.5).

2 Topographical and historical background

2.1 Topography

2.1.1 The current pavement level adjacent to the site lies between *c* 9.3–9.6mOD in the south of the site, rising to *c* 10.3–10.5mOD in the north. The ground floor of the site building has a raised area on its western side at *c* 10.4mOD and a lower level over the remainder at *c* 9.9mOD. Ground level in the car park slopes down from *c* 10.1m in the east to *c* 9.6mOD in the west.

2.1.2 The top of natural Gravel had been estimated to lie between *c* 5.6m–6.6mOD, *c* 3.8m below ground level (bgl) based on excavations immediately adjacent to the site. This has been revised to an upper level of *c* 8mOD during the course of the evaluation.

2.2 Archaeology

2.2.1 *The site has a low potential for **prehistoric** remains*. Very little evidence for prehistoric activity has been discovered in the surrounding area, consisting of a single findspot of probably later prehistoric flints, at some distance from the site. The lack of evidence suggests that the site and study area were largely uninhabited and open in this period.

2.2.2 *The site has a moderate to high potential for **Roman** remains*. Excavations immediately adjacent to the site revealed significant quantities of Roman pottery and other artefacts in dumped deposits of medieval and possible Roman date (PCA, 2008) and it is likely that similar deposits would be found within the site. Remains of burials are not considered likely, given the lack of similar remains in the vicinity. However, there is a possibility that structures associated with settlement could be present, given the location of the site: the remains of a Roman bath house were found in a similar topographical location at Shadwell c 600m to the east. It is also noted that excavations on the adjacent site at 15 Dock Street were terminated at 7m OD, above the natural gravels, and possible Roman levels.

2.2.3 *The site has a low potential for **early medieval** remains*. The site lay at some distance from the main settlements in this period. There is no evidence for Saxon activity within the site and very little within the wider surrounding area. The site probably lay in open fields in this period, although it is also possible that it lay in marshland, making it unsuitable for settlement.

2.2.4 *The site has a high potential for **later medieval** remains*. The nearby adjacent excavation revealed substantial medieval dump deposits, which indicated medieval ground reclamation. Similar dump deposits may be present within the site.

2.2.5 *The site has a high potential for **post-medieval** remains*. The site was occupied by various industrial buildings from the mid-18th century onwards, including part of a glassworks, a stable yard in the 1870s, and a mixture of warehouses, yards and housing from the late-19th to the mid-20th century, until it was redeveloped with the present building in the late 1980s. Structural remains of a late 17th-/early 18th-century glass works were recorded in the form of a brick furnace at the north-eastern limit of the adjacent site at 15 Dock Street (PCA, 2008).

3 Evaluation methodology

3.1 Field methodology

3.1.1 Four evaluation trenches were excavated: Tr.1, Tr.2, Tr.4, Tr.5 (originally proposed Tr.3 became obsolete). Three separate boreholes were drilled: BHs 1–3, and a further three boreholes were drilled within the evaluation trenches: BH4 (Tr.4), BH5 (Tr.2) and BH6 (Tr.5). For locations, see Fig 2.

3.1.2 The slab/ground was broken out and cleared by contractors under MOLA supervision. Modern deposits were machine-excavated by contractors under MOLA supervision. Archaeological deposits were either hand-dug by MOLA Archaeologists, or, where appropriate, machine-excavated by contractors under MOLA supervision.

3.1.3 Boreholes were drilled by MOLA Geoarchaeologists using an electric power auger, with 1m and 2m long open-sided steel gouges, up to 75mm in diameter.

3.1.4 Archaeological excavation was carried out in accordance with the *Overarching Written Scheme of Investigation for Archaeological Mitigation* (MOLA, 2015).

3.1.5 Trench and borehole locations were individually surveyed on site and subsequently tied to the OS grid by the MOLA Geomatics Team.

3.1.6 Site levels were calculated using data provided by environmental consultants MLM.

3.2 Recording methodology

3.2.1 A written and drawn record of all archaeological deposits encountered was carried out in accordance with the *Overarching Written Scheme of Investigation for Archaeological Mitigation* (MOLA, 2015).

3.3 Site archive

Number of overall location plans	1
Number of Context (SU) sheets	65
Number of photographs	43
Number of Plan sheets	1
Number of Sections	4

4 Results of the evaluation

For trench, borehole and section locations, see Fig 2

4.1 Borehole 1

Location	Internal, ground floor, west side
Modern ground level/top of slab	9.9mOD
Base of modern fill	Unknown
Depth of archaeological stratigraphy above natural	N/A
Level of base of lowest features or deposits observed	N/A
Top of surviving natural observed at	N/A
Maximum borehole depth	1.05m bgl, 8.85mOD

4.1.1 The existing concrete slab (with rough concrete bedding) was broken out to create a 1.5m by 1.5m starter pit, to facilitate the borehole. The slab/bedding extended to 0.5m bgl, exposing the surface of modern soil/rubble infill at 9.4mOD.

4.1.2 The borehole was drilled through modern made ground for a further 0.55m to 8.85mOD (1.05m bgl). At this depth the auger encountered a concrete obstruction and was discontinued.

4.1.3 No archaeological deposits were recorded within this intervention

4.2 Borehole 2

Location	Internal, ground floor, east side
Modern ground level/top of slab	9.88mOD
Base of modern fill	Unknown
Depth of archaeological stratigraphy above natural	N/A
Level of base of lowest features or deposits observed	N/A
Top of surviving natural observed at	N/A
Maximum borehole depth	3.1m bgl, 6.78mOD

4.2.1 The existing concrete slab (with concrete bedding) was broken out to create a 1.5m by 1.5m starter pit, to facilitate the borehole. The slab/bedding extended to 0.5m bgl, exposing the surface of modern soil/rubble infill at 9.38mOD.

4.2.2 The borehole was drilled through the modern deposit for a further 2.6m to 6.78mOD (3.1m bgl). At this depth it hit a brick obstruction, thought to be a large inclusion in the made ground and was discontinued.

4.2.3 No archaeological deposits were recorded within this intervention

4.3 Borehole 3

Location	Internal, ground floor, east side; north of BH2
Modern ground level/top of slab	9.84mOD
Base of modern fill	Unknown
Depth of archaeological stratigraphy above natural	N/A
Level of base of lowest features or deposits observed	N/A
Top of surviving natural observed at	N/A
Maximum borehole depth	2.5m bgl, 7.34mOD

4.3.1 The existing concrete slab (with concrete bedding) was broken out to create a 1.3m by 1.3m starter pit, to facilitate the borehole. The slab/bedding extended to 0.5m bgl, exposing the surface of modern, mixed, clay/soil infill at 9.34mOD.

4.3.2 The borehole was drilled through the infill deposit for a further 2m to 7.34mOD (3.1m bgl). At this depth it was halted by a heavily compacted gravel deposit (not thought to be an *in situ* natural gravel deposits) and was discontinued.

4.3.3 No archaeological deposits were recorded within this intervention

4.4 Trench 1

Location	Car park, west side
Dimensions	2.5m by 2.5m by 2.75m depth
Modern ground level/top of slab	9.75mOD
Base of modern fill	9.16mOD
Depth of archaeological stratigraphy above natural	2.3m
Level of base of lowest features or deposits observed	7mOD
Top of surviving natural observed at	8.13mOD
Level of base of trench	7mOD

See Fig 3

4.4.1 Trench 1 was located in the NW section of the site specifically to investigate the nature and extent of archaeology survival in the area of a proposed attenuation tank for the new development.

4.4.2 The trench revealed archaeological deposits directly below the existing ground surfaces that survive to a depth of 2.3m thick. These deposits were characterised by a series of external rubbish dumps and pits, the earliest dated to the late 15th century and the later pits of early 18th century date.

4.4.3 The SW-facing section (S4) in Trench 1 is reproduced in Fig 3, and is referred to in the following text, providing an overview of the archaeological sequence:

4.4.4 The *in situ* natural land surface [64] was recorded at heights ranging from 7.51–8.13mOD. It consisted of laminated gravels and sands with a notably high ferrous content in the upper layers.

4.4.5 The natural was sealed by a thick, heavily compacted clay/silt deposit [60] dated 1580–1650; either a substantial rubbish dump layer, or, primary fill within a large

rubbish pit or backfilled quarry [59]. It was not fully defined within the trench limits.

4.4.6 This, in turn, was sealed by a series of similar sand/silt soil deposits; in sequence: [43], [52], [53], [41], [42]; probably fills within a later rubbish pit [47]? (as opposed to dumping) and again not fully defined within the trench limits. Degrees of organic waste were present in three of the fills and clinker (burnt coal and/or furnace residue) in one. Clinker could be indicative of both domestic and industrial activity, but the presence of a brick furnace associated with the 17th/18th century glass works recorded at 15 Dock Street immediately adjacent to the site (Section 2.2) suggests the latter.

4.4.7 Upper fills [43] and [52] were truncated by three later rubbish pits: [2], [35] and [40]. All fills: [1], [34]/[37] and [39] were sand/silt soil deposits, again containing degrees of organic waste. Fill [37] has been dated 1550–1700; clinker was present in fills [1] and [34]. The pits were at least broadly contemporary with the earlier pitting sequence. Pit [33], truncating pit [35], also contained similar fill.

4.4.8 Pits [35] and [40] were truncated by remains of a brick wall or floor [44]. The brickwork did not extend into the trench and only a single course was present. No whole bricks were retrieved. It consisted of brick fragments of varying size and type, provisionally dated to the 19th century.

4.4.9 Rubbish dump layer [45] was the uppermost archaeological deposit in the sequence, sealing brickwork [44]. It was a similar sand/silt deposit to the fills below the brickwork, presumably redeposited for ground-raising/levelling purposes. It survived to 9.28mOD.

4.4.10 The archaeology was sealed by a layer of hardcore, serving as bedding for the existing concrete/tarmac car park surface.

4.5 Trench 2/Borehole 5

Location	Internal, ground floor, towards SE corner
Dimensions	2.5m by 2.5m by 3.55m depth (including borehole)
Modern ground level/top of slab	9.88mOD
Base of modern fill	6.93mOD
Depth of archaeological stratigraphy above natural	N/A
Level of base of lowest features or deposits observed	6.33mOD (borehole)
Top of surviving natural observed at	6.93mOD (borehole)
Level of base of trench	7.68mOD

4.5.1 The existing concrete slab (with concrete bedding) extended to 0.48m bgl. It sealed a modern soil/rubble infill, machine/hand-excavated to a maximum depth of 2.2m bgl. The infill overlay a 19th or 20th century concrete and brick stanchion base (see Fig 4). The foundation measured 1.74m N-S by 1.6m, with a maximum height at 9.16mOD (0.72m bgl). It was not possible to break out the foundation and its full depth was not recorded although it is was bedded on the surface of the natural gravel.

4.5.2 The foundation obstructed further excavation; subsequently BH5 was drilled in the north extent of the trench edge, to further investigate the archaeological potential in this part of the site. BH5 was drilled to 6.33mOD demonstrating modern made ground down to the top of natural gravels at 6.93mOD. No archaeological survival was apparent within this trench.

4.6 Trench 4/Borehole 4

Location	Internal (raised) ground floor, towards SW corner
Dimensions	3.52m by 2.46m by 3.4m depth (including borehole)
Modern ground level/top of slab	10.4mOD
Base of modern fill	Unknown
Depth of archaeological stratigraphy above natural	N/A
Level of base of lowest features or deposits observed	7mOD (borehole)
Top of surviving natural observed at	N/A
Level of base of trench	8.6mOD

4.6.1 Trench 4 was positioned specifically to investigate the archaeological potential around the proposed pile cluster and large pile cap in this part of the site.

4.6.2 A reinforced concrete floor beam, set on a NW-SE alignment, was part-exposed, extending for 0.84m into the trench, parallel with its western edge (Fig 5). It was situated directly beneath the existing concrete floor slab (0.35m thick where it sealed the beam). The top of the beam lies at 10.05mOD. The beam was exposed for a depth *c* 1.8m bgl; its full extent was not identified.

4.6.3 In the remaining trench footprint, the concrete slab (with concrete bedding) extended up to 0.55m bgl. It sealed a modern soil/rubble infill, machine-excavated to a maximum depth 1.8m bgl.

4.6.4 At this depth, 8.6mOD, BH4 was drilled for a further 1.6m depth to 7mOD (3.4m bgl). The borehole identified continuation of the infill deposit, but was halted by a brick inclusion within the made ground.

4.6.5 The natural ground surface was not identified, despite this excavation of the trench has demonstrated significantly deep deposits of modern made ground. It is suggested that the construction of the existing building will have removed entirely any archaeology from this area.

4.7 Trench 5/Borehole 6

Location	Internal, ground floor, central area
Dimensions	2.6m by 2m by 4.3m depth (including borehole)
Modern ground level/top of slab	9.9mOD
Base of modern fill	6.63mOD
Depth of archaeological stratigraphy above natural	N/A
Level of base of lowest features or deposits observed	5.6mOD (borehole)
Top of surviving natural observed at	6.15mOD (borehole)
Level of base of trench	8.6mOD

4.7.1 The existing concrete slab (with concrete bedding) extended to 0.54m bgl. It sealed a modern soil/rubble infill, machine-excavated to a maximum depth of 1.7m bgl.

4.7.2 At this depth, 8.2mOD, BH6 was drilled for a further 2.6m depth to 5.6mOD (4.3m bgl). It identified continuation of the modern infill deposit to the surface of a

soil/gravel layer at 6.63mOD (3.27m bgl). The layer was 0.48m thick and sealed the natural gravels. It may represent a degree of re-working of the natural land surface and probably represents an in-situ subsoil deposit, hinting at the landuse levels of the site before the area became developed over time.

4.7.3 The surface of undisturbed *in situ* natural gravel was recorded immediately beneath at 6.15mOD (3.75m bbl.).

4.8 The finds

4.8.1 Given the limited extents archaeological survival with the application area, confined largely to the northwest and possibly northeast sections of the site (either side of a large Victorian sewer). A relatively small finds assemblage was retrieved from Trench 1. The deposits produced assemblages of animal bone, building material, clay tobacco pipe, copper wire, glass and pottery. All items were examined and spot-dated by MOLA finds specialist. Overall the dating for the sequence of deposits within Trench 1 suggests early pitting activity dating from the 12th century. The sequence of intercutting deposits indicating that open area landuse continues at the site until the 18th century and later. The bulk of the material identifies with a date range late 15th to late 17th centuries. A very small quantity of Roman pottery was recovered from the deposit sequence although this material was found to be residual in context.

4.9 The site as a whole

4.9.1 The borehole/trench investigations within the site have clearly demonstrated that most if not all of the potential archaeology beneath the footprint of the existing building was removed during its construction. The possible exception to this would be archaeological features cut deep into the natural gravel terraces (wells or quarries for example).

4.9.2 Externally in the car park area north of the current building, archaeological deposits survive directly beneath the existing ground surfaces. These deposits range in date from the 12th to 18th centuries and comprise a 2.3m thick archaeological sequence of rubbish pits and dump layers with a date range mostly from the late 15th to early 18th centuries. A single rubbish pit at the base of the trench dated to the 12th century.

4.9.3 The presence of clinker (burnt coal and/or furnace residue) within some of the deposits suggests a process of waste disposal probably associated with the glass works recorded at 15 Dock Street (Section 2.2).

4.9.4 Natural river terrace gravels were identified internally and externally demonstrating a natural ground slope from *c* 8m in the north of the site sloping down to *c* 7m on the Highway street frontage.

4.9.5 Assessing the results from the excavations, the dating evidence and cartographic evidence; it appears that from the late medieval or early post-medieval period up until the late 18th century, the bulk of the site was in use for waste disposal. Initially the process was likely associated with domestic habitation (Fig 6), probably superseded by industrial activity when the glass works was established in the 17th century (Fig 7). The area was redeveloped in and around the site in the late 18th century for both residential and commercial purposes; the 19th century brick wall or floor recorded in the site car park relates to this later activity.

5 Archaeological potential

5.1 Answering original research aims

5.1.1 The redevelopment of the site will impact on archaeological deposits of medieval and post-medieval date. The primary objective of the initial evaluation is to confirm the extent, nature and significance of any surviving archaeological deposits or structures in areas of the site where new foundations and other groundworks are proposed.

5.1.2 The assessment of significance of any surviving remains is undertaken in the context of the wider archaeological research priorities for London. These are set out in the Museum of London's '*A research framework for Greater London*' (MOL, 2002).

5.1.3 A number of broad objectives and research questions have been identified for the initial evaluation:

- *What is the nature and level of natural topography?*

  In situ laminated sands and gravels, were recorded at a maximum height of 8.13mOD in external Trench 1, the northernmost site investigation. The top of the natural is presumed undisturbed in this area.

  Elsewhere, *in situ* gravel was recorded at 6.93mOD in internal BH5/Trench 2, located towards the SE corner of site, and at 6.15mOD in BH6/Trench 5 in the south-central area of site.

  There is a considerable drop in the level of the natural land surface between Trench 1 and BH5/BH6 to the south. This may reflect the slope of the river terrace gravels as they progress downhill towards the Thames, but it is likely a significant degree of truncation took place when the footprint of the existing building was originally excavated.

- *Given the topographic location of the site, is there any evidence for former watercourses/associated channels flowing southwards towards the Thames?*

  Despite locating boreholes 1 and 2 specifically to investigate the presence of buried channels or water courses within the site no evidence for these was recorded.

- *What is the evidence for prehistoric activity on the site? What is the character nature and extent of this activity?*

  No evidence to suggest later prehistoric activity was recorded within the site.

- *Is there evidence for in situ deposits/structures representing Roman activity on the site? If so, how does this relate to the residual material found on the adjacent site at 15 Dock Street? What is the character and nature of this activity, eg settlement, agricultural, ditches, quarrying?*

With the exception of a few residual pottery finds within later assemblages of material, nothing to suggest deposit survival of Roman date was recorded within the site.

- *Is there any evidence for medieval activity within the site and if so, what land uses are represented? In particular, are there any dumped deposits representing ground reclamation during the later medieval period, as found at 15 Dock Street to the west?*

  A rubbish pit at the base of the sequence in Trench 1 has been provisionally dated to the late medieval period (1180–1480). However, material from the same date range was also retrieved from early post-medieval deposits and it may be that the evidence was residual.

- *What evidence is there for post-medieval activity within the site? What is the date of any surviving post-medieval buildings and can they be related to the structures shown on early maps?*

  The archaeological sequence was predominantly characterised by a series of intercutting rubbish pits, and, to a lesser extent, rubbish dump layers. The only evidence for post-medieval buildings was remains of a brick floor or wall, provisionally dated to the 19th century.

  The pitting/dumping sequence was predominantly dated late 15th to early 18th centuries.

- *In particular, is there further evidence for the late 17th-/early 18th-century glass works (likely to be concentrated in the north of the site), given the discovery of a brick furnace at the north-eastern limit of the adjacent site at 15 Dock Street and contemporary cartographic evidence?*

  There was no clear evidence tying the archaeological sequence at Ensign Court to the glass works recorded at 15 Dock Street (Section 2.2). The presence of clinker (burnt coal and/or furnace residue) within some of the archaeological deposits does suggest a link, but domestic activity should not be discounted.

- *To what extent have post-medieval cellars/basements truncated archaeological deposits of earlier date?*

  There was no clear evidence that post-medieval cellars/basements had truncated earlier archaeological features/deposits, but, with the exception of Trench 1, it may be the case that post-medieval structures within the site's internal area were removed when the footprint of the existing building was originally excavated.

5.1.4 To summarise:

The evaluation found no evidence for former watercourses/associated channels flowing southwards towards the Thames and no evidence for prehistoric activity.

No *in situ* deposits/structures representing Roman activity were found on site. Evidence for Roman activity was limited to two residual pottery sherds, one dated AD 250–400; the other undateable.

Evidence for later medieval activity (dated 1180–1480) was confined to a single rubbish pit at the base of the sequence. However, the dating evidence was limited and may represent residual material within a post-medieval feature.

The overall sequence is representative of an external area utilised for waste disposal, including organic waste, in the form of rubbish pitting and dumping. There was no clear evidence demonstrating whether the waste disposal was associated with industrial or domestic activity, though the presence of clinker within some of the deposits, does suggest a link to the 17th/18th century glass works recorded adjacent to the site at 15 Dock Street.

The dating evidence indicates the bulk of the activity taking place from the late 15th to early 18th centuries with some additional evidence for 19th century activity. Faithorne and Newcourt's map of 1658 shows terraced buildings fronting onto the Highway immediately south of the site (Fig 6); Rocque's map of 1746 shows further development in and around the site, including buildings associated with the glass works (Fig 7).

5.2 General discussion of potential

5.2.1 The evaluation has shown that the potential for survival of ancient ground surfaces (horizontal archaeological stratification above natural ground) on the site is **high** in the external car park area with deposit survival from *c* 8m OD to *c* 10m OD on average.

5.2.2 There is also **high** potential for survival of cut features in the external car park areas.

5.2.3 Potential for survival of both ancient ground surfaces (horizontal strata) and cut features within the internal footprint of the site building is **low**. However, deep cut features, wells or quarry pits for example, may still survive locally within the natural gravels.

5.2.4 The average depth of archaeological deposits/cut features in the external car park area of the site is likely to be *c* 2.3m (plus any deep cut features). Within the internal footprint of the current building, localised deposit survival is unknown but unlikely to be more than 1–2m deep.

5.2.5 See Fig 8 for a *Site map of archaeological potential.*

5.3 Significance

5.3.1 Whilst the archaeological remains are of local significance there is nothing to suggest that they are of regional or national importance.

5.4 Assessment of the evaluation

5.4.1 Archaeological evaluation including trench excavation and boreholes was carried out at seven separate locations across the site. A trench was located in the car park area north of the existing building (Fig 2). The evaluation has successfully provided a clear overview of likely archaeological survival within the site and a high degree of confidence can be placed in the results.

5.4.2 The internal trench and borehole evaluation demonstrated that, from the top of the

existing floor slab, *c* 9.88–10.4mOD, to the top of the *in situ* natural land surface, *c* 6.15m–6.93mOD, the archaeological sequence has probably been entirely removed during construction of the current building.

5.4.3 Although no archaeological deposits or features were present under the building footprint, there remains the possibility that deep cut features, wells or quarry pits for example, may survive in this area, cut into the natural land surface.

5.4.4 Trench 1 in the car park identified an archaeological sequence, extending from immediately beneath the existing car park surface to the top of and into the *in situ* natural sands and gravels at *c* 7m OD.

6 Proposed development impact and conclusions

6.1.1 The proposed redevelopment at the site involves the demolition of the existing building and construction of a new building across the application area including the currently undeveloped, car park in the northern part of the site.

6.1.2 As outlined within the previously approved OAWSI (or archaeological mitigation strategy: MOLA 2015) for the site, no basements are proposed although piled foundations will be installed and pile clusters will be positioned in areas of building and lift cores. In addition, bulk ground excavation prior to piling, will be carried out. Deep excavations to install drainage, utilities and an attenuation tank will also be undertaken (as detailed below).

6.1.3 In compliance with the approved OAWSI, it is intended that the archaeological works be fully integrated with the overall proposed construction programme. The sequential elements (C–H below) were originally proposed (MOLA 2015, page 14).

***(C):* Watching brief and archaeological excavation during intrusive groundworks associated with below ground demolition and enabling works for construction phases (pile probing, removal of existing services foundations/obstructions.**

(D): Watching brief and archaeological excavation during oversite bulk ground reduction (to c 8.05m – 8.55m OD average) prior to piling.

6.1.4 ***(E): Archaeological excavation prior to piling, within pile cluster areas and pile caps for building core. Lift pit cores, substation and relevant deep intrusions including attenuation tank.***

6.1.5 ***(F): Archaeological watching brief and archaeological excavation (where* required to formation level) within remaining pile cap areas across the site footprint.**

6.1.6 **(G): Watching brief for contiguous pile walls along existing sewer easements.**

6.1.7 **(H): Watching brief and archaeological excavation within areas impacted by installation of proposed drainage and utilities.**

6.1.8 In light of the results of the evaluation exercise, it is recommended that the archaeological responses proposed within the OAWSI are refined and targeted to take account of what is now know about the archaeological deposit survival within the site.

6.1.9 In the north section of the site and as a direct result of the deposits recorded within trench 1, archaeology survives directly beneath the existing external areas of hardstanding. The impact of any deep excavations, oversite bulk ground reduction or pre-piling ground clearances in these areas area would be to remove the remaining archaeological deposits.

6.1.10 It is recommended that the remaining archaeological deposits within the central-north part of the site are subject to a programme of controlled archaeological

excavation to be programmed in advance of any further intrusive ground works.

6.1.11 In the central and south sections of the site (under the existing Topps Tiles building) the trench evaluation has demonstrated that there is likely to be no archaeological deposit survival to a general level of *c* 7m AOD, further it is expected that deep cut features (pits, wells and ditches) will be limited to localised survival across the area generally.

6.1.12 An archaeological watching brief is recommended in these areas to mitigate the proposed stages of groundworks detailed in phases C–E above. No archaeological monitoring would be required in the area of the existing building footprint during the proposed oversite bulk ground reduction of the site (sequence D) as these excavation levels (8–8.5 m AOD) are not likely to impact on any areas of localised archaeological survival.

6.1.13 Deep ground clearances or pile-probing (sequence C) should be monitored archaeologically and where identified localised archaeological deposits should be excavated and recorded by archaeological excavation procedures.

6.1.14 Areas of pile clusters (Sequence E) and deep pile caps should be cleared under archaeological watching brief down to the level of natural deposition. Localised deposit survival of significance, noted within the natural substrate should also be archaeologically excavated to clear the area, prior to piling.

6.1.15 Remaning areas of pile caps across the proposed south section of the site footprint (sequence F) should be monitored by watching brief where (and if) the formation levels of the pile cap extend below 7m AOD.

6.1.16 Where relevant across the site, guide trenches excavated for the contiguous pile walls on either side of the existing Thames Water sewer (sequence G) should form a part of the watching brief work.

6.1.17 The decision on the appropriate archaeological mitigation to the deposits revealed, rests with the Local Planning Authority and its advisors.

7 Acknowledgements

7.1.1 MOLA would like to thank London and Quadrant Housing Trust for funding the archaeological evaluation and the ongoing mitigation of the site.

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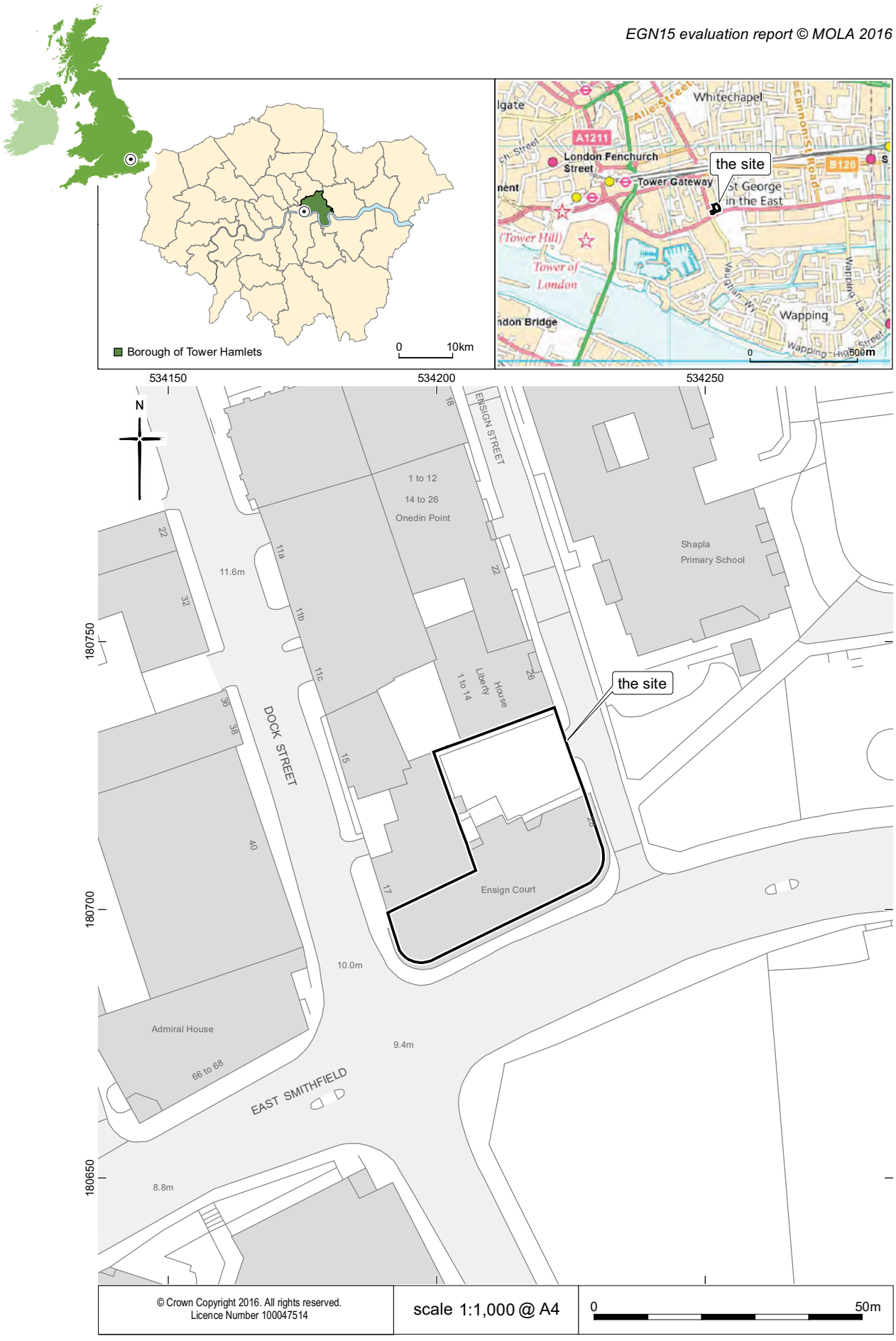

Fig 1 Site location

Fig 2 Trench, borehole and section locations

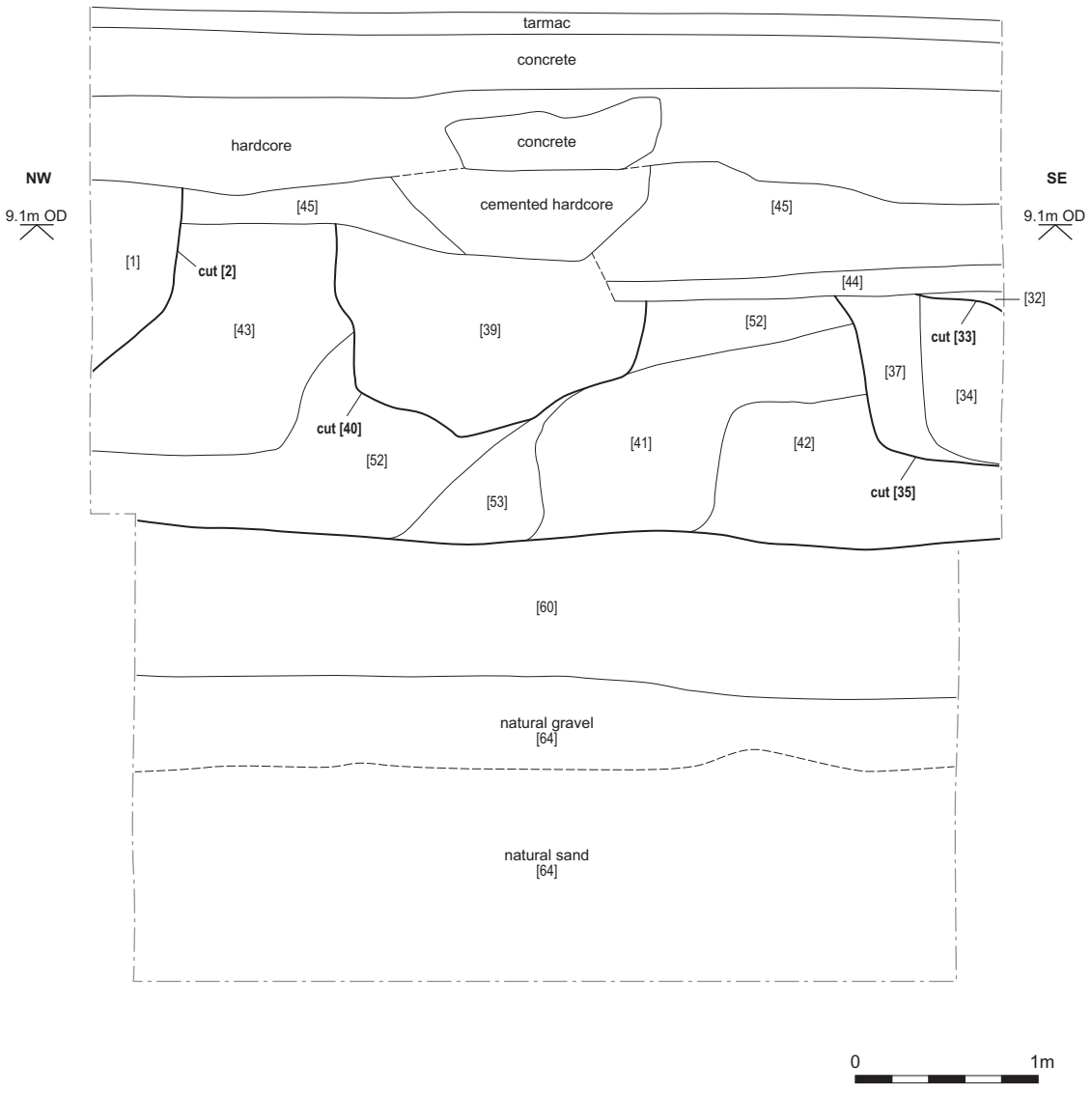

Fig 3 SW-facing section (S4) in Trench 1

Fig 4 Victorian foundation in Trench 2, looking north (1m scale)

Fig 5 Reinforced concrete floor beam in Trench 4, looking SW (1m scale)

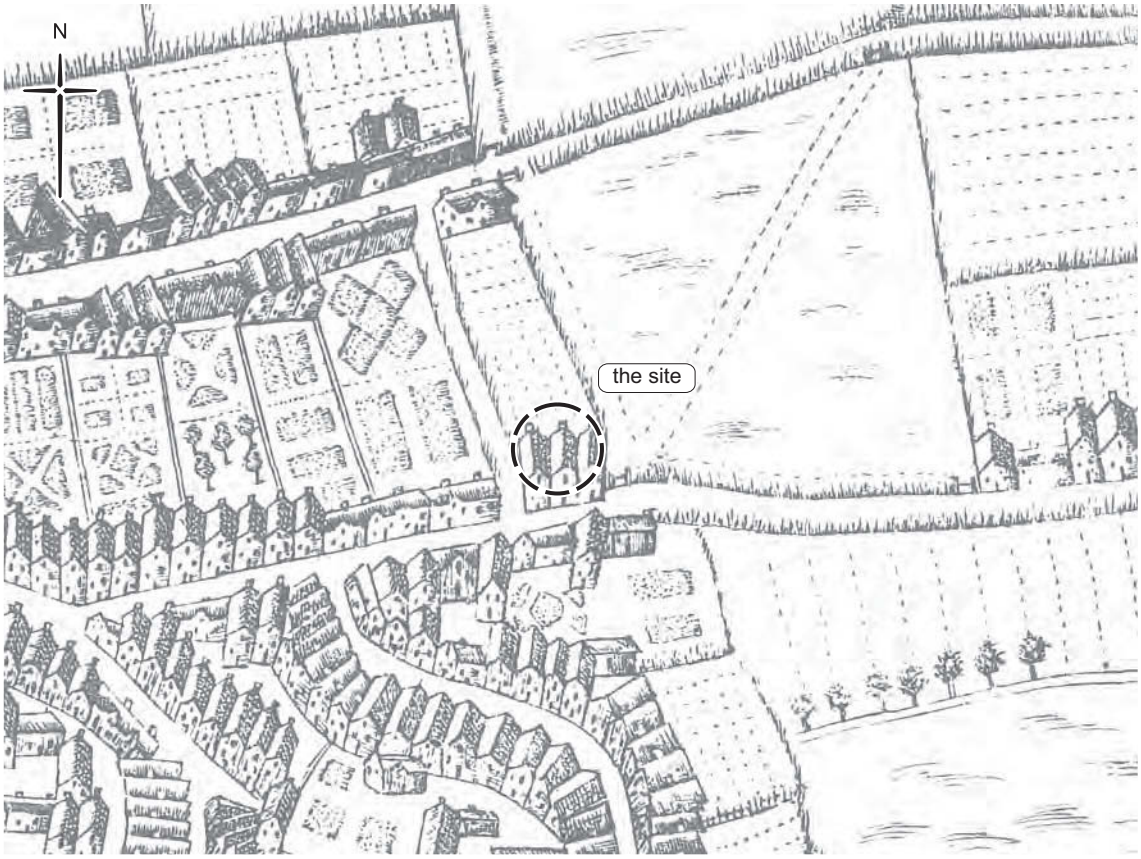

Fig 6 Faithorne and Newcourt's map of 1658

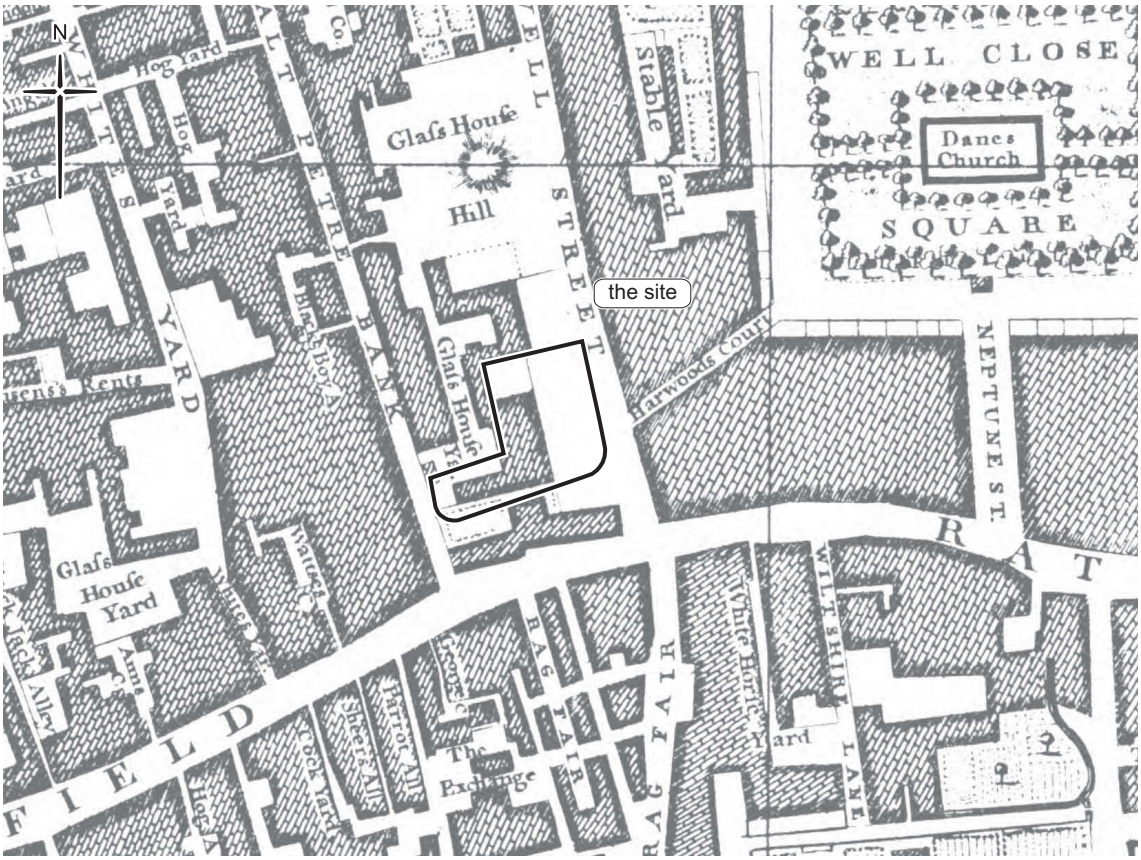

Fig 7 Rocque's map of 1746

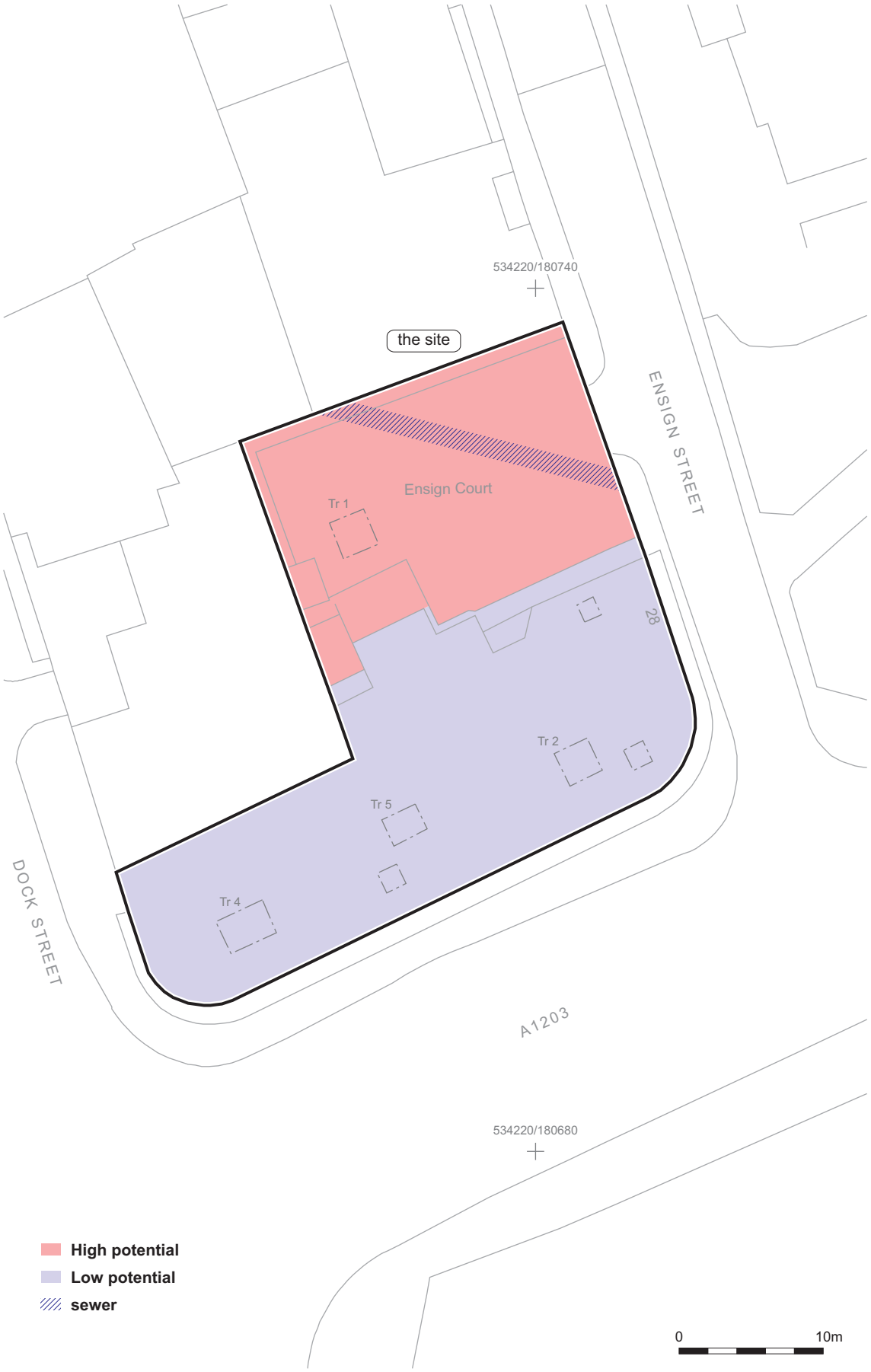

Fig 8 Site map of archaeological potential

9 OASIS archaeological report form

9.1 OASIS ID: molas1-251715

Project details

Project name	Ensign Court, 28 Ensign Street, London E1
Short description of the project	Trench and borehole excavations were undertaken at seven locations across the site. Three boreholes and three trenches with additional boreholes were located on the ground floor within the footprint of the existing building. A single trench was located in the car park area immediately north of the building The evaluation successfully provided an overview of likely archaeological survival within the site. The in situ natural ground surface (river terrace sands and gravels) was identified at three locations. The trench in the car park identified a 2.3m thick archaeological sequence, consisting of rubbish pits and rubbish dump layers with some possible evidence for gravel quarrying. Dating evidence indicates an overall range from 1180 (medieval) to the 19th century (late post-medieval) but the bulk of the material has a range from the late 15th to the late 17th centuries (post-medieval). The sequence is provisionally interpreted as an external area used for waste disposal, initially relating to domestic habitation in the early post-medieval period, then continuing into the 17th/18th century when the site was developed as a glassworks. Evidence for later redevelopment of the site in the late 18th/early 19th century includes a 19th century brick wall or floor and a later ground-raising/levelling layer which sealed it. Excavations within the footprint of the existing building demonstrated that the archaeological sequence had been removed during construction of the current building. However, there remains the possibility that deep cut features, wells or quarry pits for example, may survive, cut into the natural land surface.
Project dates	Start: 16-03-2016 End: 29-04-2016
Previous/future work	Yes / Yes
Any associated project reference codes	EGN15 - Sitecode
Type of project	Field evaluation
Site status (other)	Archaeological priority area
Current Land use	Vacant Land 1 - Vacant land previously developed
Monument type	RUBBISH PITS Post Medieval
Monument type	RUBBISH DUMPS Post Medieval
Monument type	BRICK FLOOR/WALL? Post Medieval
Significant Finds	POTTERY Roman
Significant Finds	POTTERY Post Medieval
Significant Finds	CERAMIC BUILDING MATERIAL Medieval

Significant Finds	CERAMIC BUILDING MATERIAL Post Medieval
Significant Finds	CLAY TOBACCO PIPE Post Medieval
Methods & techniques	"Augering","Targeted Trenches"
Development type	Urban commercial (e.g. offices, shops, banks, etc.)
Development type	Urban residential
Prompt	Planning condition
Position in the planning process	After full determination (eg. As a condition)

Project location

Country	England
Site location	GREATER LONDON TOWER HAMLETS TOWER HAMLETS Ensign Court, 28 Ensign Street, London E1
Postcode	E1
Study area	1452 Square metres
Site coordinates	TQ 34211 80714 51.508895872909 -0.065832962169 51 30 32 N 000 03 57 W Point
Height OD / Depth	Min: 6.15m Max: 8.13m

Project creators

Name of Organisation	MOLA
Project brief originator	MOLA
Project design originator	MOLA
Project director/manager	Simon Davis
Project supervisor	Jez Taylor
Type of sponsor/funding body	Developer
Name of sponsor/funding body	London and Quadrant Housing Trust.

Project archives

Physical Archive recipient	LAARC
Digital Archive recipient	LAARC
Paper Archive recipient	LAARC

Project bibliography 1

Publication type	Grey literature (unpublished document/manuscript)
Title	Ensign Court, 28 Ensign Street, London E1, Report on archaeological evaluation
Author(s)/Editor(s)	'Taylor, J.'
Date	2016
Issuer or publisher	MOLA
Place of issue or publication	London
Description	Standard A4 client report

Entered by	Jeremy Taylor (jtaylor@mola.org.uk)
Entered on	16 May 2016