



C257 ARCHAEOLOGY CENTRAL
Interim Statement
Archaeological Watching Brief
Structural Test Pits, Farringdon Station
(Lindsey Street Bridge)(XSF10)

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1 Introduction

An archaeological watching brief was carried out at Farringdon Station, Eastern Ticket Hall at Lindsey Street Bridge by C257 Museum of London Archaeology (MOLA).

It was conducted between 17/07/10 and 18/07/10 and supervised by MOLA Senior Archaeologist [REDACTED]

It was recorded under the event code (sitecode) XSF10.

This document is an interim statement of the results of the fieldwork, required by structural engineers, to be submitted to design archaeologist and Crossrail Engineers for information.

All levels in this document are quoted in metres Above Tunnel Datum (m ATD). To convert Tunnel Datum to Ordnance Datum subtract 100m, ie 1m OD = 101m ATD.

The fieldwork was carried out in accordance with:

- A Crossrail **Site-specific Written Scheme of Investigation** (SS-WSI): *Farringdon Station, Site-specific Written Scheme of Investigation, Doc. No. CR-SD-FAR-EN-SY-0001 Version 6, 20.11.09*
- An **Addendum to the WSI**: Package C136 – Farringdon Station, Addendum to Written Scheme of Investigation: Trial Trench Evaluation, Watching Brief & Detailed Excavation – Eastern Ticket Hall (XSF10), Doc. No. C136-SWN-T1-XAP-M123_WS098-00001 Revision 1.0, 12.10.10
- An **Archaeological Method Statement**: MOLA, *Farringdon Station Archaeological/Built Heritage Watching Brief, Version 2, 16/07/10*

2 Aims and Objectives

These are defined in the SS-WSI above and are reproduced below.

2.1 Fieldwork Objectives

An archaeological/built heritage watching brief monitored the excavation of the structural test pits, in order to prevent damage to built heritage assets, including features forming part of or associated with the listed building.

- To prevent damage to any structures or artefacts of built heritage interest and to advise the GI contractor on methodologies which are sensitive to built heritage/industrial archaeology and mitigate the severity of any potential impacts on the historic fabric.
- To identify and record any remains relating to the listed buildings that are exposed in the structural test pits.

3 Provisional Results

See Figure 1 for test pit location plan

3.1 Test Pits

3.1.1 TP/A1



Photo 1 Test Pit TP/A1, looking east, showing foundations on south face of LUL party wall

TP/A1 (Fig 2)	
Location	Second easternmost pit, the east limit of pit being 4.3m west from the south-east corner of LUL Party Wall (Asset No.G134)
Dimensions	1.20m (North to South) x 1.60m (East to West) at top x 1.80m deep (max)
London Survey grid coordinates	82279 36553



Modern Ground Level (adjacent to pit)	109.10m ATD
Modern subsurface deposits	19th to 20th-century former track/tunnel bed: 109.10m ATD (0 to 0.45m bGL (below ground level)) – Dark brown mixed clayey silt and gravel, with occasional brick rubble [6]. 108.65m ATD (0.45 to 0.95m bGL) – Red brown sandy silt with mortar particles and brick rubble (red and yellow brick) [5])
Level of base of archaeological deposits observed and/or base of pit	Base of pit: 107.30m ATD
Natural geology observed (truncated/not truncated ?)	London Clay [4]: soft brownish grey clay at 108.25m ATD (0.85m bGL);truncated
Extent of modern truncation	The entire area of the pit
Archaeological and built heritage remains	Date
None	N/A
A concrete slab encountered at ground level (after brushing off loose debris) in the west side of the pit.	19th or early 20th-century
Pit interpretation and summary	
<p>Foundations of the LUL party wall consisted of brick corbelling [1] (stepped/pyramid)(5 steps, 480mm high and extending 390mm from the face of the wall) sitting on a concrete pad [2] (900mm thick and extending 750mm from the face of the wall)(see Photo 1).</p> <p>The base of the foundations for the party wall: 107.30m ATD</p> <p>No archaeological remains were present in the pit. However, a concrete obstruction was encountered and is of uncertain nature, but is probably a fairly modern feature relating to services.</p>	

3.1.2 TP/B1



Photo 2 Test Pit TP/B1, east corner of LUL party wall, looking north, showing foundations

TP/B1 (Fig 3)	
Location	Easternmost pit, around the south-east corner of LUL Party Wall (Asset No.G134)
Dimensions	1.92m (North to South) x 1.44m (East to West) at top x 1.30m deep
London Survey grid coordinates	82284 36553
Modern Ground Level (adjacent to pit)	108.90m ATD

Modern subsurface deposits	19th to 20th-century former track/tunnel bed: 108.90m ATD (0 to 0.40m bGL) – Dark brown mixed clayey silt and gravel, with occasional brick rubble (Context No. 6) 108.62m ATD (0.28 to 0.86m bGL) – Red brown sandy silt with mortar particles and brick rubble (red and yellow brick) (Context No. 5)
Level of base of archaeological deposits observed and/or base of pit	Base of pit: 107.60m ATD
Natural geology observed (truncated/not truncated ?)	London Clay (Context No. 4): soft brownish grey clay at 108.16m ATD (0.74m bGL);truncated
Extent of modern truncation	The entire area of the pit
Archaeological and built heritage remains	Date
None	
Pit interpretation and summary	
<p>Foundations of the LUL party wall [1] consisted of brick corbelling (stepped/pyramid)(6 steps, 460mm high and extending 400mm from the face of the wall) sitting on a concrete pad [2] (400mm thick and extending 700mm from the face of the wall)(see Photo 2). The concrete pad continued eastward beyond the edge of the excavation, which was limited by ground obstructions. However, digging/probing into the edge of the excavation determined that the pad continued for at least 1m eastward along the same line.</p> <p>The base of the foundations for the party wall: 107.60m ATD.</p> <p>Concrete foundations for the LUL party wall iron girder overlaid the concrete foundations of the LUL party wall, and also partially truncated the brick corbel work of the latter.</p> <p>No archaeological remains were present.</p>	

3.1.3 TP/E1a



Photo 3 Test Pit TP/B1, looking west, showing foundations

TP/E1a (Fig 4)	
Location	Northernmost of the western pits, around the south-east corner of Pier B-C, of Lindsey Street Bridge (Asset No.C12A)
Dimensions	2.20m (North to South) x 2.40m (East to West) at top x 1.20m deep
London Survey grid coordinates	82271 36547
Modern Ground Level (adjacent to pit)	108.72m ATD
Modern subsurface deposits	19th to 20th-century former track/tunnel bed: 108.72m ATD (0 to 0.18m bGL) – loose sandy coarse gravel (track ballast) 108.54m ATD (0.18 to 0.52m bGL) – compact, grey brown silt with small-to-medium pebbles and red brick rubble
Level of base of archaeological deposits observed and/or base of pit	Base of pit: 107.50m ATD



Natural geology observed (truncated/not truncated ?)	London Clay: soft brownish grey clay at 108.19m ATD (0.53m bGL); truncated
Extent of modern truncation	Te entire area of the pit
Archaeological and built heritage remains	Date
None	
Pit interpretation and summary	
<p>The foundations of pier B-C were not successfully exposed because they are overlain by services and the foundations for the LU Barbican steel girders (Asset No.G134)(see Photo 3).</p> <p>However, the concrete pad exposed in the east of the pit was assumed to a combination of the concrete pad of pier B-C and the concrete of the LU Barbican steel girders, which was laid immediately on top of, and superimposing, the former. This pad was 0.80m thick.</p> <p>The base of the concrete pad: 107.80m ATD.</p> <p>No archaeological remains were present.</p>	

3.1.4 TP/E1b



Photo 4 Test Pit TP/E1b, looking north, showing foundations on the south face of pier B-C of Lindsey Street Bridge

TP/E1b (Fig 5)	
Location	Westernmost pit, second part of TP/E1, on the south face of pier B-C, the east side being 7.70m along from the south-east corner of that pier.
Dimensions	1.80m (E-W) x 1.50m (N-S) at top x 1.40m deep
London Survey grid coordinates	82263 36545
Modern Ground Level (adjacent to pit)	108.70m ATD

Modern subsurface deposits	19th to 20th-century former track/tunnel bed: 108.70m ATD (0 to 0.26m bGL) – loose sandy coarse gravel (track ballast)(9). 108.44m ATD (0.26 to 0.95m bGL) – compact, grey brown silt with small-to-medium pebbles and red brick rubble (red and yellow brick)(10).
Level of base of archaeological deposits observed and/or base of pit	Base of pit: 107.38m ATD
Natural geology observed (truncated/not truncated ?)	London Clay: soft brownish grey clay at 107.75m ATD (0.95m bGL)(11) truncated
Extent of modern truncation	The entire area of the pit
Archaeological and built heritage remains	Date
None	N/A
Pit interpretation and summary	
<p>This was the second pit dug around pier B-C [7] to determine the structure elements of that building, after the initial pit (TP/E1a) on the corner of the pier failed to yield satisfactory results due to obstructions.</p> <p>Foundations of pier B-C of the Lindsey Street Bridge at this point consisted of brick corbelling [7] (stepped/pyramid)(4 steps, 320mm high and extending 320mm from the face of the wall) sitting on a concrete pad [8] (600mm thick and extending 800mm from the face of the wall)(see Photo 4).</p> <p>The base of the concrete pad of pier B-C: 107.38m ATD.</p> <p>Metal pipe encountered running E-W across the pit at 300mm bGL and 400mm out from the pier wall.</p> <p>No archaeological remains were present.</p>	

3.1.5 TP/E2



Photo 5 Test Pit TP/E2, looking south west, showing foundations of pier E of Lindsey Street Bridge

TP/E2 (Fig 6)	
Location	Middle pit along the line of western pits. Around the south-east corner of pier E of the Lindsey Street Bridge.
Dimensions	3.40m (E-W) x 1.70m (N-S) at top x 1.46m deep
London Survey grid coordinates	82279 36536
Modern Ground Level (adjacent to pit)	108.88m ATD

Modern subsurface deposits	19th to 20th-century former track/tunnel bed: 108.88m ATD (0 to 0.6m bGL) – loose grey sandy coarse gravel (track ballast)[20]. 108.28m ATD (0.6m to 0.84m bGL) - compact, grey brown silt with small to medium pebbles and red brick rubble [21].
Level of base of archaeological deposits observed and/or base of pit	Base of pit: 107.42m ATD
Natural geology observed (truncated/not truncated ?)	London Clay: soft brownish grey clay [22] at 108.04m ATD (0.84m bGL); truncated
Extent of modern truncation	Whole area of pit
Archaeological and built heritage remains	Date
None	N/A
Pit interpretation and summary	
<p>As with pit TP/E1, the foundations of the pier were obscured by the later concrete foundations [24] of the LU Barbican girders, which extended around and covered the entire south-east corner of pier E.</p> <p>However, the concrete pad [23] of pier E [24] was visible beneath the concrete foundation for the girders [26]. The concrete of the latter [26] was 0.90m thick and extended 1.20m east and 0.70m south of the pier wall, while the concrete pad of the former [23] was 0.60m thick and extended 1.38m east and also 0.70m south of the pier wall (see Photo 5).</p> <p>The base of the concrete pad [23] of pier E: 107.42m ATD.</p> <p>No archaeological remains were present.</p>	

3.1.6 TP/E3



Photo 6 Test Pit TP/E3, looking south west, showing foundations on the north face of pier F of Lindsey Street Bridge



Photo 7 Test Pit TP/E3, looking north, showing foundations on the east face of pier F of Lindsey Street Bridge

TP/E3 (Fig 7)	
Location	Southernmost pit, on the north-east corner of pier F of Lindsey Street Bridge
Dimensions	Two areas on the north and east faces of the north-east corner of pier F: On the north face - 1.10m (East to West) x 1.14m (North to South) at top x 1.75m deep On the east face - 0.98m (East to West) x 1.08m (North to South) at top x 1.14m deep
London Survey grid coordinates	82281 36530
Modern Ground Level (adjacent to pit)	108.77m ATD
Modern subsurface deposits	19th to 20th-century former track/tunnel bed: On the north face, silty sand and gravel with red and yellow brick at 108.77m ATD (0 to 0.3m bGL). On the east face, it was entirely backfilled with loose rubble and modern rubbish (eg plastic food wrappers, lager cans). Probably the backfilled of modern pipe cuts.
Level of base of archaeological deposits observed and/or base of pit	Base of pit: North face = 107.32m ATD East face = 107.63m ATD
Natural geology observed (truncated/not truncated ?)	London Clay: 107.67m ATD (1.1m bGL): soft brownish grey clay; truncated.
Extent of modern truncation	The entire area of the pit
Archaeological and built heritage remains	Date
None	N/A

Pit interpretation and summary

Excavation was restricted at ground level by a modern metal fence running east from the corner of pier F.

The north area showed that foundations of pier F of the Lindsey Street Bridge at this point consisted of brick corbelling (stepped/pyramid)(4 steps, 440mm high and extending 380mm from the face of the wall) sitting on a concrete pad (500mm thick and extending 1m from the face of the wall)(see Photo 6). A fragment of wood found within the concrete could possibly have been part of the shuttering used to form it during it's construction. The base of the concrete pad of pier F: 107.32m ATD.

In the eastern area modern ceramic water pipes (340mm and 100mm diameter) had been installed and obstructed access to the foundations of the pier. The cuts for these pipes, as well as for the metal fence, appear to have partially truncated the brick foundation of pier F (see Photo 7). It is assumed that these pipes overlay the concrete pad of the pier. However, deeper excavation was not possible to confirm this because of the poor conditions (limited space, contamination and water encountered at 0.98m bGL)(see Photo 7).

No archaeological remains were present.

4 Significance of Results (*provisional*)

4.1 Summary of Fieldwork Results

Structural elements were observed and recorded for piers B-C, E and F of the Lindsey Street Bridge, as well as for the LUL Party Wall.

Probable London Clay was reached at between 107.67m and 108.25m ATD (1.1m and 0.85m below adjacent track bed/surface level), overlain by gravel and rubble deposits that comprised the bedding material of the railway tunnel (probably re-worked former track bed).

4.2 Importance of Resources

The foundations and structural elements which are part of the Lindsey Street Bridge (which is considered to be within the curtilage of the Grade II* listed Smithfield Market) are of high importance, although these elements are of relatively limited interest.

It appears that the bridge and tunnel construction in the 1860s has truncated into the archaeologically sterile London Clay, and removed all earlier archaeological remains along with the terrace gravels (leaving only later features from the construction, maintenance and use of the railway tunnels and Smithfield Market).

4.3 *Provisional* Assessment of Results against Aims and Objectives

Damage to the Grade II* listed Lindsey Street Bridge was prevented in all test pits. The location and extent of foundations were discovered in all test pits, although, in several areas (particularly TP/E1a, TP/E2 and TP/E3) observations were obscured because of later foundations, services and by poor excavation conditions, such as ground water and restricted lighting.

No archaeological remains pre-dating the construction of the railway tunnel and Smithfield Market were identified during the watching brief, and the London Clay is directly overlain by rubble backfill or the gravel bedding/ballast of the railway tunnels. In this respect, these results agree with the those of the previously-dug trial pits around Lindsey Street and geotechnical borehole starter pits, Farringdon Trackside (Smithfield).

4.4 *Provisional* conclusions for future work

- Any potential archaeological remains have been completely removed by construction of the cutting for the underground railway and Smithfield market in the 19th-century. Therefore, the cutting is unlikely to require further archaeological fieldwork, unless the listed structure or features of the historic railway would be affected.

5 Annex 1 –Test Pit Location Plan and Sections

Figure 1 Test Pit Location Plan

Figure 2 Test Pit TP/A1, west-facing section

Figure 3 Test Pit TP/B1, east-facing section

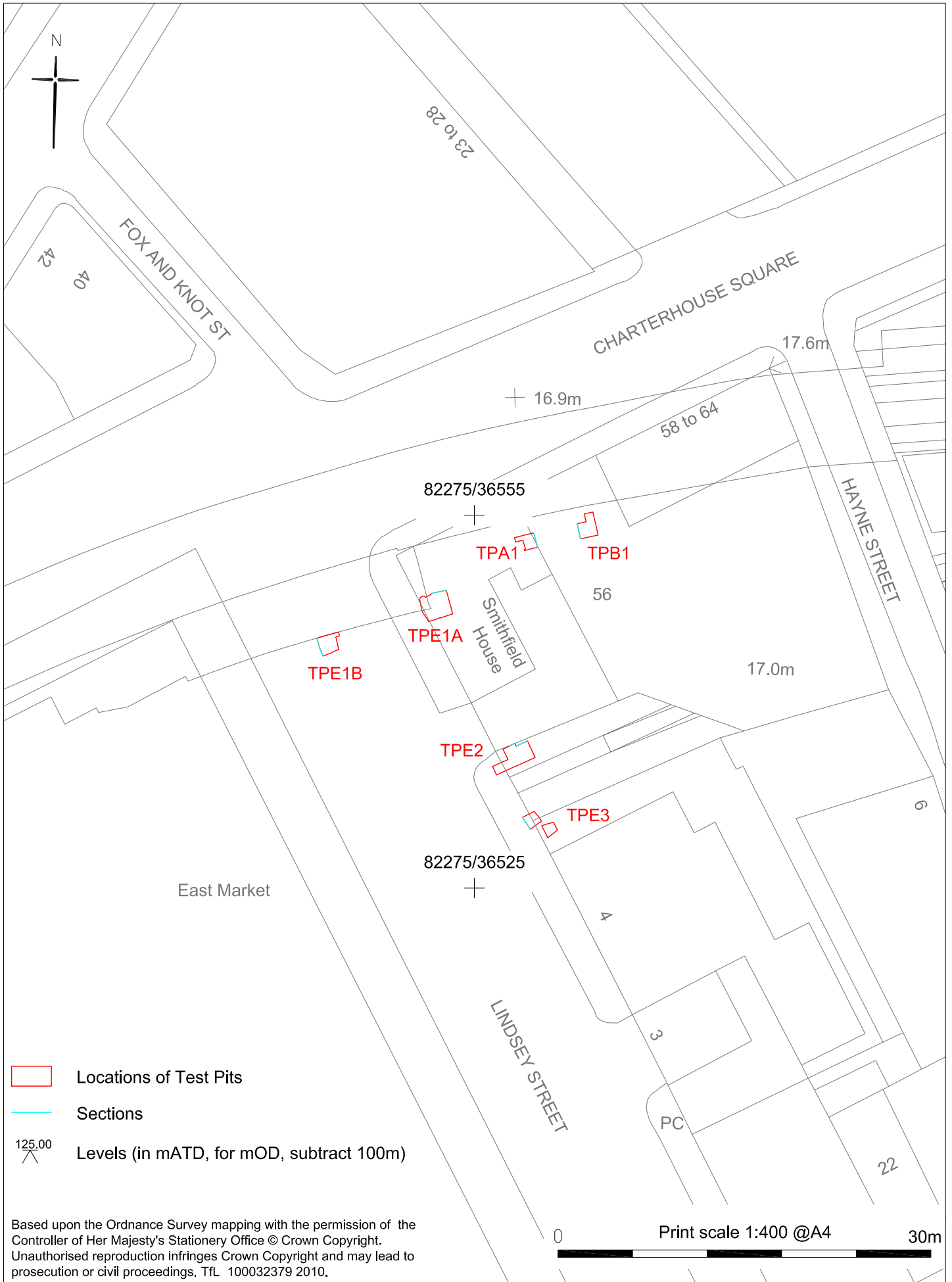
Figure 4 Test pit TP/E1a, south-facing section

Figure 5 Test pit TP/E1b, east-facing section

Figure 6 Test pit TP/E2, south-facing section

Figure 7 Test pit TP/E3, east-facing section

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

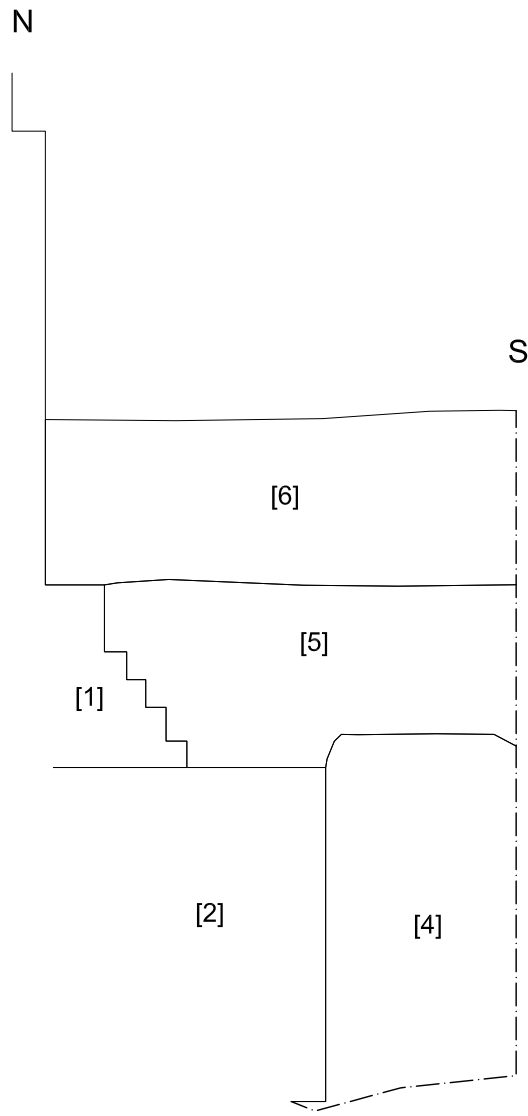


- Locations of Test Pits
- Sections
- 125.00 Levels (in mATD, for mOD, subtract 100m)


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
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Event code / Site code: XSF10: FIG 1	Site Address: Crossrail: Farringdon Station Lindsey St Bridge, London, EC1A	Type of fieldwork: Watching Brief
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TPA1 West Facing Section

 Limit of Excavation

 Archaeological deposits

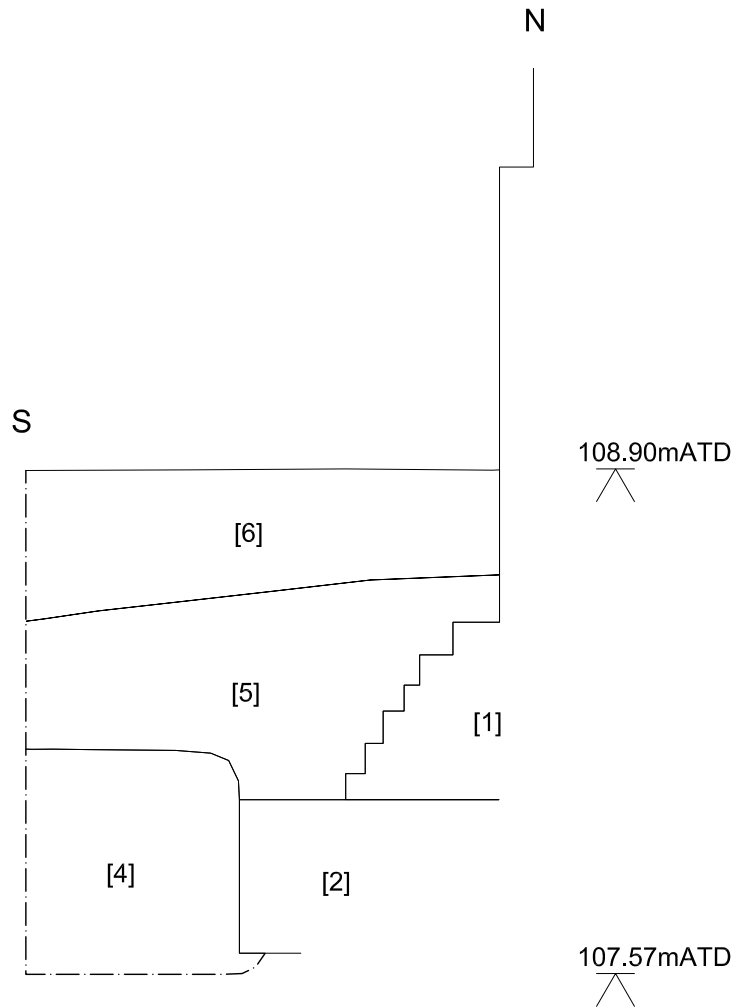
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
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
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 Crossrail: Farringdon Station
 Lindsey St Bridge, London, EC1A


Type of fieldwork:
 Watching Brief




TPB1 East Facing Section

 Limit of Excavation

 Archaeological deposits

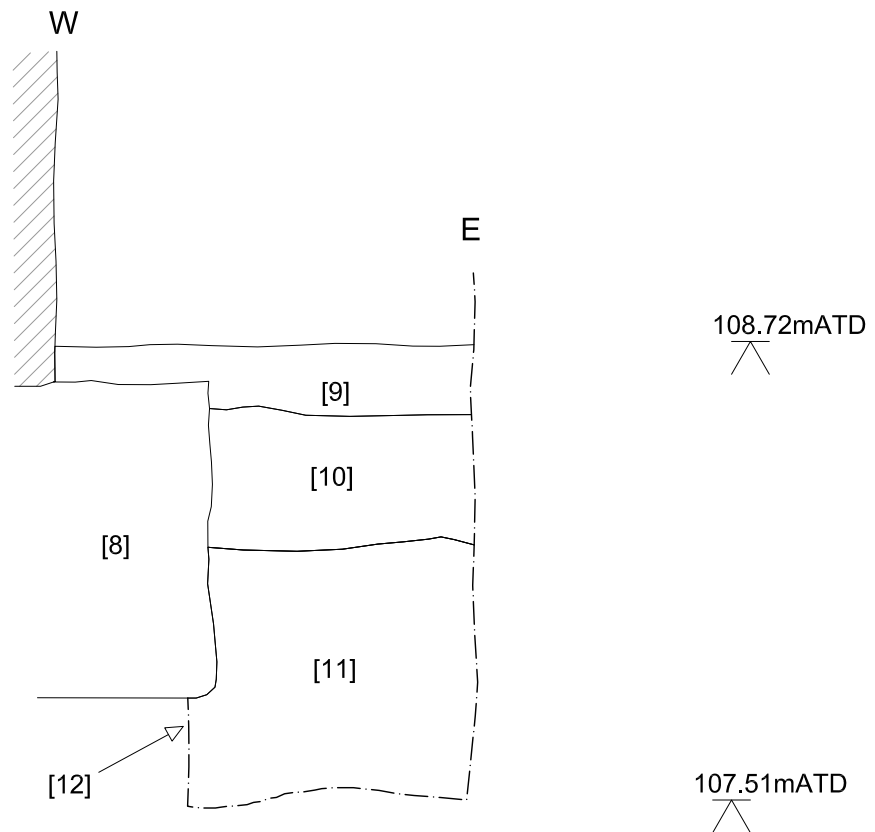
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Event code / Site code:
XSF10: FIG 3

Site Address:
Crossrail: Farringdon Station
Lindsey St Bridge, London, EC1A

Type of fieldwork:
Watching Brief



TPE1A South Facing Section

[---] Limit of Excavation

[99] Archaeological deposits

[Hatched] Concrete pillar

125.00
^ Levels (in mATD, for mOD, subtract 100m)

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Event code / Site code:

XSF10: FIG 4

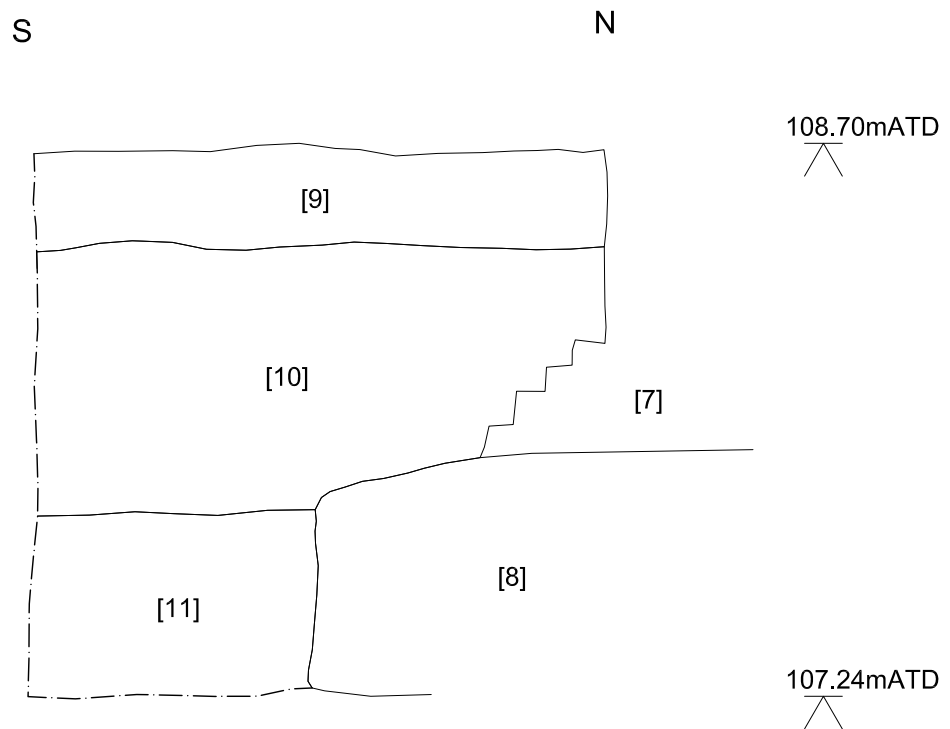
Site Address:

Crossrail: Farringdon Station


Lindsey St Bridge, London, EC1A


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
Watching Brief




TPE1B East Facing Section

 Limit of Excavation

 Archaeological deposits

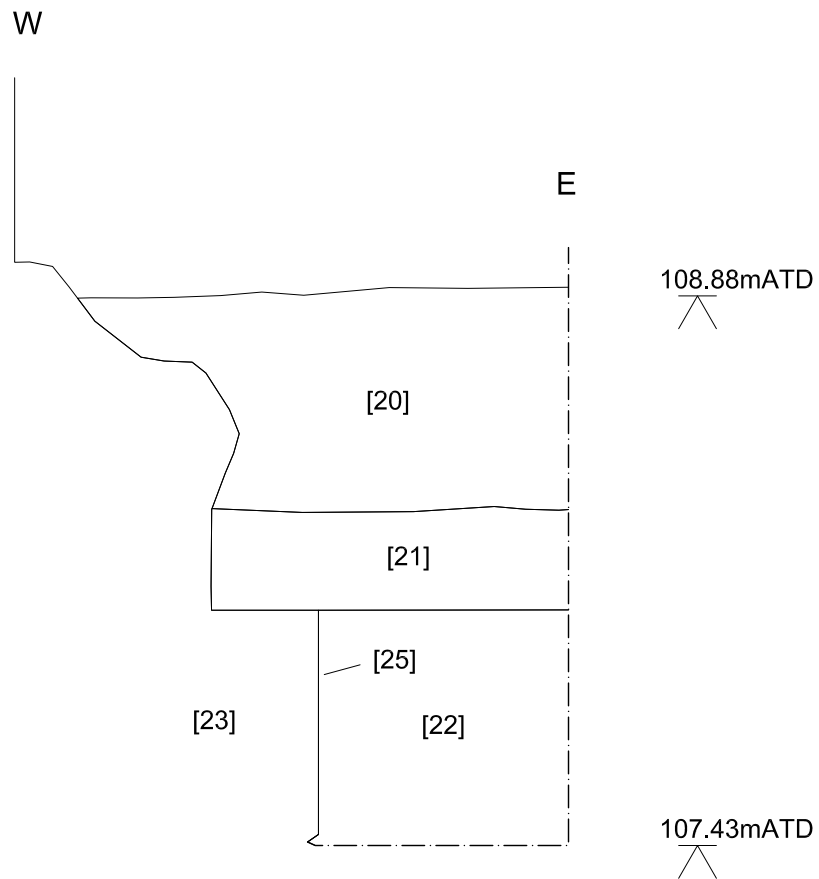
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
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
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 Crossrail: Farringdon Station
 Lindsey St Bridge, London, EC1A


Type of fieldwork:
 Watching Brief




TPE2 South Facing Section

 Limit of Excavation

 Archaeological deposits

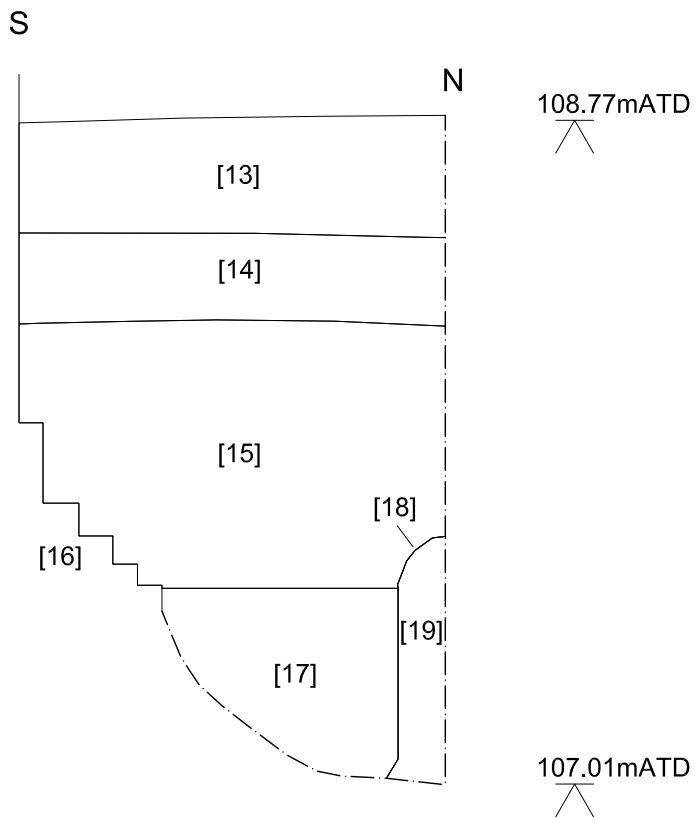
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


Event code / Site code:
XSF10: FIG 6


Site Address:
Crossrail: Farringdon Station
Lindsey St Bridge, London, EC1A

Type of fieldwork:
Watching Brief



TPE3 East Facing Section

-  Limit of Excavation
-  Archaeological deposits
-  125.00 Levels (in mATD, for mOD, subtract 100m)

Print scale 1:20 @A4


<p>Event code / Site code: XSF10: FIG 7</p>	<p>Site Address: Crossrail: Farringdon Station Lindsey St Bridge, London, EC1A</p>	<p>Type of fieldwork: Watching Brief</p>
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