



C257 Archaeology Central Fieldwork Report

Archaeological Watching Briefs on Sewer Diversions at Moorgate Shaft (XSP10)

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Non technical summary

This report presents the results of targeted and general watching briefs carried out in 2012 by Museum of London Archaeology (MOLA) on sewer diversions, and a foundation for future over-site development (OSD), at the Moorgate Shaft worksite, 91–109 Moorgate and 17–31 Moorfields, London EC2, in the City of London, as part of works for the future Crossrail Liverpool Street Station. This report was commissioned from MOLA by Crossrail Ltd. This work is being undertaken as part of a wider programme to mitigate the archaeological implications of railway development proposals along the Crossrail route.

This section of the Moorgate Shaft worksite (part of Crossrail contract C257 Archaeology Central) was situated between 8 Moorfields and Moor House, and extended north-west under a redundant foundation from Moorgate Underground station.

Ground reduction for the OSD revealed natural terrace gravels, heavily truncated by 20th-century Underground station foundations. Within the sewer runs and manholes, natural geology (at one point sandy clay overlying terrace gravels) was overlain by a thin wetland clay deposit containing small quantities of Roman material. This may have been an early phase of marsh formation. Sealing this were late Roman or medieval marsh deposits, up to c 3.3m beneath current street level (108.89m ATD), surviving up to a depth of 1.2m. A small quantity of well-preserved medieval leather was retrieved from this deposit, as well as a single human humerus, possibly washed in from a nearby burial, but may be intrusive and deposited as part of the marsh formation process. A thin semi-terrestrial horizon of unknown date represented the end of the marsh sequence. No evidence was found for attempts to drain the marsh, as have been found on nearby sites.

In the southernmost manhole, in situ 19th-century timber shoring for a large sewer had truncated all earlier deposits to a depth of 4.1m beneath ground level (bGL) (108.35m ATD). The 19th-century cut and cover sewer (which runs approximately north-south along Moorfields, turning west under the Moorgate Underground ticket hall) measured 1.5m wide and was constructed in an inverted egg shape design. The sewer had removed any archaeological deposits beneath the current Moorgate Underground ticket hall to the north.

Twentieth century truncation associated with the Moorgate Underground station foundations, had removed the majority of archaeology within the confines of the diversions trenches, and of the OSD. In places the foundation piers were set at least 6m bGL, well below the level of archaeological survival.

Within the OSD a solitary dump of 19th-century refuse, was probably redeposited within a later 20th-century made ground, and is therefore of minimal archaeological significance.

The 19th-century sewer is fairly representative of the many that still survive beneath the streets of London. The marsh sequence that it truncates is well recorded in this extra-mural area, and is only of low to moderate significance because of the single redeposited human humerus recovered from within it. This find implies that the isolated single burials found at Moor House to the west, and Moorgate Hall to the north, may not have been as solitary as previously thought.

The results from the OSD and sewer diversion trenches are assessed as being of low to moderate significance. They will contribute to finalising the mitigation strategy for the site, and will be considered with other results from the site in post-excavation assessment.



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1 Introduction

Crossrail is a new cross-London rail link project which will provide transport routes in the South-east and across London. The line will provide a range of both new and improved rail journeys across London and its immediate surroundings. The proposed development will include the construction of seven stations within central London which will have interchange with other public transport modes including the London Underground, National Rail and the London Bus service; the development will also include the renewal and/or upgrade of existing stations outside central London. The route itself will link Maidenhead and Heathrow in the west with Shenfield in the north-east and Abbey Wood in the south-east.

As part of these works a new station is required running from Moorgate to Liverpool Street (the overall Liverpool Street Station site), of which the western end consists of a shaft at Moorgate/Moorfields from ground level to the tunnels (Moorgate Shaft sub-site). A large sewer runs through this area and this report covers the monitoring of those diversion works.

The Crossrail mitigation response to archaeology is described in the Crossrail Generic WSI (Crossrail 2009) and the detailed desk based assessment (DDBA; Crossrail 2008b), and can be summarised as follows:

- In the event that intact and important archaeological remains are identified at Crossrail worksites through this process, it may be preferable, where practicable, to preserve these where they are found (ie preservation in situ).
- However, because of the nature of major works projects such as Crossrail, experience of other similar projects suggests that preservation by record is usually the most appropriate method of dealing with archaeological finds.
- Following an extensive Environmental Impact Assessment (EIA) supporting the Crossrail Bill, and the production of site-specific DDBA, appropriate mitigation measures were scoped and specified in detail in individual project designs (site-specific WSI – Written Schemes of Investigation) which were prepared in accordance with the principles set out in the Generic WSI, and developed in consultation with the relevant statutory authorities.
- Archaeological information that is gained from fieldwork will be followed by analysis and publication of the results and will be transferred to an approved public receiving body.

This fieldwork report describes the results of targeted and general watching briefs on ground reduction for the OSD (over-site development) foundation and sewer diversions on the Moorgate Shaft worksite, monitored by Museum of London Archaeology (MOLA) under Crossrail contract C257 Archaeology Central.

All work is located in the City of London, EC2 (Fig 1). The centre of the site is at Ordnance Survey National Grid Reference 532706 181635.

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



The fieldwork was conducted between 2nd February and 23rd July 2012 for the sewer diversions and between 30th May and 28th June 2012 for the OSD. It was supervised by Sam Pfizenmaier (MOLA Supervisor) and included the following activities:

Table 1 Archaeological Investigations

Task	Principal Contractor	Dates
• Moorgate Sewer Diversion Targeted/General Watching Brief	C501 Bam Nuttall - Kier JV	2nd February – 23rd July 2012.
• OSD Targeted/General Watching Brief	C501 Bam Nuttall - Kier JV	30th May – 28th June 2012

The event code (site code) is **XSP10**.

2 Planning background

The legislative and planning framework in which all archaeological work took place was summarised in the Site Specific Written Scheme of Investigation (SS-WSI): *Liverpool Street Station Design Package 138*, Doc. No C138-MMD-T1-RST-C101-00001, Version 2, April 2010; a brief summary is included here:

The overall framework within which archaeological work will be undertaken is set out in the Environmental Minimum Requirements (EMR) for Crossrail (Crossrail 2008a). The requirements being progressed follow the principles of Planning Policy Guidance Note 16 on archaeology and planning (1990) and its replacements PPS5 and NPPF. Accordingly the nominated undertaker or any contractors will be required to implement certain control measures in relation to archaeology before construction work begins.

Schedules 9, 10 and 15 of the Crossrail Act (2008) concern matters relating to archaeology and the built heritage and allows the dis-application by Crossrail of various planning and legislative provisions including those related to listed building status, conservation areas and scheduled ancient monuments (Schedule 9). Schedule 10 allows certain rights of entry to English Heritage given that Schedule 9 effectively dis-applied their existing rights to the Crossrail project, and Schedule 15 allows Crossrail to bypass any ecclesiastical or other existing legislation relating to burial grounds.

Notwithstanding these dis-applications, it is intended that agreements setting out the detail of the works and requiring relevant consultations and approvals of detail and of mitigation arrangements will be entered into by the nominated undertaker with the relevant local planning authorities and English Heritage in relation to listed buildings and with the Department of Culture, Media and Sport (DCMS) and English Heritage in relation to Scheduled Ancient Monuments (SAMS).



3 Origin and scope of the report

This report has been commissioned from Museum of London Archaeology (MOLA) by Crossrail Ltd. The report has been prepared within the terms of the relevant standard specified by the Institute for Archaeologists (IFA 2001). It considers the significance of the fieldwork results (in local, regional or national terms) and makes appropriate recommendations for any further action, commensurate with the results.

This report will be made available from The London Archaeological Archive and Research Centre (LAARC) in due course.

4 Previous work relevant to archaeology of site

The principal previous Crossrail studies are as follows:

- *Crossrail 2005a Environmental Statement*
- *Crossrail 2005b Assessment of Archaeology Impacts, Technical Report. Part 2 of 6, Central Route Section, 1E0318-C1E00-00001, [Specialist Technical Report (STR)]*
- A Crossrail **Site-specific Written Scheme of Investigation (SS-WSI): Liverpool Street Station Design Package 138**, Doc. No C138-MMD-T1-RST-C101-00001, Version 2, April 2010
- An **Addendum to the WSI**: Package C138 – *Liverpool Street Station, Addendum to Written Scheme of Investigation: Moorgate Shaft*, Doc. No: C138-MMD-T1-TCP-C101- 0001, Revision 2.0, July 2010.
- An **Archaeological Method Statement**: MOLA, *C257 Archaeology Central Method Statement Archaeological Evaluation and Watching Briefs (C138) Moorgate Shaft*, Doc. No: C257-MLA-T1-GMS-CR088-00003, Version 5, 30/08/11.
- A **Fieldwork Report**. MOLA for Crossrail, July 2011b *C257 Archaeology Central, Fieldwork Report, Archaeological Evaluation, 91 to 109 Moorgate – XSP10*, Document Number: C257-MLA-X-RGN-CRG02-50069 v2, 21.03.12
- An **Interim Statement**: MOLA, *C257 Archaeology Central Interim Statement Archaeological Watching Brief on OSD Foundation – XSP10* Version 2, 24/07/12



5 Geology and topography of site

The geological and topographical setting was covered in detail in the WSI and is summarised below.

The site sits within the ancient flood plain of the River Thames; consequently the topography of the surrounding area generally slopes down from north to south. The drift geology consists of Pleistocene terrace gravels of the third (Taplow) Thames terrace, recorded between 107.60m ATD and 108.05m ATD during recent fieldwork at Moorgate (MOLA 2012a). They are one of the youngest and lowest of the Thames river terrace remnants, deposited between 130,000 to 190,000 years ago during ice-age conditions when the flow of the Thames was considerably stronger than it is today. Generally fine with mixed inclusions of sand and silt, they are commonly overlaid by brickearth (Langley Silt Complex, a silty loam overlying the terrace gravels, formed from re-worked, fine-grained sediments laid down by wind or surface water) that was also identified at Moorgate, between 108.30m ATD and 108.60m ATD (MOLA 2012a).

The archaeological potential of the terrace gravel deposits is considered to be very low.

6 Archaeological and Historical Background

The archaeological potential of the Moorgate Shaft site is summarised below, and covered in detail in the detailed desk based assessment for Liverpool Street Station: Crossrail 2008, and the WSI SS-WSI – *Liverpool Street Station Design Package 138*, Crossrail, April 2010, Document No C138-MMD-T1-RST-C101-00001, Revision 2.0.

There is limited potential for prehistoric remains in this area; such horizons have been removed in the majority of cases by Roman and later activity. Prehistoric evidence, if present, is likely to be limited to residual artefacts found in later deposits, such as the small quantities of Iron Age pottery from Riverplate House (sitecode RIV87) in Finsbury Circus, and one piece of residual pottery retrieved from a later Roman levelling dump (MOLA 2012a) at 91 to 109 Moorgate.

Fieldwork c 80m to the north of site in 1989 at Moorgate Hall revealed a single Roman inhumation burial. This, however, was interpreted by the excavators to be isolated, and not part of the extra-mural cemeteries which existed to the north of the Roman city (LAARC summary for MOH88). Another isolated burial, and also disarticulated human remains, was found immediately adjacent to the site at Moor House (LAARC summary for MRL98).

The Roman cemetery at Eldon Street (eg ENS03, BSP91, ELD88), some 200m to the north-east of the current site, forms the nearest of the significant cemeteries currently identified. However, there are two antiquarian records of cremations in the immediate vicinity of the site, albeit imprecisely-located, from Moorgate and the western side of Finsbury Circus, and a number further afield from the eastern side of Moorgate. These may suggest an area of cemetery or individual burials that has been masked by the Moorfields Marsh.

No clear evidence of other Roman extra-mural activity, such as buildings or burials, was observed during the evaluation (MOLA 2012a) on the current site, although layers of redeposited brickearth containing Roman material may represent preparation for a



building. The majority of Roman activity in the immediate area has been limited to ditch cuts (probably for drainage) and occasional occupational evidence (beam slots and floors) especially in the northernmost area of Moor House (MRL98). It therefore appears likely that, in addition to the known burial areas, there was some form of occupation in this area during the Roman period.

The line of the Roman and medieval City Wall near Moorgate runs approximately along the line of the modern London Wall road, some 60m south of the Moorgate Shaft site. Constructed between c AD 180 and 225, the wall fell into disuse at the end of the Roman period, and from the 9th until the 16th centuries both the ditch and the City Wall were continually enlarged, repaired, rebuilt, re-cut and reused.

The City Wall (or later lack of maintenance of drainage through it) appears to have impeded drainage of the area and encouraged the development of the Moorfields Marsh. The marsh was recorded in recent fieldwork at Finsbury Circus (MOLA 2011a and 2012b) and 91–109 Moorgate (MOLA 2012a), and historically documented by Fitz Stephen in the late 12th century, who described this area as a 'great fen or moor'. In 1415, the Mayor of London Thomas Falconer built a postern gate at the lower end of Moorgate at the junction with London Wall (demolished in 1762), and he ordered the digging of ditches to try and drain the area. In 1512 and 1527 further drainage schemes were carried out in the Moorfields area, which allowed this area of wasteland to be utilised for the first time since Roman times. Previous fieldwork approximately 100m to the west of Fore Street Avenue, by W. Grimes in the early 20th century (Cripplegate Buildings and the City Ditch site, both WFG17) identified multiple phases of ditch, dating from the 2nd century AD to the mid 17th century (and backfilled sometime after the Civil War). The Agas map of c 1570 shows a road (Little Moorfields) leading north from the postern gate, flanked on its western side by drying cloth being stretched on tenter frames. John Stow writing in c 1600 noted the presence of gardens and tenter-yards here. Rocque's map of London (1746) shows that the road leading north from the Moorgate was now known as Finsbury, and it was flanked to the west by suburban development, behind which was another parallel street (Little Moor Fields), now known as Moorfields.

7 Research objectives and aims

7.1 Objectives of the fieldwork

The objectives of the archaeological investigations, as stated in the addendum to the WSI (Crossrail 2010b), are set out below.

The overall objectives of the OSD groundworks and the sewer diversion Watching Briefs was to establish the nature, extent and state of preservation of any surviving archaeological remains that will be impacted upon by the development. Specifically, the archaeological investigations have the potential to recover:

- Artefacts of prehistoric date redeposited in later deposits.
- Remains of Roman extra-mural activity, potentially including burials.
- Water-lain deposits from the Roman to medieval Moorfields Marsh, with the potential for organic preservation and palaeoenvironmental evidence.
- Late medieval and post-medieval drainage ditches, rubbish dumps and remains associated with the reclamation of Moorfields Marsh.
- In areas not truncated by later activity: remains of mid 17th-century or earlier buildings on the western side of Moorfields, and late 17th/early 18th-century or later buildings across the whole site.

7.2 Research Aims

The original aims and objectives were listed in the Liverpool Street WSI (Crossrail 2009). Evidence relating to the Walbrook, its tributaries and Moorfields Marsh deposits may provide data relevant to the following themes:

- Understanding London's hydrology, river systems and tributaries and the relationship between rivers and floodplains;
- Understanding how water supply and drainage provision were installed and managed;
- Understanding the relationships between urban settlements and royal villas or religious estates;
- Examining the proposal that there was an ideological polarity between town and anti-town systems: Roman towns did not so much fail as were discarded;
- The end of the Roman occupation: developing explanatory models to explain socio-political change and considering the influence of surviving Roman structures on Saxon development; and
- Examining the use in any one period of materials from an earlier period (eg Saxon use of surviving Roman).

8 Methodology of site-based and off-site work

All archaeological excavation and recording during the watching briefs were carried out in accordance with:

- A Crossrail **Site-specific Written Scheme of Investigation (SS-WSI)**: *Liverpool Street Station Design Package 138*, Doc. No C138-MMD-T1-RST-C101-00001, Version 2, April 2010
- An **Addendum to the WSI**: Package C138 – *Liverpool Street Station, Addendum to Written Scheme of Investigation: Moorgate Shaft*, Doc. No: C138-MMD-T1-TCP-C101- 0001, Revision 2.0, July 2010.
- An **Archaeological Method Statement**: MOLA, *C257 Archaeology Central Method Statement Archaeological Evaluation and Watching Briefs (C138) Moorgate Shaft*, Doc. No: C257-MLA-T1-GMS-CR088-00003, Version 5, 30/08/11.
- Museum of London *Archaeological Site Manual* (MoL 1994)
- Corporation of London Department of Planning and Transportation, 2004 Planning Advice Note 3: Archaeology in the City of London, Archaeology Guidance
- Crossrail Archaeology Specification for Evaluation & Mitigation (including Watching Brief) (CR-PN-LWS-EN-SP-00001) v3 2009

The site finds and records can be found under the site code XSP10 in the MOLA archive. They will be stored there pending a future decision over the longer-term archive deposition and public access process for the wider Crossrail scheme.

The OSD watching brief was to have been conducted as a General Watching Brief on the Moorfields Marsh deposits, with the more intensive Targeted Watching Brief methodology to be applied to pre-marsh (ie Roman) deposits. In practice, only the general watching brief methodology was required, as no Roman deposits survived, and very little later material.

8.1 General Watching Brief methodology

The General Watching Briefs consisted of a basic monitoring presence to observe the works carried out either by the Principal Contractor without constraint on their working methods (Crossrail 2009).

The initial phase of ground reduction was carried out by the C501 Principal Contractor (Bam Nuttall - Kier JV) from ground level to 110.5m ATD, by machine, removing any underlying modern overburden down to the first significant archaeological horizon, using a mechanical excavator fitted with a flat-bladed ditching bucket. This was monitored by C257 MOLA under general watching brief conditions. Where surviving, the Moorfields Marsh deposits were removed in 300mm spits. Due to the confines of the trench shoring systems, beyond 1.2m bGL all machining was undertaken by a grab bucket and monitored from ground level, until deposits underlying the marsh were exposed, at which point work continued under Targeted Watching Brief conditions (see 8.2 below).



Where no archaeology was present, works were monitored until natural strata were exposed across the area of the trench or manhole. Where initial inspection showed that modern foundations had already truncated beyond this level (approximately 108.5m ATD), further monitoring was not required, as in Manholes S3 and S2.

A written and drawn record was made in accordance with the principles set out in the Museum of London site recording manual (MoL 1994). The photos and figures included in this report have been specifically chosen so as to illustrate the archaeological/building features encountered. Trench location co-ordinates were supplied to MOLA by the Principal Contractor.

8.2 Targeted Watching Brief methodology

The targeted watching brief commenced (following removal of piling mat and other modern overburden) at 108.50m ATD in sewer run S3–S4, and at 108.85m ATD in manhole S4, which was well within the marsh sequence, however, surviving timbers (later identified as post-medieval) had been exposed and were believed at the time to warrant recording beyond that possible under general watching brief conditions.

A written, drawn and photographic record of all archaeological deposits encountered was made in accordance with the principles set out in the Museum of London site recording manual (MoL 1994).

Archaeological features were planned off trench edges, and recorded in section drawings, which were located by the Principal Contractor utilising Crossrail London Survey Grid control stations. These were then supplied to MOLA.

9 Results and observations including stratigraphic report and quantitative report

9.1 OSD Foundation Trench



Photo 1 OSD trench, after removal of 0.5m of piling mat, at 108.90m ATD, looking north

Moorgate OSD Foundation Trench. (Fig 2, Photo 1, Photo 2 & Photo 3)	
Location	Approximately underneath 17 Moorfields
Dimensions	Approximately 23m north to south, and east to west 8m and 2m deep
OS National grid coordinates	532690 181640
LSG grid coordinates	83040/36330
Modern Ground Level (= top of sheet piles)	109.50m ATD [this value is for the top of the sheet piles, as no relevant ground level remains in this area; former street level was approx. 113m ATD (MOLA 2011b)]
Modern subsurface deposits	Concrete foundations associated with Moorgate Underground station in northern part of OSD trench down to 107.49m ATD
Level of base of archaeological deposits observed and/or base of trench	Archaeology recorded at maximum depth of 4.55m bGL (beneath ground level) (108.45m ATD)
Natural observed / truncated	Untruncated orange sandy gravels at 1.05m bGL (108.45m ATD)
Extent of modern truncation	As 'modern subsurface deposits' above

Archaeological remains	Dating Evidence, Finds, and Samples
[40] - (Photo 2). Light grey clay silt, 350mm thick dump of material, at 108.80m ATD.	[40]: pot, tobacco pipe stem and glass (all 19th-century)
Interpretation and summary	
<p>Natural terrace gravels were recorded at a consistent depth of 4.55m bGL (108.45m ATD) across the site.</p> <p>Archaeological deposits were limited to a solitary dump of general refuse [40] (Photo 2) that was visible as a lens of material within a larger band of redeposited natural sands and gravels. It appears likely that this deposit was formed during the levelling and deposition of made ground for the underground station, or ancillary buildings associated with it, which have been removed by subsequent construction activity. It is therefore possible that this material, although of 19th-century date, was redeposited in the 20th century.</p> <p>Foundations associated with the recently-demolished underground station had truncated any archaeology, and the surface of the natural geology, to a maximum depth of 107.49m ATD in the northernmost part of the OSD.</p> <p>At the commencement of the watching brief, a recently-formed piling mat (January 2012) consisting of compacted type 1 rubble filled the OSD to the top of the sheeting at 109.50m ATD.</p>	



Photo 2 OSD trench, 19th-century dump deposit [40], looking north-west



Photo 3 OSD trench, archaeological monitoring ceased at the natural terrace gravels, at 107.49m ATD, looking south-west

9.2 Trench Run S1–S2



Photo 4 Sewer run S1–S2, 19th-century sewer [38] at 108.57m ATD, looking north

Run S1–S2 (Photo 4) (Fig 2)	
Location	Run S1–S2, beneath Moorgate Ticket Hall, eventual location of manhole S2
Dimensions	6m+ (N–S) by 5.5m (E–W) and 2m deep
OS National grid coordinates	531887 181818
LSG grid coordinates	82240 / 36531
Modern Ground Level/top of the slab	109m ATD
Modern subsurface deposits	20th-century footings truncate to 1.44m beneath ground level (107.56m ATD)
Level of base of archaeological deposits observed	Concrete base of pillar continues beyond trench base at 107.56m ATD
Natural observed	London Clay at 108.39m ATD
Extent of modern truncation	As ‘modern subsurface deposits’ above
Archaeological remains	Dating Evidence, Finds, and Samples
[38] Domed brick sewer formed from yellow stock bricks. Not fully exposed (Photo 4). Between 107.46m ATD and 108.57 and, cutting terrace gravels.	Live 19th-century sewer (brick samples not taken)
Interpretation and summary	
Natural terrace gravels were recorded across the trench base at 107.56m ATD evidently truncated by the station foundations and the large east–west 19th-century sewer [38] recorded across the trench to a depth of 108.39m ATD.	

9.3 Sewer run S2–S3



Photo 5 Sewer run S2–S3, station foundations truncating to natural geology, looking north

Sewer run S2–S3 (Photo 5) (Fig 2)	
Location	Sewer run S2–S3, from manhole S2 heading south to approximate junction with Fore Street Avenue
Dimensions	20m+ (NNE–SSW) and 3.2m wide, max 3m deep
OS National grid coordinates	531891 181816
LSG grid coordinates	82245 / 36531
Modern Ground Level/top of the slab	108.96m ATD
Modern subsurface deposits	20th-century concrete foundations and made ground filled the trench to ground level (basement level of Moorgate station 109.60m ATD)
Level of base of archaeological deposits observed	No archaeology observed
Natural observed	Terrace gravels at 108.55m ATD
Extent of modern truncation	Truncated to and below level of natural geology.

Archaeological remains	Dating Evidence, Finds, and Samples
None	n/a
Interpretation and summary	
Truncated natural terrace gravels were observed across the base and sides of the trench. Square concrete pads (see Photo 6) for the Moorgate Underground ticket hall above the works had caused truncation to 107.00m ATD.	



Photo 6 Sewer run S2–S3, foundation pads for Moorgate Underground ticket hall truncating to natural strata, looking east

9.4 Sewer run S3–S4



Photo 7 Sewer run S3–S4, medieval marsh visible in section, looking south-west

Sewer run S3–S4 Photo 7, Photo 8 Fig 3, Fig 4	
Location	Sewer run S3–S4, from Fore Street Avenue to between 8 Moorfields/Moor House
Dimensions	21.4m (NW–SE) and 1.5m wide, between 1.2 and 2.6m deep
OS National grid coordinates	531887 181812
LSG grid coordinates	82241 / 36525
Modern Ground Level (= top of sheet piles)	111.00m ATD
Modern subsurface deposits	Visible at 109.92m ATD
Level of base of archaeological deposits observed	Base of early Marsh formation at 108.25m ATD
Natural observed	<i>Untruncated</i> Terrace Gravels at 108.30m ATD
Extent of modern truncation	20th-century backfill/ levelling from Moor House foundations at 1.08m bGL (109.92m ATD)
Archaeological remains	Dating Evidence, Finds, and Samples
[36] (Photo 8) Firm light grey-brown clay silt, slightly organic with occasional oyster shell and charcoal flecks. Recorded between 108.49m ATD and 108.25m ATD. Sealed by [35]	[36] Pot: AD 60–150 [36] Tile AD 50–160
[35] (Photo 8) Organic peaty dark wetland marsh deposit [14]. Frequent degraded plant remains. Moderate animal bone, oyster shell and leather. Recorded in section between 109.65m ATD 108.43m ATD Sealed by [34]	[35] Pot 1350–1500
[34] (Photo 7) firm clay silt. Occasional oyster shell, charcoal and CBM flecks. Recorded between 109.97m ATD and 108.65m ATD.	No finds – undated, probably late medieval/early post-medieval.
[33] Loose mixed sandy rubble. Recorded between 111.00m ATD and 109.92m ATD.	No finds
Interpretation and summary	
<p>Natural terrace gravels were recorded across the trench base apparently untruncated at 108.30m ATD.</p> <p>Layer [36] is tentatively dated by a single 2nd-century (17.1) unabraded pot sherd, and a fragment of roof tile or brick dated to AD 50–160 (17.3). It is assumed to have been Roman or early medieval, given its position in the sequence, and, whilst not a</p>	

waterlain deposit, appears to have been partially waterlogged. This layer probably represents a make up deposit, or possibly the fill of a rubbish or quarry pit, that has been altered by the marsh formation processes (12.2). It was only exposed in a narrow section (Photo 7 and Photo 8).

The potential Roman deposits were sealed by a highly organic spongy brownish-blue marsh deposit [35] at 108.43m ATD (Photo 7), containing later medieval pottery. This is consistent with the Moorfields Marsh deposit recorded to the west (MRL98) and within the site to the north (MOLA 2012). Compared to these sites (where both ancient and modern truncation limited survival to 0.2m) the marsh survives to a depth of 1.2m (between 108.42m ATD and 109.65m ATD), and may represent the complete sequence of deposition.

Context [34] an undated deposit 0.3m thick is interpreted as either an attempt at land reclamation, or a naturally formed semi-terrestrial layer formed as the late marsh silted up sometime during the medieval or early post-medieval periods. Rubble and gravel backfill associated with the construction of Moor House truncated this deposit at 109.92m ATD, and extended up to the top of the sheeting at 111.00m ATD.



Photo 8 Sewer run S3–S4, brownish-blue medieval [35] and grey-brown possibly Roman deposits [36] overlying natural strata, looking south-west

9.5 Manhole S4



Photo 9 19th-century timber shoring [31] and backfill [38] (bottom of photo) truncating marsh deposit [30] (top of photo) at 108.85m ATD, looking east

Manhole S4 Photo 9, Photo 10, Photo 11, Photo 12, Fig 5	
Location	Manhole S4 situated between 8 Moorfields and Moor House
Dimensions	(N–S) by 3.25m (E–W) and between 1.15m deep
OS National grid coordinates	531889 181814
LSG grid coordinates	82243 / 36525
Modern Ground Level/top of the slab	110.90m ATD
Modern subsurface deposits	Modern levelling/made ground truncated to 108.95m ATD
Level of base of trench	108.55m ATD
Natural observed	Sterile gravely brickearth at 108.55m ATD
Extent of modern truncation	20th-century backfill was recorded at a maximum depth of 108.95m ATD
Archaeological remains	Dating Evidence, Finds, and Samples
[30] Soft dark brown humic organic deposit between 108.89m ATD and 108.55m ATD. Truncated by sewer cut [39].	[30] pot AD 70–160 (see 17.1) [30] human humerus (see 17.5) [30] butchered cattle and horse bone (see 17.6)
[39] Photo 11 vertical cut for 19th–	n/a



<p>century sewer (cut and cover) 1.5m wide, along length of manhole between 108.95m and trench base (not fully excavated).</p>	
<p>[31] and [32] Photo 9, <i>in situ</i> pine timber plank and post for cut and cover shoring between 109.15m ATD and 108.62m ATD</p>	<p>19th-century timbers (see Photo 9, Photo 10)</p>
<p>[38] Photo 12 yellow brick arched live sewer.</p>	<p>No samples taken.</p>
<p>[37] loose mid grey-blue sandy silt, between 108.95m ATD and trench base at 108.55m ATD. Backfill of sewer construction cut. Horizontally truncated by modern made ground.</p>	<p>No samples taken.</p>
<p>Interpretation and summary</p>	
<p>Untruncated natural terrace gravels were recorded at 108.55m ATD, overlaid by the Roman/medieval Moorfields Marsh [30]. Deposit [30] can only be loosely dated by one sherd of Roman pottery that may be residual, or represent material from a Roman deposit that has been modified by bioturbation as part of the early marsh formation processes. Similarly, the single human humerus may well have been washed out of a Roman cemetery or isolated burial in the surrounding area, and/or have sunk through the marsh over a period of time when it was wet and permeable, giving it a date of Roman or later (17.5). The animal bone, retained in moderate quantities, was well-preserved, and represents a combination of waste derived from primary butchery of a cattle hind-leg; and butchery of an adult horse hind-leg. The butchery marks observed were probably created during preparation of the carcasses for consumption by humans or dogs (17.6).</p> <p>These deposits had been vertically truncated by the construction of a large arched sewer built in the late 19th century from yellow stock bricks (see Photo 12). The cut-and-cover construction cut had been shored with timber, of which sections remained <i>in situ</i> (Photo 9).</p>	



Photo 10 Manhole S4, 19th-century timber shoring, after excavation



Photo 11 Manhole S4, backfilled cut for 19th-century sewer [39] at 108.35m ATD, looking north



Photo 12 Manhole S4, brick sewer [38] from ground level, looking north-west

10 Assessment of results against original research aims

City of London guidance (CoL 2004) sets out advice for work carried out in London, including an assessment of results against original expectations (assessment against the criteria for assessing national importance are only required for evaluations).

10.1 Original research aims

The original research objectives were met as follows; information was recovered on:

- *Artefacts of prehistoric date redeposited in later deposits.*

No prehistoric material was present.

- *Remains of Roman extra-mural activity, potentially including burials.*

Very little evidence of Roman extra-mural activity was present. Very small assemblages of Roman pot were recovered from two contexts. A single human humerus recovered from context [30] in manhole S4 may well have been redeposited from a nearby Roman burial, although it is possibly intrusive from a later (medieval) deposit (there are extra-mural churches/burial grounds with 300m).

- *Waterlain deposits from the Roman to medieval Moorfields Marsh, with the potential for organic preservation and palaeoenvironmental evidence.*

Within the southern section of sewer run S3–S4 and Manhole S4 Roman to medieval Moorfields Marsh deposits were present in the form of peat layers [30] and [35].

- *Late medieval and post-medieval drainage ditches, rubbish dumps and remains associated with the reclamation of Moorfields Marsh.*

A single undated reclamation dump [34] from run S3–S4 can be interpreted as evidence for medieval and/or post-medieval reclamation or dumping on the marsh. There was no evidence of post-medieval drainage ditches.

- *In areas not truncated by later activity: remains of mid 17th-century or earlier buildings on the western side of Moorfields, and late 17th/early 18th-century or later buildings across the whole site.*

All areas of the watching briefs were truncated by the modern basement, there were no buildings or occupation features, and the only post-medieval archaeology was the 19th-century sewer, and reclamation dumping [34] (see previous item).

10.2 Additional research themes

The following new themes have been identified from the fieldwork results:

- Does comparison with the results from other sites (and from future work on this one) suggest how, and at what date the Moorfields Marsh formed? Does this vary across the Crossrail Moorgate site, eg in Moorfields, Fore Street, etc?



- What, if anything, can the single human humerus recovered from manhole S4 tell us about the surrounding conditions during the early formation of the marsh? Are there any parallels from surrounding sites?
- The timber shoring on the eastern edge of the sewer cut was unexpected, and sheds light on the Victorian construction methods of the time. How does this compare with surviving documentation?

These will be explored and defined further in post-excavation assessment.

11 Statement of potential archaeology

The following potentials will be assessed in greater detail during post-excavation assessment.

The limited data from this task can best contribute to the research aims when considered with that from past and future fieldwork on the site, and from the surrounding area.

The results from the watching briefs have potential for study of the following:

- Formation and reclamation of the Roman-medieval Moorfields Marsh.
- The extent of Roman burials in this extra-mural area, when compared with surrounding sites, particularly Moor House (MRL98) and Moorgate Hall (MOH88).

11.1 Importance of Resources

The importance of the excavated remains has been assessed using professional judgement (including consulting MOLA's buildings specialists), informed, where applicable, by the criteria for assessing the national importance of monuments (DCMS 2010, Annex 1)

The Roman data from this site is assessed as being of low importance, making limited contributions to the corpus of Roman activity in this extra-mural area, and the subsequent development of the Moorfields Marsh. However, the single human humerus, if Roman, is somewhat more significant, as it may aid our understanding of the solitary burials at Moor House and Moorgate Hall.

The records of the Moorfields Marsh support the more detailed recording and sampling previously conducted in the surrounding area (MOLA 2012b, 8.2 and 18.6 to 18.7), and potentially, future work on the site.

The partially exposed 19th-century sewer is typical in form and construction to many built during the period, that together formed a network of sewers under the streets of London.

These remains have limited rarity and diversity, moderate supporting documentation (eg historical accounts of the Moorfields Marsh), group value with other results from this site and the surrounding area, and some potential to contribute to study of Roman extra-mural activity (in particular burials), and the Moorfields Marsh and its reclamation.

They are therefore assessed as being of **low to moderate importance**.

12 Conclusions

12.1 Geology

Natural geology in the form of Taplow terrace gravels was exposed in all the interventions. Levels were generally consistent across the site varying between 108.55m ATD in manhole S4 and 108.39m ATD in sewer run S2–S5.

In some instances 20th-century foundations (particularly from the underground station complex) truncated the natural geology down to 107.00m ATD.

12.2 Roman remains

Deposit [36] from run S3–S4 is tentatively dated as Roman or early medieval (9.4) from a single 2nd-century (17.1) unabraded pot sherd, and a fragment of roof tile or brick dated to AD 50–160 (17.3). This is interpreted as a make up deposit, or possibly the fill of a rubbish or quarry pit, although cut edges were not identified. When compared with the evaluation results to the north (MOLA 2012a), this deposit appears comparably deep, between 108.25m ATD and 108.49m ATD, as opposed to the 108.80m ATD of potential levelling deposits (of similar composition (MOLA 2012a). This may imply that the deposits in run S3–S4 were the base of a pit. However to the east of run S3–S4, in manhole S4, the potential Roman sequence started at 108.85m ATD (context [30]); this organic humic deposit is likely to be the same as context [10], an organic wetland clay layer recorded in trench 4 at 108.99m ATD during the evaluation (MOLA 2012a). These marsh-like deposits may have been modified by wet conditions or bioturbation from the formation of the Moorfields Marsh during the late Roman or early medieval period.

Within context [30] an adult right humerus was recovered showing dark colouration consistent with it having been deposited in the Moorfields Marsh (17.5). The lack of known medieval burial grounds in the immediate vicinity, and the formation of the Moorfields Marsh apparently soon after or during the latter phases of nearby Roman activity, imply that the bone is most likely from a Roman inhumation (not discounting an isolated burial or disposal of a body into the marsh, during the medieval period). Excavations to the south-west (MRL98) tentatively identified a heavily truncated single inhumation, as well as a quantity of disarticulated human remains; also a single inhumation was recorded at 143–171 Moorgate (MOH88). Antiquarian records (see 6) also imply there may have been cremations in the immediate vicinity of Moorgate and Finsbury Circus. Whilst there were evidently a small quantity of isolated inhumations in the area, the disarticulated humerus from context [30] was probably washed onto the site by Walbrook tributaries (Harward et al forthcoming, see 17.5) and/or the marsh formation process, rather than representing the remains of a nearby Roman cemetery destroyed by later activity.

12.3 Medieval remains

The Roman and/or medieval marsh sequence survives apparently untruncated by later activity, as seen in run S3–S4 (see Fig 4) between 108.43m ATD at its base and 109.65m ATD. This is a similar height to the untruncated marsh deposits (108.65m ATD) recorded during the evaluation subsequent targeted watching brief at Finsbury Circus (MOLA 2011a and MOLA 2012b). Marsh remains to the north (MOLA 2012a) were recorded at a maximum depth at 108.75m ATD (the upper deposits were truncated by the double basement). Medieval pottery dated 1350–1500 [35] recovered from this



deposit, may be intrusive (sorting of artefacts sunk through the marsh sequence have been noted nearby at Eldon Street (ENS03)).

The area would have remained waterlogged throughout the medieval period. No cut features representing attempts to drain the marsh were observed (eg ditches/gullies). Overlying dump [34] may be limited evidence for land reclamation.

12.4 Post-medieval remains

All areas of the watching briefs were truncated by modern basements, there were no buildings or occupation features, and the only post-medieval archaeology was the 19th-century sewer, and the reclamation dumping within the OSD area.

No remains of 17/18th-century buildings that line the western side of Moorgate were found. These would have been entirely removed by the extensive 20th-century foundations and basements in the area.

The 19th-century sewer designed by Sir Joseph Bazalgette (1819–1891), is still live, and aligned N–S running down the centre of site, branching off due west underneath the Moorgate Ticket Hall. This was not fully exposed, but appeared to be entirely constructed from yellow stock bricks. The upper exposed arched sewer section (Photo 4) measured at least 1.1m high, by 1.8m wide. The sewer was constructed in an innovative inverted egg shape, designed to cope equally with low flows, as well as higher volumes of waste. As part of these works, a substantial area of the current live sewer is being decommissioned and diverted.

A thin dump of 19th-century material was recorded at 108.80m ATD in the OSD area; this appeared to have been incorporated within a larger dump consisting of redeposited natural sands between 108.45 and 109.00m ATD, and interpreted as made ground for the later buildings on site.

12.5 Truncation and Survival

The western area of site was entirely truncated by the foundations for the Moorgate underground station. Runs S1–S2, S2–S3 and manholes S2 and S3 fell within this area. Concrete pads also associated with this phase of construction truncated to 107.00m ATD, well below the levels of surviving archaeology. Prior to these mid-20th century buildings, was the building of the 19th-century cut and cover sewer, as well as the original Metropolitan Line underground extension (both projects ran almost simultaneously during the 1860s). These had removed the majority of archaeological deposits already, as was seen in manhole S4 to the south east, where the sewer's vertically sided and timber shored construction cut truncated to at least 108.5m ATD (not fully exposed).

Run S3–S4 and manhole S4 had generally lower levels of truncation, associated with 20th-century foundations. Made ground associated with Moor House bordered the southern perimeter of the site, truncating to 109.92m ATD.

Within the OSD, area Metropolitan line construction works, as well as later foundations, truncated to natural geology. A solitary layer of redeposited natural sands survived between 108.45 and 109.00m ATD.

These levels of survival will contribute to finalising the mitigation strategy for the site.



13 Publication and dissemination proposals

The Watching Brief results will initially be disseminated via this report and the supporting site archive of finds and records (including digital data). Any publication proposals will be considered in relation to later fieldwork at the overall Liverpool Street Station site, and also the wider context of archaeological potential and results across the Crossrail scheme.

A summary report will be published in the London Archaeologist excavation round up and also deposited with the LAARC.

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The watching brief was supervised by the author, who wrote the report as well as MOLA senior archaeologists Simon Davis and Robert Hartle. Other MOLA staff involved included Amy Thorpe and Jacqui Pearce (pottery), Ian Betts (building material), Damian Goodburn (timber), Natasha Powers (human bone), Alan Pipe (animal bone) and Catherine Drew (geomatics). The fieldwork was managed by MOLA Project Managers Nicholas Elsdon and Elaine Eastbury.



16 NMR OASIS archaeological report form

OASIS ID: molas1-136735

Project name	Moorgate Sewer Diversions and OSD Watching Briefs
Short description of the project	<p>The OSD ground reductions uncovered natural terrace gravels heavily truncated by 20th-century underground foundations. Within the sewer run interventions natural geology was overlain by a thin wetland clay deposit containing small quantities of Roman material. Sealing this were late Roman or medieval marsh deposits, up to c 3.3m beneath current street level, surviving up to a depth of 1.2m. A quantity of well-preserved medieval (or later) leather was retrieved from this deposit, as well as a single human humerus, possibly washed in from a nearby burial, but may be intrusive and deposited as part of the marsh formation process. A thin semi-terrestrial horizon of unknown date represented the end of the marsh sequence. In the southernmost manhole in situ 19th-century timber shoring for a large sewer had truncated all earlier deposits to a depth of 4.1m beneath ground level. The 19th-century cut and cover sewer measured 1.5m wide and was constructed in an inverted egg shape design, and was also recorded truncating to natural strata underneath the current Moorgate Ticket hall to the north. Twentieth century truncation associated with the Moorgate underground station foundations, had removed the majority of archaeology within the confines of the diversions trenches as well as the OSD. In places the foundation piers were set at least 6m bGL, well beyond the level of archaeological survival. Within the OSD a solitary dump of 19th-century material of common composition, was probably redeposited within a later 20th-century made ground, and is therefore of minimal archaeological significance.</p>
Project dates	Start: 02-02-2012 End: 28-06-2012
Previous/future work	Yes / Yes
Any associated project reference codes	XSP10 - Sitecode
Type of project	Field evaluation
Site status	None
Current Land use	Transport and Utilities 2 - Other transport infrastructure
Monument type	MARSH Medieval
Significant Finds	POT Roman
Significant Finds	POT Medieval
Significant Finds	LEATHER Post Medieval
Significant Finds	HUMAN BONE Uncertain
Methods & techniques	"Targeted Trenches"
Development type	Rail links/railway-related infrastructure (including Channel Tunnel)
Prompt	Crossrail Act
Position in the planning process	After full determination (eg. As a condition)
Site location	GREATER LONDON CITY OF LONDON CITY OF LONDON Crossrail Moorgate worksite



Postcode	EC2
Study area	100.00 Square metres
Site coordinates	LL - 532696 181632 (decimal) LL - 532696 00 00 N 181632 00 00 E (degrees) Point
Lat/Long Datum	Unknown
Height OD / Depth	Min: 8.30m Max: 8.55m
Name of Organisation	MOLA
Project brief originator	Crossrail
Project design originator	Crossrail
Project director/manager	Elaine Eastbury
Project supervisor	Sam Pfizenmaier
Type of sponsor/funding body	Crossrail Ltd
Name of sponsor/funding body	Crossrail
Physical Archive recipient	LAARC
Physical Contents	"Animal Bones","Ceramics","Human Bones","Leather"
Digital Archive recipient	LAARC
Digital Contents	"Animal Bones","Ceramics","Human Bones","Leather"
Paper Archive recipient	LAARC
Paper Contents	"Animal Bones","Human Bones","Leather"
Paper Media available	"Drawing","Matrices","Report","Section"
Title	C257 Archaeology Central Fieldwork Report, Archaeological Watching Briefs on Sewer Diversions at Moorgate Shaft (XSP10)
Author(s)/Editor(s)	Pfizenmaier, S.
Date	2012
Issuer or publisher	MOLA
Place of issue or publication	London
Description	A4 ringbound

17 Appendices:

17.1 Roman Pottery

Amy Thorp

Context [30] contained a single sherd of Highgate Wood ware C (HWC) which dates to AD 70–160.

Context [36] is dated by a single sherd of a north Kent shell-tempered ware storage jar with rolled rim and decoration on shoulder (NKSH 2M) to AD 60–150. A further abraded sherd of unsourced oxidised ware (OXID) was also found in this context.

17.2 Medieval pottery

Jacqui Pearce

Two sherds of medieval pottery were recorded from context [35], coming from two vessels, with a total weight of 27g. Both are in coarse Surrey-Hampshire border ware (CBW) and can be broadly dated to c 1350–1500. One is part of a large rounded or bung-hole jug and the other comes from the base of a large bowl or dish. CBW was one of the main pottery fabrics in use in late medieval London, dominating the capital's ceramic supply from the mid 14th century onwards, although it is first found in contexts dated to the end of the 13th century. The forms represented in context [35] are amongst the most common types of everyday household wares in use during this period.

17.3 Building Material

Ian Betts

A small fragment of unidentified ceramic building material was recovered from context [36]. The red coloured tile is made from London area clay. It is probably the base of a Roman roofing tile or brick dated to AD 50–160 (fabric 2452). It was found associated with a sherd of Roman pottery of AD 60–150 date.

17.4 Timber

D Goodburn

The two timbers lifted included a squared post [32] and plank [31]. They were clearly both of coniferous wood ie 'softwood' possibly pine.

Imported softwood timber species were first used structurally in the London region as early as the 16th century, but becoming more common after the great fire (1666), and dominating late 18th and 19th-century work. The post survived to a length of 1.49m and was almost square at 180 x 170mm. Although abraded, it appeared to have been hewn



to a boxed heart section, and the base was cut with a saw to about a 10 degree angle. It was sliced, sampled, and had c 50 rings without all the sapwood, indicating that it was unlikely that a dendrochronological date was achievable. The thick plank that was found associated with the post timber [31] was c 230mm wide by 70mm thick, and survived to a length of 1.39m. These dimensions are close to the dimensions of softwood deals (9" x3" which were imported from as early as the mid 17th century until recently. In places very faint traces of manual sawing survived on the plank, which was also sampled for Species ID.

17.5 Human Bone

N Powers

An adult right humerus was recovered from context [30], marsh deposits of probable Roman or medieval date. The bone was well preserved, though both ends were absent as a result of post-depositional damage. This and the characteristic dark colouration of the bone are consistent with it having been redeposited in the Moorfields Marsh. The muscle markings were robust and the dimensions of the bone relatively large, tentatively suggesting the remains may have been those of a male.

Human remains have been found within the Roman fluvial and marsh deposits of the Moorgate, Finsbury Circus and Liverpool Street areas, both associated with the disturbance of burials from a cemetery at the head of the Walbrook (Harward et al forthcoming) and as isolated elements which have been individually redeposited.

17.6 Animal Bone

Alan Pipe

2. Preservation and quantification

Table 2 shows the assemblage summary in terms of weight (kg), fragment count, fragmentation, preservation, species, skeletal element, age and modification.

A total of 0.350 kg/two hand-collected fragments in one standard archive box, of well-preserved animal bone were recorded from context [30]. Maximum hand-collected fragment size exceeded 75mm, with the bone in very good surface condition, and all modification and fusion lines easily visible.

3. The assemblage

The identifiable faunal assemblage included ox (cattle) *Bos taurus* and horse *Equus caballus* with no recovery of poultry, sheep/goat, pig, fish, amphibians, birds, non-consumed domesticates or small wild vertebrates. There were no measurable bones.

Cattle were represented by a fragment of metatarsal (hind-foot) from an animal in at least the third year of life. This bone had been sawn through the mid-shaft and snapped, probably during primary carcase processing (removal of the feet), perhaps incorporating



removal of the hide. This carcase area is of poor meat-bearing value. Horse produced a fragment of adult femur (thigh bone) derived from an adult animal in at least the fourth year of life. The bone is from a prime meat-bearing area of the skeleton; it had been transversely chopped at the distal (knee) articulation which would have disarticulated the leg at that joint, probably during preparation of the carcase for consumption by humans or dogs. Indeed, tooth marks on the bone suggest canine gnawing.

In general, carcase-part representation suggests that the group represents a combination of waste derived from primary butchery of a cattle hind-leg; and butchery of an adult horse hind-leg.

There was no evidence for rodent gnawing, working, burning or pathological change.

4. Bibliography

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Table 2 Hand-collected animal bone from XSP10 [30]/catalogue

CONTEXT	SAMPLE	SPECIES	BONE	FUSION		AGE	AGE (years)	MODIFICATION	DESCRIPTION	NOS	WT (kg)
				proximal/anterior	distal/posterior						
30	0	cattle	metatarsal		fused	adult	>2.0	butchery	sawn midshaft	1	0.05
30	0	horse	femur		fused	adult	>3.5	butchery	chopped distal	1	0.3
								gnawing	canine/slight		0.35
TOTAL										2	

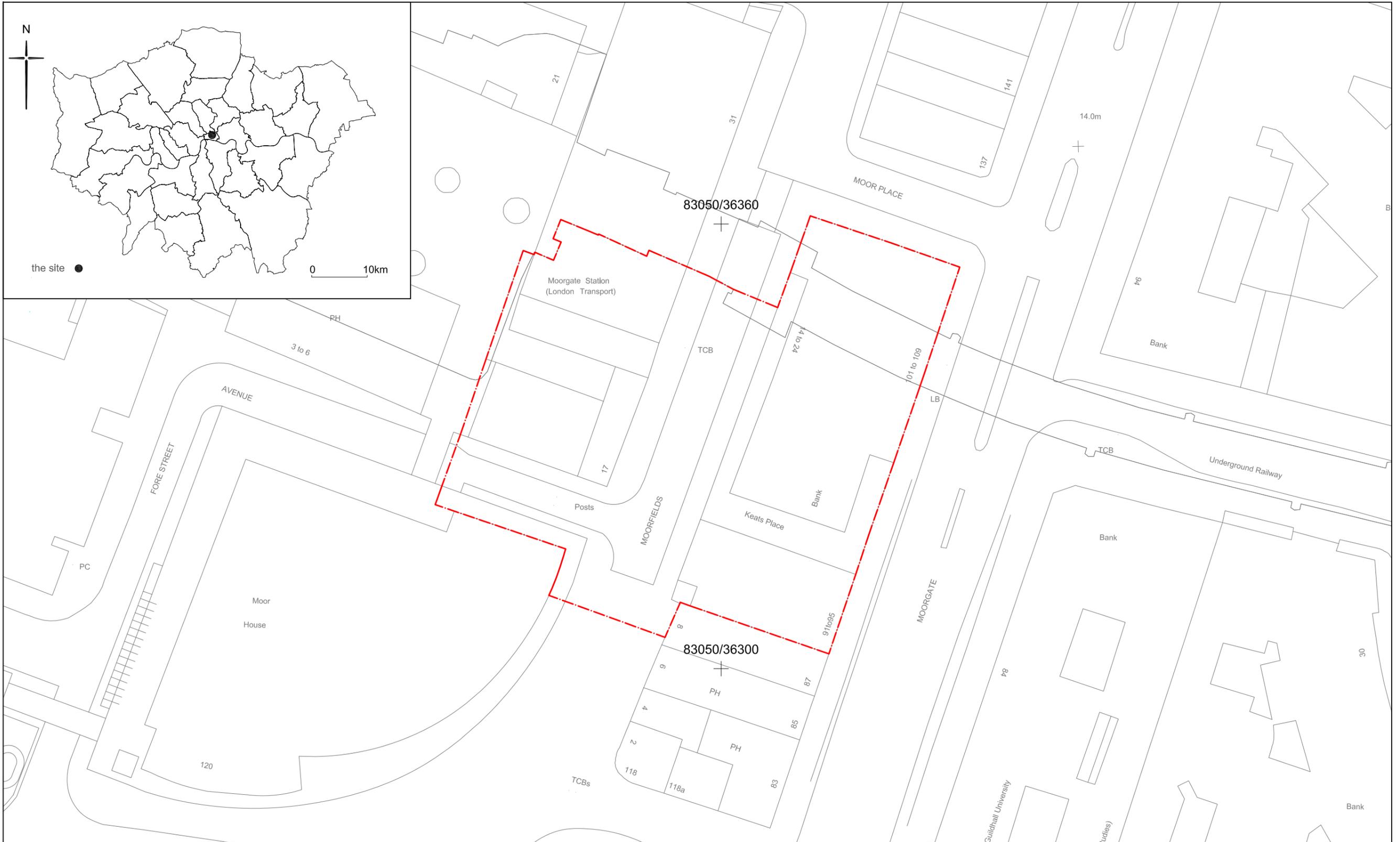


Fig 1 Site location

 Site outline

1:500 @ A3


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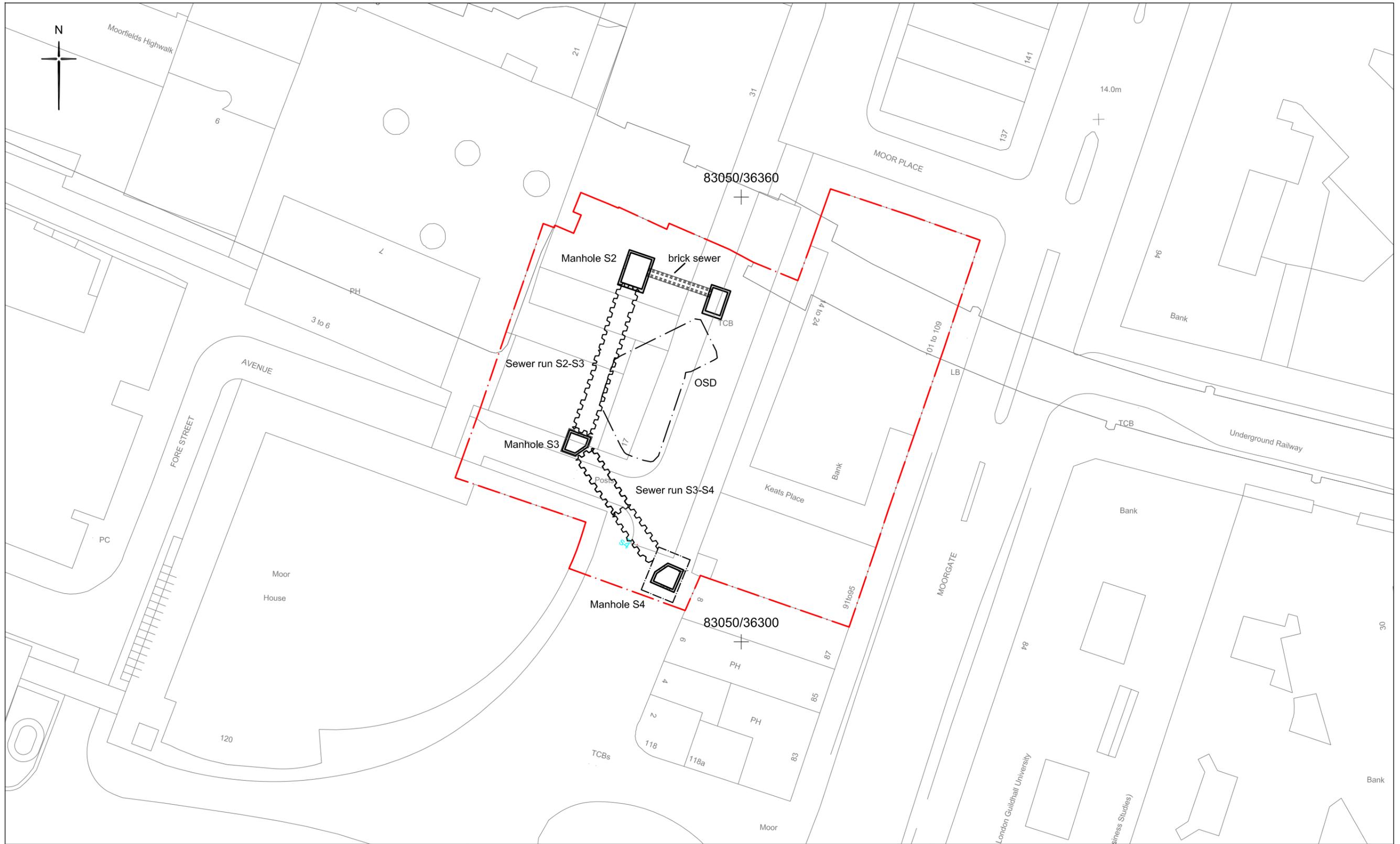


Fig 2 Plan of OSD, sewer diversions and manholes

- Site outline
- Trench edge
- Section line

1:500 @ A3
 0 25m

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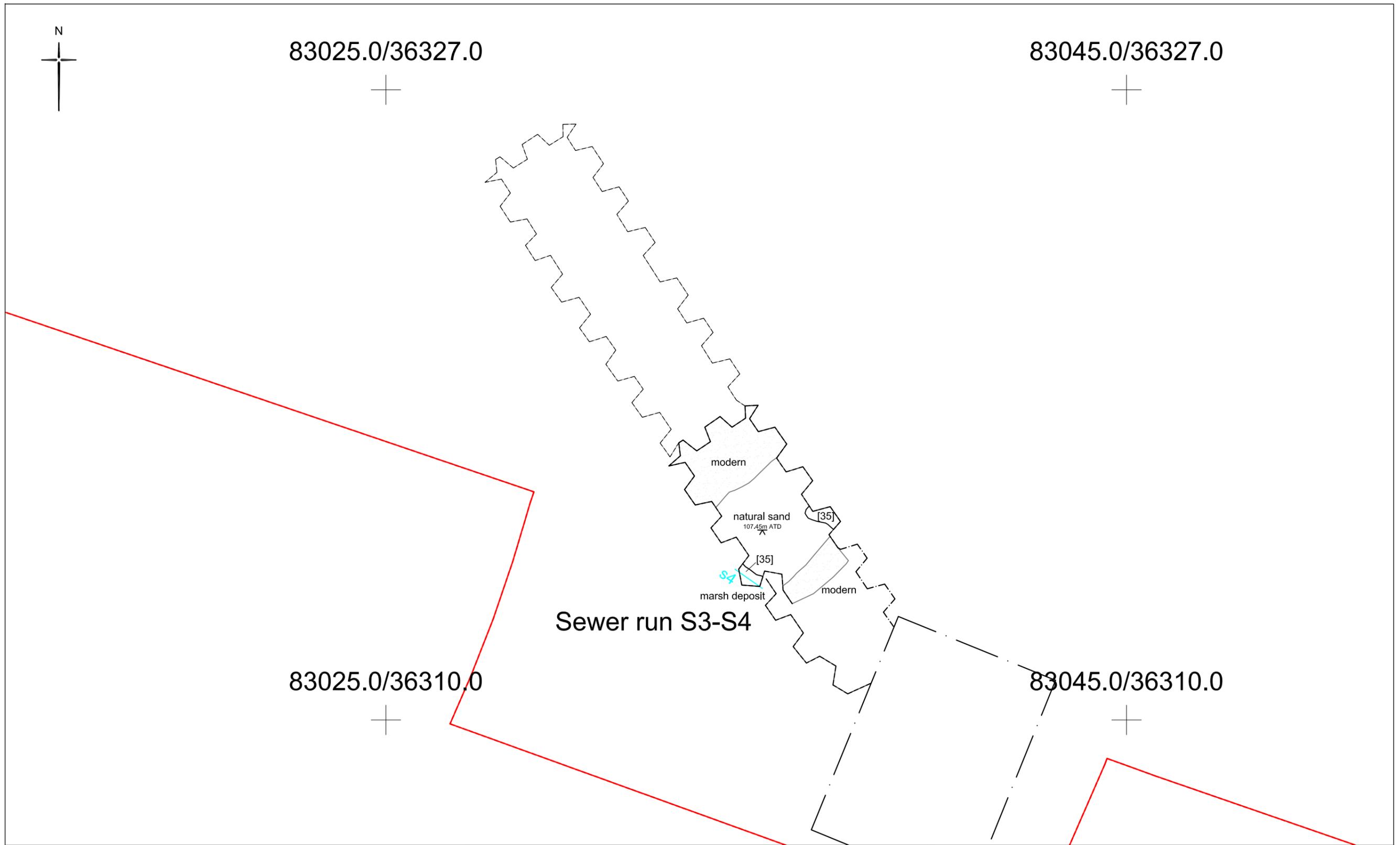


Fig 3 Plan of archaeological features in sewer run S3-S4.

- Site outline
- Trench edge
- Modern fill
- [11] Archaeological features
- S4 Section line

1:100 @ A3
 0 5m

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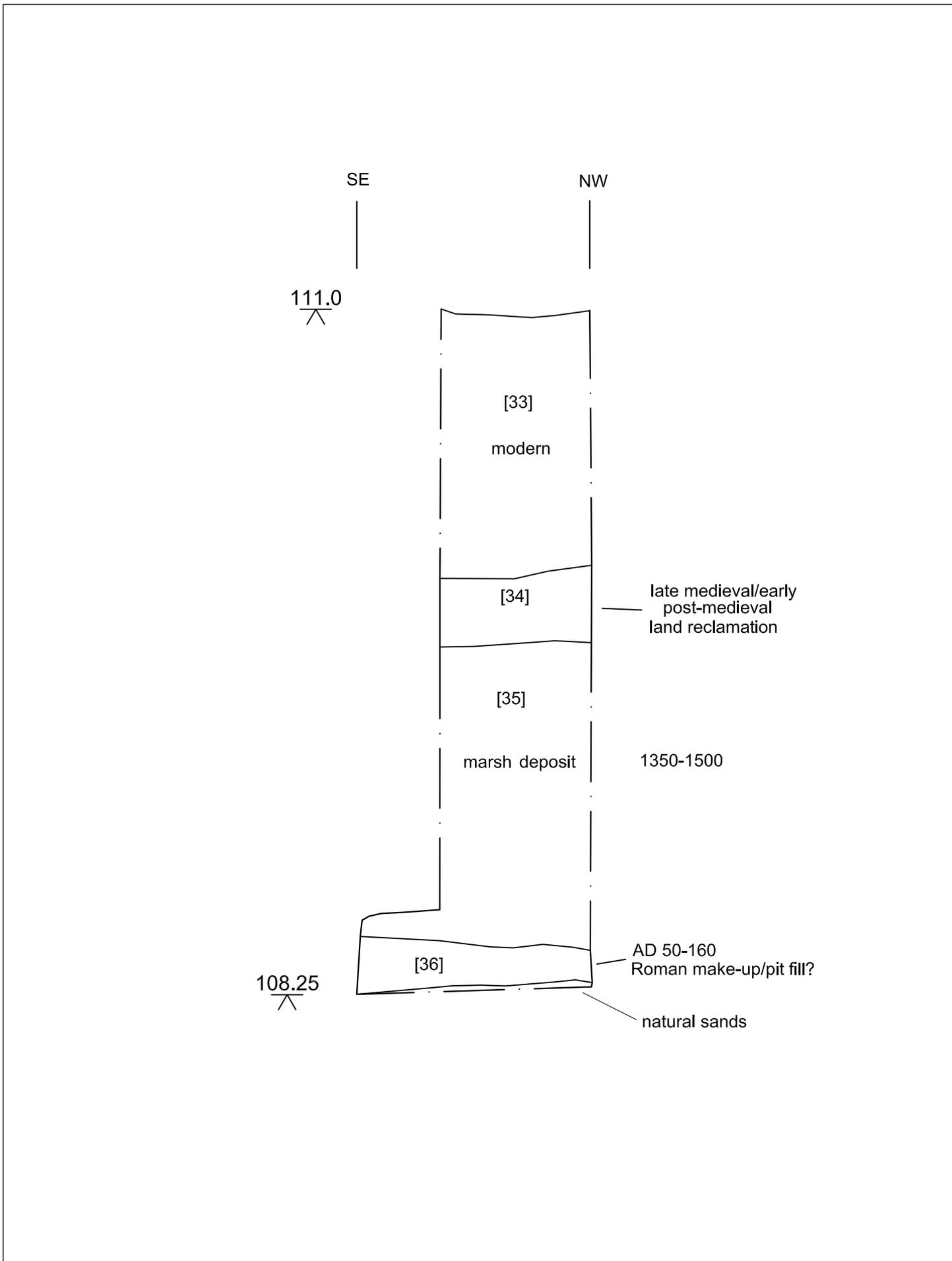


Fig 4 North-east facing section from sewer run S3-S4

Trench edge
 [11] Archaeological features

0 1:20 @ A4 1m

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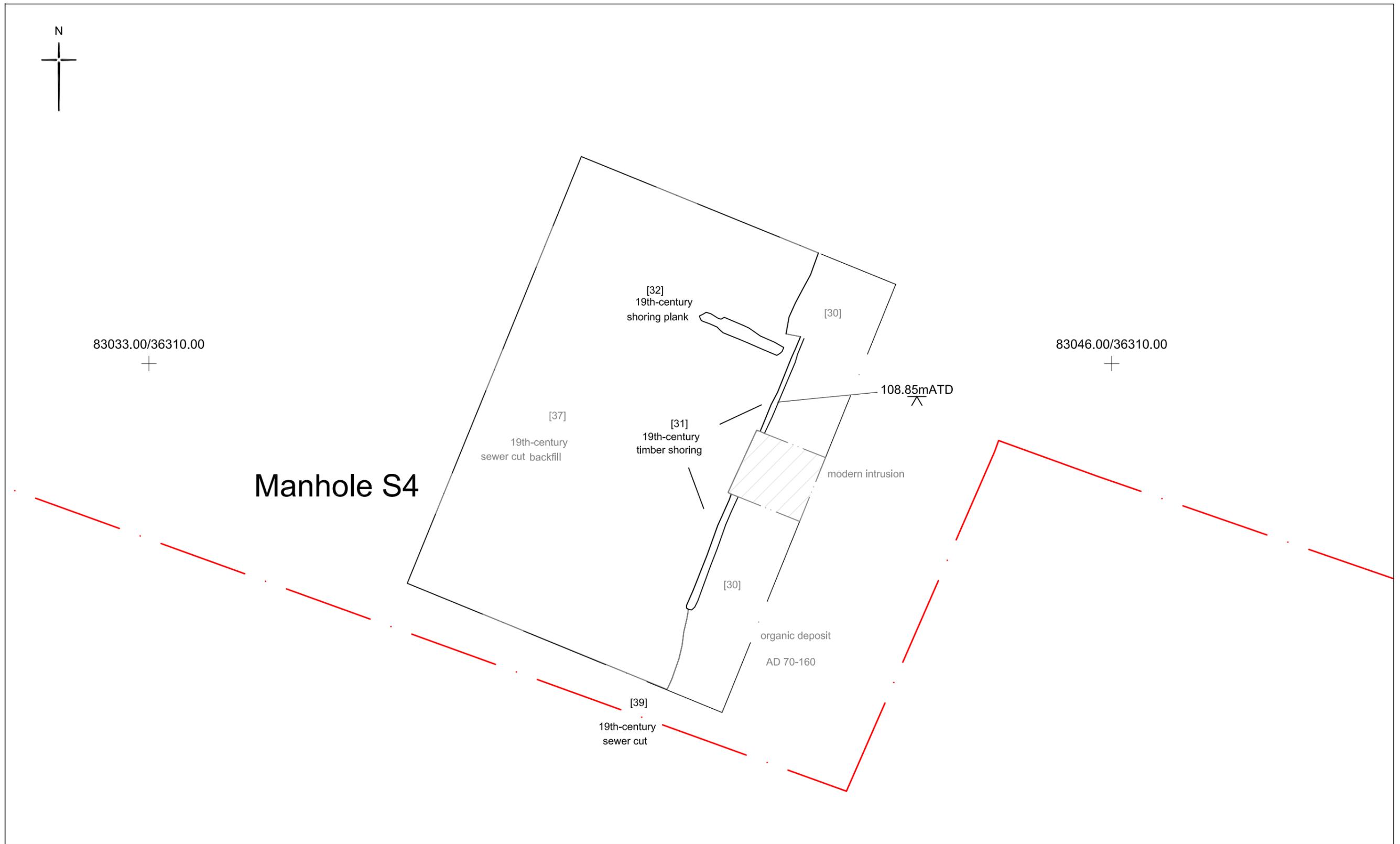


Fig 5 Plan of archaeological features in manhole S4

- Site outline
- Trench edge
- Modern truncation
- [11] Archaeological features

1:50 @ A3

0 2.5m

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