



C261 ARCHAEOLOGY EARLY EAST

Interim Statement

Archaeological Watching Briefs and Evaluation

Whitechapel Shaft XSH10

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Fig 1 Location of Evaluation trench and watching brief areas



1 Introduction

This Interim Report covers the archaeological excavation and watching brief carried out at the location of the future Crossrail Whitechapel Station by the C261 Museum of London Archaeology (MOLA).

All fieldwork was conducted between 24/02/11 to 16/06/11, directed by MOLA Senior Archaeologist David Sankey, and included:

- **Archaeological field evaluation**, Cambridge Heath Worksite (three trial trenches)
- **Targeted Watching Brief** Thames Water Storm Relief Sewer Shaft, Essex Wharf Worksite (5.6m diameter, 8m x 8m ground reduction)
- **General Watching Brief** Cambridge Heath Worksite car park canopy (c 12 foundations, up to c 3–4m deep, 1m x 2m, 1.5m x 2m, 1m x 4m and 1.5m x 4m)
- **General Watching Brief** drainage and septic tanks, Cambridge Heath Worksite
- **General Watching Brief** EDF installations and transformer base, Cambridge Heath Worksite

The event code (sitecode) is XSH10.

This document is an interim statement of the results of the fieldwork completed at Whitechapel to date (there is some further ground reduction to be done at Durward Street). More extensive background, results, and conclusions will be included in the Fieldwork Report which will be submitted within six weeks of the end of fieldwork (Crossrail, *Archaeology, Specification for Evaluation & Mitigation (including Watching Brief, Doc. No. CR-PN-LWS-EN-SP-00001, v. 0.3, 26.06.09)*).

The fieldwork was carried out in accordance with:

- The Crossrail **Generic Written Scheme of Investigation: Archaeology Generic Written Scheme of Investigation**, Doc No. CR-PN-LWS-EN-SY-00001, 2009.
- A Crossrail **Site-specific Written Scheme of Investigation (SS-WSI): C140 Whitechapel Station, Archaeology Site-specific Written Scheme of Investigation, Doc. No. C140-HYD-T1-JLTI-DO61_00001 Version 3**, 15.12.10 (Draft).
- An **Archaeological method Statement** MOLA, *C261 Archaeology Early East, Method Statement Archaeological Watching Briefs, Whitechapel Station (XSH10)* Document Number: C261-MLA-X-ACT-CR140-50003, version 3

2 Site Methodology and fieldwork objectives

2.1 Evaluation methodology and sampling method

Modern overburden was removed to 1.2m below ground level by the Principal Contractor (Carillion) by machine under archaeological supervision by a MOLA Senior Archaeologist. At 1.2m deep the ground floor slab was then trimmed to the slab edge and soft sub-surface deposits (where exposed) trenches were made safe and reinforcing mesh removed from the sides. Trenches 2 and 3 had soft sediments exposed at this level and they were hand probed



for finds. Mechanical excavation was then resumed and Evaluation Trial Trenches 1 and 2 were recorded from the surface.

Evaluation Trial Trench 3 was moved from the proposed position. After probing of upper levels of post-medieval fill, it was machine excavated to the top of the underlying archaeologically sterile natural substrata. This was penetrated by two deep-cut features. In order to examine these, 'trench boxes' were made up. The trench was excavated to two trench box lengths, and subsequently sondages were dug into features on the base of the trench. The west trench box was removed and the final (east) third of the trench dug – and the process repeated.

2.2 Watching brief methodology

A series of foundation trenches were dug for stanchions to support site accommodation and provide car-parking spaces below. They were dug by mechanical excavator under archaeological supervision. Modern concrete foundations of the Albion Brewery had been dug through coal-ashy filled quarries dug through dirty reworked brickearth to natural gravel. They were recorded from the surface.

General ground reduction by machine removed the modern overburden on a shaft for a sewer diversion in Durward Street (within the previous ground plan of Swanlea School).

3 Provisional Results

See Fig 1 for locations

3.1 Evaluation Trench 1, Access tunnel shaft



Trench 1: Looking north facing section showing Albion Brewery Concrete foundations cutting through archaeologically sterile natural deposits



Evaluation Trench 1	
Location	Whitechapel former Sainsbury car park east of Brady Street
Dimensions	10m north to south and 2m east to west x 3.3m deep.
LSG coordinates	85180, 36574
OS National grid coordinates	
Modern Ground Level/top of the slab	111.85m ATD (11.85m OD)
Modern subsurface deposits	A second concrete slab at 0.6m bGL below which was hardcore to the base of the trench
Level of base of archaeological deposits observed and/or base of trench	110.76m ATD (10.76m OD) at southern end to 108.55m ATD (8.55m OD) at northern end
Natural observed (truncated/not truncated ?)	Untruncated gravels at 110.76m ATD (10.76m OD). Truncated to 108.55m ATD (8.55m OD) at northern end.
Extent of modern truncation	3.3m bGL = 113.20 ATD (13.2m OD)
Archaeological remains	Dating Evidence, Finds, and Samples
None	
Interpretation and summary	
<p>Archaeologically sterile gravels were recorded much higher at the south of this trench than elsewhere in this locality. This is thought to be because of periglacial heaving of Thames Terrace Gravel, as a result of Pingo and/or Ice-Wedge formation, similar to the Ice Wedge recorded at Lion Plaza excavations and possible Pingos at 274–280 and 298–306 (PSO90) and 284–294 (BOS87) Bishopsgate (described by the excavator as periglacial cryoturbation).</p> <p>The concrete foundations of the Albion Brewery had removed deposits above natural gravel.</p>	

3.2 Evaluation Trench 2, Grout shaft



Trench 2: Looking east (west-facing section and base of trench) showing Albion Brewery Concrete foundations cutting through archaeologically sterile natural deposits

Evaluation Trench 2	
Location	Whitechapel former Sainsbury car park near the south perimeter in a central position
Dimensions	4m north to south and 2m east to west x 5.7m deep.
LSG coordinates	85223, 36576
OS National grid coordinates	
Modern Ground Level/top of the slab	111.35m ATD (11.35m OD)
Modern subsurface deposits	A second concrete slab at 0.65m bGL below which was hardcore and a concrete pad to the base of the trench on the north side
Level of base of archaeological deposits observed and/or base of trench	109.4m ATD (9.4m OD) to base of archaeology – at southern end to 109.05m ATD (9.05m OD) to the base of trench
Natural observed (truncated/not truncated ?)	Untruncated gravels at 109.15m ATD (9.15m OD) [1]. Truncated brickearth above to 109.4m ATD (9.4m OD)[2]
Extent of modern truncation	1.3m bGL = 110.05m ATD (10.05m OD) on south side – truncation below base of trench to north



Archaeological remains	Dating Evidence, Finds, and Samples
Dark grey-brown course sandy clay with occasional small fragments of charcoal and animal bone [4] was exposed at 109.85m ATD (9.85m OD). It was contained in a cut feature [3] the sides of which lay outside the trench, but the presence of which can be inferred from the level of the underlying natural brickearth	None
Above 109.85m ATD was 200mm of the same deposit as [4], but with yellow-stock bricks impressed into it [5].	Post-AD 1800
Interpretation and summary	
It is noteworthy that sandy clay deposit [4] contained charcoal, but not obviously coal ash. This may indicate that it was broadly earlier than later post-medieval coal-ashy fills elsewhere on site. It is not possible to determine whether it is the fill of a brickearth quarry, a pond (ponds are depicted on some historic maps of the area), a natural watercourse or a section of the common sewer (or 'Black Ditch'). However, observations of the common sewer on the east side of Sainsbury's had considerable quantities of pottery in the fill (Sankey 1993, <i>Albion Brewery, an Archaeological Evaluation</i> , 9) unlike sandy clay [4], and the fill contained coal ash compatible with the dating of the pottery (1830, or later). The reworking of the top 200mm [5] has no relevance to the dating of the lower fill.	

3.3 Evaluation Trench 3, Cambridge Heath shaft



Trench 2: Looking east (west-facing section and base of trench) showing Albion Brewery Concrete foundations cutting through archaeologically sterile natural deposits

Evaluation Trench 3	
Location	Whitechapel former Sainsbury car park near the south perimeter in a central position
Dimensions	3.3m north to south and 10m east to west x 3.3m deep.
LSG coordinates	85269, 36579
OS National grid coordinates	
Modern Ground Level/top of the slab	111.65m ATD (11.65m OD)
Modern subsurface deposits	A reinforced concrete slab over hardcore to 1.0m bGL (approximately)
Level of base of archaeological deposits observed and/or base of trench	108.35m ATD (8.035m OD)
Natural observed (truncated/not truncated ?)	Untruncated clean archaeologically sterile sand [6] at 108.55m ATD (8.55m OD).
Extent of modern truncation	1.0m bGL = 110.65m ATD (10.65m OD)
Archaeological remains	Dating Evidence, Finds, and Samples
Dirty reworked brickearth [7] 300mm thick (overlay [6])	None
Cut through by deep square feature [8] 3m E-W and >2.8m N-S was dug deeper than 107.43m ATD, 7.43m OD. The fill [9] – a dark-grey coal-ashy sandy silt – continued below this level	19th-century transfer-printed 'oriental pheasants' design pottery, not retained

<p>observed in a hand-dug <i>sondage</i> and continued above this level to 110.65m ATD, 10.65m OD.</p>	
<p>To the east of [8] was another deep-cut feature [10], this time a 1.2m-wide linear feature with flat bottom aligned N–S. It had vertical straight sides and was dug to a sharp-cut flat base at 107.45m ATD, 7.45m OD. It was filled with a similar dark-grey coal ashy sandy silt [11]</p>	<p>18th–19th-century Staffordshire comb-decorated slipware, not retained</p>
<p>Interpretation and summary</p>	
<p>Reworked brickearth just 300mm thick [7] – over natural sand [6] – indicates a horizontal truncation at an unknown period in the past.</p> <p>Square feature [8] was narrow for a quarry pit – though it was dug to a depth that may indicate it was a deeper section within a wider quarry. The continuation of its fill [9] above the adjacent reworked brickearth may indicate that is so.</p> <p>Whereas feature [8] was aligned with the modern road system, the linear feature [10] was aligned N–S. Its size might indicate a drain cut, though none was found. It lies east of the position of the common sewer (or ‘Black Ditch’) which was located during the 1996 evaluation of the Albion Brewery / Sainsbury Supermarket site.</p>	

3.4 GWB Cambridge Heath Worksite car park canopy

	
<p><i>Canopy foundation, third stanchion from west of the southern row (left, looking east) , dug into archaeologically sterile natural brickearth and gravel</i></p>	<p><i>Canopy foundation, stanchion furthest east of the northern row (right, looking west): showing Albion Brewery Concrete foundations cutting through post-medieval coal-ashy nightsoil quarry fills, dug into archaeologically sterile natural brickearth and gravel</i></p>

Car Park Canopy foundation	
Location	Whitechapel former Sainsbury car park near the south perimeter in western position
Dimensions	The foundations comprised two lines of stanchion bases. The southern line measured two bases 1.5m x 2.0m at each end and four 1.5m x 4.0m in the centre, equally spaced centres with the long axis aligned parallel to the site boundary. The northern line mirrored this but was only 1.0m wide. They were dug to 3.0m deep
LSG coordinates	
OS National grid coordinates	
Modern Ground Level/top of the slab	111.85m ATD (11.85m OD)



Modern subsurface deposits	A second concrete slab at 0.6m bGL below which was hardcore to approximately 2.0m bGL and concrete pad foundations to the base of the trench
Level of base of archaeological deposits observed and/or base of trench	108.85m ATD (8.85m OD)
Natural observed (truncated/not truncated ?)	Untruncated clean archaeologically sterile gravel at 109.0m ATD (9.0m OD) – 109.55m ATD (9.55m OD).
Extent of modern truncation	1.6m bGL = 110.25m ATD (10.25m OD)
Archaeological remains	Dating Evidence, Finds, and Samples
Dark grey coal-ashy silt – with oyster shell – filled post-medieval quarries dug though brickearth to natural gravel	Presence of coal ash indicates a date later than 1650 (approx.) and oyster shells indicate quarries dug prior to 1850 (approx.)
A thin layer of brickearth lay above gravel. It was too dangerous to observe in-situ, and so it could not be determined whether this was a natural deposit or reworked. No medieval or Roman finds were observed in the up-cast spoil	None
Interpretation and summary	
These observations can be compared with the sequence in Evaluation Trench 3. It is thought that the brickearth above the gravel is likely to have been reworked, but whether by post-medieval quarrying or earlier activity it is difficult to determine. Large post-medieval quarries indicate the systematic removal of brickearth for brickmaking	

3.5 GWB Drainage and septic tanks (interceptor)



Eastern Manhole and Drainage trench: Looking west, showing Albion Brewery brick and concrete foundations cutting through archaeologically sterile natural deposits with a blackish waterlain silt (arrowed), cut through by Albion Brewery basements in the distance

Drainage Watching Brief	
Location	Whitechapel former Sainsbury car park Near to the north site perimeter
Dimensions	Drainage trenches were 1.2m wide and between 2m and 3m deep. Manholes were 2.5m square and dug to a similar depth. The large interceptor pit measured 7m x 5.5m and was 6.0m deep and north of it was a 3.5m x 2.0m trial pit dug 3m deep.
LSG coordinates	
OS National grid coordinates	
Modern Ground Level/top of the slab	111.85m ATD (11.85m OD)



Modern subsurface deposits	Except for a small area photographed above, Albion Brewery remains continued below the level excavated, except for the large interceptor pit, where a concrete blinding was encountered at 4.4m bGL (below which were natural gravels). In the small area of surviving archaeology concrete truncated deposits at 1.0m bGL
Level of base of archaeological deposits observed and/or base of trench	109.35m ATD (9.35m OD)
Natural observed (truncated/not truncated ?)	Naturally reworked Brickearth, with roots, occurred at 110.35m ATD (10.35m OD). It was truncated by a feature with waterlogged silts
Extent of modern truncation	1.0m bGL = 110.85m ATD (10.85m OD)
Archaeological remains	Dating Evidence, Finds, and Samples
500mm thick deposit of firm black and dark grey waterlogged fine silt without visible inclusions, but with very fine specks or coal dust	Presence of coal ash indicates a probable date later than 1650 (approx.)
Interpretation and summary	
The waterlogged dark grey silts are thought also to have been waterlain and to be from the Common Sewer (or Black Ditch). However no dating material was recovered and this interpretation, without the sides of the feature containing them, must remain tentative. It is possible that the roots observed in the underlying brickearth were those of reeds.	

3.6 TWB Thames Water Storm Relief Sewer Shaft



Thames Water Storm Relief Sewer Shaft: Looking north-west, showing clean natural brickearth at the base of the shaft, darker filled feature to the right of the ladder, red-brown soil, cut through by a quarry and a 19th-century culvert

Thames Water Storm Relief Sewer Shaft, Essex Wharf Worksite	
Location	Whitechapel former Swanlea School area of the Essex Wharf worksite
Dimensions	A 8m x 8m preparatory ground reduction for a 5.6m diameter shaft
LSG grid coordinates	85029, 36581
OS National grid coordinates	
Modern Ground Level/top of the slab	
Modern subsurface deposits	Modern surface treatments, concrete and hardcore to 0.9m bGL
Level of base of archaeological deposits observed and/or base of trench	2.3m bGL
Natural observed (truncated/not truncated ?)	Clean, archaeologically sterile brickearth at 1.8m bGL
Extent of modern truncation	0.9m bGL
Archaeological remains	Dating Evidence, Finds, and Samples



A dark grey area of brickearth on the west side of the shaft continued below the area excavated (outside the shaft itself). It was covered by..	None
...a buried soil, or palaeosol, which contained animal bones but no dated finds. It was cut through...	None
...on the east side of the area observed by a large quarry filled with coal-ashy sandy silt.	None
The quarry fill was cut in turn by a brick culvert	18th- or 19th-century (bricks, not retained)
Interpretation and summary	
The dark grey area of brickearth could potentially have been an earlier medieval or Roman feature but without finds, and without fully excavating it, it is not possible to determine. Similarly, a buried soil in this location is not significant without an accurate means of dating it. The quarry is typical of the 17th-, 18th- and 19th-century quarries in the vicinity.	

4 Summary and conclusions (*provisional*)

4.1 Summary of Fieldwork Results

- The level of natural gravels varied across the site, and may reflect periglacial heaving due to ice-wedge formation or similar freezing effects. The gradation through sand (in Evaluation Trench 3) to brickearth may reflect postglacial alluvial deposition.
- No Roman or medieval remains, stray, residual finds, or human bone was observed. Neither were plague burials or any other parish overflow burials.
- An area of grey brickearth in the Thames Water Storm Relief Sewer Shaft may have been an archaeological feature, but no finds were encountered when it was cleaned or probed.
- A small area of waterlogged dark grey silt (seen in the eastern manhole and drainage trench) is potentially the fill of the Common Sewer, and open drain commonly called 'the Black Ditch'.
- Elsewhere, and throughout exposures where there was potential to find remains earlier than the late 19th century, a coal-ashy filled series of brickearth quarries were exposed. They may have been dug at various times from the 17th to the 19th century.
- The latest remains recorded were those of a 19th-century brick culvert.
- Only concrete foundations of the Albion Brewery were exposed.

4.2 *Provisional* conclusions for future work:

The Crossrail design archaeologist and Project Archaeologist will determine what further archaeological works are required to mitigate the impact of the Crossrail works.

Potential Roman roadside activity (including burials) or later burials has not been demonstrated. Post-medieval quarries would appear to have removed any such remains (if once present), except for a small area on the west side of the Thames Storm Water Sewer Shaft.

The only area which might have potential (as seen in the eastern manhole and drainage trench) had possible remains of the Common Sewer or Black Ditch. However, these were very heavily truncated by the remains of the Albion Brewery, and this identification can only be very tentative.

A small area of the Durward Street and Essex Wharf worksite remains to be reduced, and it is suggested that it be covered by a General Watching Brief (in light of the nearby Thames Storm Water Sewer Shaft). However, it is suggested that there is no need for further archaeological monitoring of the former Whitechapel Sainsbury's car park area.



5 Future Deliverables

The remaining deliverables for the site, and their delivery dates as specified by *Crossrail, Archaeology, Specification for Evaluation & Mitigation (including Watching Brief, Doc. No. CR-PN-LWS-EN-SP-00001, v. 0.3, 26.06.09*, are:

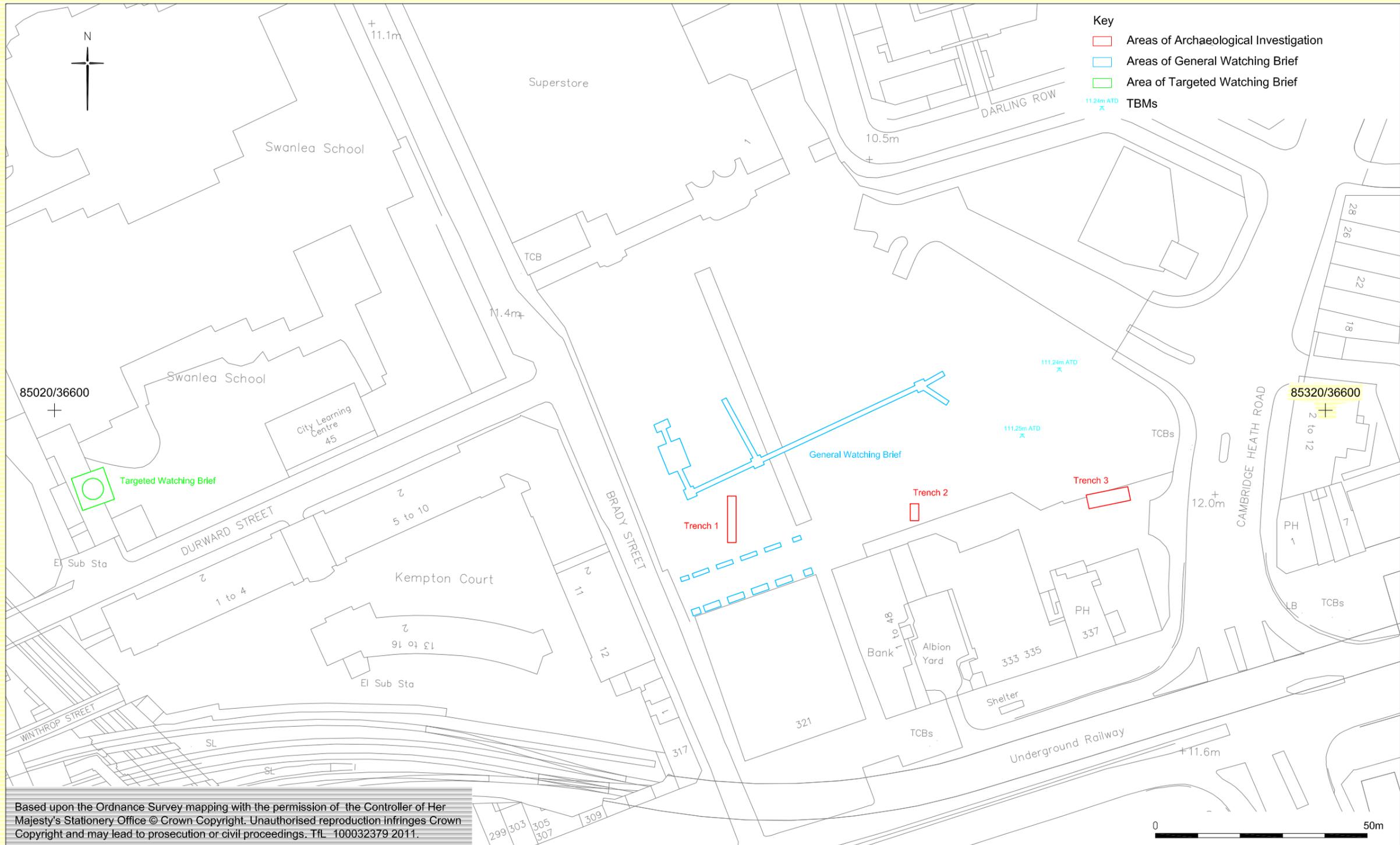
- **Survey Report** by 1 July 2011
- **Fieldwork Report** (including OASIS Summary Sheet) by 29 July 2011
- **Summary Report** by 12 August 2011



Annex 1 – Location Plan

Fig 1 Location of Evaluation trench and watching brief areas

(to be inserted in the PDF version of this document)



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<p>Event code / Site code: XSH10: FIG 1 Location of Evaluation Trench and Watching Brief Areas</p>	<p>Site Address: Crossrail: Whitechapel Shaft</p>	<p>GWB / TWB / Evaluation</p>
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