



C257 Archaeology Central Interim Statement Archaeological Excavation and Watching Brief Moorgate Shaft (XSP10)

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1 Introduction

This Interim Statement covers an archaeological watching brief and excavation carried out in the location of the Moorgate shaft by the C257 Museum of London Archaeology (MOLA).

The works were carried out between 14/10/13 and 20/11/13 and supervised by MOLA Senior Archaeologists Sam Pfizenmaier and Antonietta Lerz.

It was recorded under event code (sitecode) XSP10.

This document is an interim statement of the results of the fieldwork.

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:

- Crossrail, **Generic Written Scheme of Investigation**, Doc No. CRPN-LWS-EN-SY-00001, 2009.
- A Crossrail **Site-specific Written Scheme of Investigation** (SS-WSI): *Liverpool Street Station*, Doc No. C138-MMD-T1-RST-C101-00001, Revision 2.0, 29/04/10 (Crossrail 2010).
- **Addendum to the SS-WSI for the Moorgate Shaft**, July 2010, Doc. No C138-MMD-T1-TCP-C101- 0001, Revision 2.0).
- Crossrail, **Archaeology Specification for Evaluation & Mitigation** (including *Watching Brief*), Doc No CR-PN-LWS-EN-SP-00001, v 0.3 26.06.09
- **Method Statement, Archaeological Watching Brief and Excavation at Moorgate Shaft**, Doc. No. C257-MLA-W-RGN-CRG03-50007 C257 Version 2 10.10.13 (MOLA for Crossrail 2013).

2 Aims and Objectives

2.1 Research Aims

The original aims and objectives were listed in the WSI for Liverpool Street Station (Doc. No. C138-MMD-T1-RST-C101-00001, see section 1) and stated that 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.
- Evidence of the defensive ditch associated with the Roman and medieval City Wall
- Waterlain 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.

2.2 Fieldwork Objectives

The overall objectives of the investigation are stated in the WSI Addendum:

- To mitigate the impact of Crossrail construction through a programme of archaeological works carried out in accordance with the Crossrail Generic WSI (document number CR-PN-LWS-EN-SY-00001) and the standards listed therein.

The following task-specific research questions have been devised by MOLA for this work (MOLA for Crossrail 2013):

1. What is the character and level of the **natural geology** across the site, and can the cause(s) of these variations be deduced (truncation or topography)?
2. What is the nature and date of any **Roman** extra-mural activity (eg quarrying, farming, burials, etc.)?
3. What is the character of the waterlain deposits from the Roman to medieval **Moorfields Marsh**? What evidence is there for the **formation processes and date** of the marsh?
4. Is there any evidence for late medieval and post-medieval drainage ditches, rubbish dumps, or remains associated with the **reclamation** of Moorfields Marsh?

3 Provisional Results

See Fig 1 for the site location, and Fig 2 for trench locations

3.1 Natural Topography

Terrace gravels [128], [175] mixed with occasional sands, (previously observed and recorded during the evaluation and sewer diversion watching brief MOLA 2013) were exposed in all areas (A–D). Untruncated deposits were recorded in section in Area B at 108.21m ATD. The highest deposits in Area A at 108.50m ATD were capped by brickearth.

Patches of in-situ brickearth were recorded in Area A at 108.95m ATD, between 108.86 and 108.23m ATD in Area B, and at 108.91m ATD in Area C. These deposits showed no evidence of being redeposited. An area of discoloured (light blue-grey) weathered brickearth [97–100] was observed overlying the in-situ brickearth in Area C, between 108.91 and 108.75m ATD. These are most likely naturally formed puddles or hollows.

A thin homogenous waterlain clay [51]=[52], [54], [125], [173–4], 0.2m thick at 108.83m ATD, extended across the site and probably represents flooding prior to human activity.

3.2 Roman Remains

Roman deposits were characterised by two distinct, parallel, ditch cuts (Fig 3, Fig 4). In the north-west of the site in Area A, a 1.8m wide, 8m long, 0.5m deep ditch section was recorded at a height of 108.89m ATD [145]=[157], (Photo 1, Fig 4) with two distinct fills. Primary fill [156] consisted of compacted yellowish sandy gravel, with inclusions of animal bone and Roman (samian) pottery. The secondary fill [155], a soft mid-grey brown clay was probably waterlain, and also contained Roman pottery and animal bone, as well as fragments of a box flue-tile (Photo 2), and a section of human mandible. This relatively organic deposit was extensively sampled. Immediately to the east in Area D (Fig 2) modern truncation had entirely removed all archaeology, and it can only be assumed that this ditch continued along the same alignment. A series of stakeholes [141], [184], [186], [189] and [191] (Fig 4) were roughly grouped along the southern edge and side of the ditch, cutting through the primary fill [156] possibly indicating a fence alignment. This may have been created soon after the ditch was constructed.

Four shallow features, sealed by the marsh and therefore probably Roman in date, survived to a depth no greater than 0.1m and probably represented the bases of pits, possibly quarry pits, which had been heavily truncated by the marsh formation process and/or the construction of the Victorian sewer. Two [162, 172] may directly relate to the sewer construction giving its proximity. A larger, roughly circular cut [165] at 109m ATD (0.12m deep), located against the northern limit of excavation is also undiagnostic. In the south of Area A, a possible cut [170] was located immediately west of the sewer cut, and was too truncated to be identified.



Photo 1 East-west aligned ditch [145]=[157], cutting brickearth (note two distinct fills [155] and [156]), looking west



Photo 2 Fragments of Roman tile from secondary fill [155] of Roman ditch [157], looking east

To the south in Areas B and C two sections of ditch [114]=[123] and [49] (Fig 3) (separated by extensive 20th-century pile foundations), shared similar fills (a gravelly primary fill, overlaid by a waterlain clay), an east–west alignment and dimensions (Photo 3 and Photo 4 respectively). These ditches are directly aligned (see Fig 3) and represent a continuation of the same feature, surviving to a length of approximately 30m. All finds from the fills date to the Roman period, and provisionally appear contemporary with those from the parallel ditch in Area A (Fig 4). Hopefully finds dating will indicate whether these ditches are in fact contemporary or not.

Ditch cut [49] (Photo 4) displayed a slight change in profile, which may be evidence of a re-cut, although this was not evident in the western section of the ditch [114]=[123] in Area B.

Two decayed timber stakes [50] and [101] (Fig 3) sealed within the lower fills of ditch cut [49] in Area C appear unrelated, as [50] only survived as a decayed tapered point 0.10m in length, whereas [101] was driven 0.70m into the compacted natural gravels.



Photo 3 Area B, Roman ditch [114]=[123], sealed by the Moorfields Marsh [119] (note post-medieval pit cut [115] top-right), looking east



Photo 4 Area C, Roman ditch [49], sealed by the Moorfields Marsh [42], looking east

3.3 Medieval Remains

The Roman and/or medieval marsh [43]=[44], [104]=[109] and [129]=[135] survived intermittently across the site, at a maximum depth of 0.30m at 109.00m ATD in Area C. Recent truncation (piling mat) had removed the upper marsh deposits (the sequence was fully recorded in sewer run S3–S4 to the south, MOLA for Crossrail 2013, Archaeological Watching Briefs on Sewer Diversions, Moorgate Shaft (XSP10) Doc No: C257-MLA-X-RGN-CRG03-50044 v2). Survival was inconsistent across the site (mainly as a consequence of modern activity), and occasionally limited to a 0.02m-deep layer. Formed of mixed blue-black brown silts and frequent organic peaty lumps, the marsh was well sorted, with the lower deposits slightly compacted and darker (visible in Photo 4 above). Finds (leather and pottery in particular) suggest that these surviving deposits were formed (or at least sorted) by the marsh formation process - sorting of artefacts sunk through the marsh sequence have been noted nearby at Eldon Street (MOLA 2011, *Archaeological watching brief on Dropshafts EC2 (ELD11)*, City of London Department of Planning and Transportation) sometime during the early medieval period.

In the south-west of Area A, a linear ditch 5m long, 1.2m wide and 0.30m deep [140]=[159] (Photo 5, Fig 5), aligned roughly north–south, cut into the upper fills [155] of Roman ditch [157]. This feature was not visible until the marsh [129] had been removed to 108.90m ATD, and it was evident that the marsh was also filling the ditch. Provisional analysis of pottery suggests this may date to 12th–13th century. Potentially it may represent an early (albeit failed) attempt to drain the marsh.



Photo 5 Ditch cut [140]=[159] filled with marsh deposit [129], cutting into Roman ditch [157], looking north

3.4 Post-medieval Remains

Truncation limited activity to relatively deep features cutting the medieval Moorfields marsh. In Area A on the western limit of excavation (Fig 5, Photo 6) a circular pit [132] at 109.15m ATD, measuring 1.2m across and 0.65m deep had been lined with chalk fragments across its base. Pottery and peg tile sealed beneath the blocks has been provisionally dated to the 16th–17th century. The pit backfill [130] contained a worked chalk block, along with pottery and animal bone.



Photo 6 Area A, chalk deposit [131] at base of shallow circular cut [132], looking north

In the south-western corner of Area B (Fig 5), a heavily truncated hooped wattle structure [107] survived to a depth of 0.17m (Fig 3, Photo 7), probably the remains of a wattle lined pit. This was sealed by marsh deposit [104], although the two sherds of pottery from the backfill of the construction cut dated to the 14th–15th century, these could be residual. This suggests that it was probably formed during the late medieval or early post-medieval periods, and the ground was still marshy/boggy at the time as it had been sealed by the marsh. This will be considered further in later analysis.



Photo 7 Area B, hooped wattle remnant [107] within cut [108], looking south

Also located within Area B was a rubbish pit [115] (c 1350–1500)(Fig 5), containing large quantities of animal bone, oyster shell, pottery and leather (this feature is visible in the top-right of Photo 3, truncating the marsh).

The 19th-century cut for a sewer aligned north–south (designed by Sir Joseph Bazalgette 1819–1891) was exposed in Areas A and B but not fully excavated, nor the sewer itself exposed. These deposits were truncated by 19th-and 20th-century basements and foundations.

3.5 Significance of Results (*provisional*)

3.6 Summary of Fieldwork Results

- Natural deposits were consistent across the site, terrace gravels were recorded at a maximum height of 108.50m ATD, capped by patches of brickearth between 108.23 and 108.95m ATD. Waterlain contexts [51]=[52], [54], [125] and [173–4] suggest that the site was regularly flooded prior to human occupation.
- The two Roman ditches (contexts [145]=[157] and [114,123]=[49]) (Fig 3, Fig 4) most likely represent early attempts to drain this extra-mural area. Primary fills [156], [122] and [53] were all formed of compacted gravelly sand, possibly excavated and redeposited/trampled into the base of the cuts during excavation, or may represent early bank erosion. Pottery from these fills will hopefully give us a reasonably accurate indication of when they were deposited, and therefore when the ditches were created. The secondary alluvial fills suggest that the ditches silted up naturally during the Roman period. The conditions during which this sequence of events occurred requires further investigation. Analysis of monolith and bulk samples can provide further details of this. The disarticulated mandible fragment from context [155] was probably washed into the site by Walbrook tributaries from Roman cemeteries upstream (cf the known cemetery at Eldon Street) and/or the marsh formation process.
- The cluster of aligned stakeholes [141], [184], [186], [189] and [191] (Fig 4) located on the southern edge and side of the ditch [157] in Area A are likely to have been the remains of a fence. The two stakes in Area C are probably not connected, given their differing construction. Stake [101] (Fig 3) was driven 0.7m into the natural strata, and may represent a more permanent structure than the other, shallower, stake [50]. In Area A, a variety of undiagnostic shallow features, sealed by the marsh and therefore probably Roman in date, had been altered by the marsh formation processes as well as later truncation. These rarely survived to a depth greater than 0.1m.
- No clear evidence of Roman extra-mural activity, such as buildings or burials, was observed on this site. The four undiagnostic, heavily truncated, features in Area A are probably Roman in date, and may be evidence for quarrying in the area, although their original function remains unclear.
- The overlying Moorfields Marsh deposits (contexts [104]=[109] and [129]=[135] [38] and [46]) varied little across the site and have been previously described and sampled (MOLA 2011). Further sampling here will add to this data. A greater and more varied assemblage of finds from the lower surviving deposits may allow for a more accurate understanding of when and how the marsh was formed.
- Provisional dating from cut features, ie the north–south aligned linear ditch [140]=[159] (12th–13th century)(Photo 5), the hooped wattle lined pit [108] (c 1350–1500)(Photo 7), the rubbish pit [119] (14th–15th-century) and the chalk lined circular cut [132] (16th–17th century) suggest that this area of Moorfields was marshland until at least the 12th–13th century, and only sufficiently well drained by the 15th century, or later, to allow the excavation of rubbish pits.
- Ditch cut [140]=[159] (Photo 5) in Area A can be interpreted as an early attempt (12th–13th-century) at marsh drainage. The fact that it was filled with marsh-like material suggests it failed. This fits with current thinking that the area would have remained waterlogged throughout the medieval period. Further analysis and

comparison with the pottery assemblage from marsh deposit [129] will help clarify this relationship. It is also possible that this is a later ditch and the pottery residual from the surrounding marsh (see 3.3), although it is truncated by, and therefore pre-dates circular pit cut [132], dated to the 16th to 17th century.

- Cut feature [132], with its chalk line base may represent the remains of a pier base, with the superstructure robbed out; related deposits may have been located beyond the limit of excavation to the west and subsequently truncated by 19th-century foundations. Post-medieval wells are also on occasion lined with chalk, to help filter groundwater, although this would be an unusually large, shallow and irregular example.

3.7 Importance of Resources

The archaeological remains identified in the fieldwork are provisionally assessed as being of low to moderate importance, as although the Roman ditches have not been previously recorded in this exact location, they have been documented to the south and south-west. This contributes to our knowledge of activity in this extra-mural area before the spread of the marsh, but is inherently of only limited importance. The marsh deposits are of low-moderate importance, as although they have been widely recorded and sampled in this area, they may provide an opportunity to re-examine theories on the date at which the marsh formed, and its formation processes. The ditch cautiously dated 12th–13th century is significant as there is limited evidence of activity in the area during the medieval period, and therefore is of moderate importance. The 14th-century and later cut features are an indication of the change in land use in this area, at the end of the medieval period, prior to urban expansion north of the city wall (which lay approximately 50m south of the site), and are of low-moderate importance.

3.8 Provisional Assessment of Results against Aims and Objectives

The archaeological investigations have the potential to address the original research aims (2.1) as follows:

- Artefacts of prehistoric date redeposited in later deposits.
A single worked flint was redeposited within context [182], an alluvial layer of Roman date or earlier.
- Remains of Roman extra-mural activity, potentially including burials.
Roman activity on site is typical of extra-mural activity in the area, limited to linear ditch cuts. The date of this activity will be further explored in the Post-excavation Assessment.
- Evidence of the defensive ditch associated with the Roman and medieval City Wall
The site is approximately 40m north of the Roman and medieval City ditch, therefore no evidence was found.
- Waterlain deposits from the Roman to medieval Moorfields Marsh, with the potential for organic preservation and palaeoenvironmental evidence.

The Roman and/or medieval marsh extended across the site, varying between 0.02 and 0.3m in depth, dependant on truncation. These deposits have been bulk sampled and in monolith tins.

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

Linear ditch cut [140]=[159] in Area A can be tentatively interpreted as a late medieval (12th–13th-century) attempt at land drainage. This evidentially failed, as it was filled with marsh material. No evidence of reclamation was observed, although this is not surprising as post-medieval truncation would have removed these deposits.

The archaeological investigations also have the potential to address the original fieldwork objectives (2.2) as follows:

1. What is the character and level of the **natural geology** across the site, and can the cause(s) of these variations be deduced (truncation or topography)?

Natural geology consisted of consistent bands of terrace gravels capped by brickearth between 108.23 and 108.95m ATD.

2. What is the nature and date of any **Roman** extra-mural activity (eg quarrying, farming, burials, etc)?

Roman activity was limited to drainage ditches, and associated stakeholes. The earliest have been provisionally dated as 2nd–3rd century.

3. What is the character of the waterlain deposits from the Roman to medieval **Moorfields Marsh**? What evidence is there for the **formation processes and date** of the marsh?

These deposits were uniformly organic, peaty blue-brown silts with frequent inclusions of plant remains, suggesting regular periods of inundation. Finds, in particular leather shoes suggest this part of the marsh was formed during the early medieval period. However, as previously noted (see 3.3) the process of marsh formation is not necessarily well understood by finds distribution alone, as later finds can drop down through the sequence.

4. Is there any evidence for remains associated with the **reclamation** of Moorfields Marsh?

Pottery from rubbish pits suggest that marsh reclamation had started by the 15th century.



4 Future Deliverables

The remaining deliverables for the site, 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**
- **Summary Report**
- **Post-excavation Assessment** (to include Finsbury Circus, XRZ10)



Figures

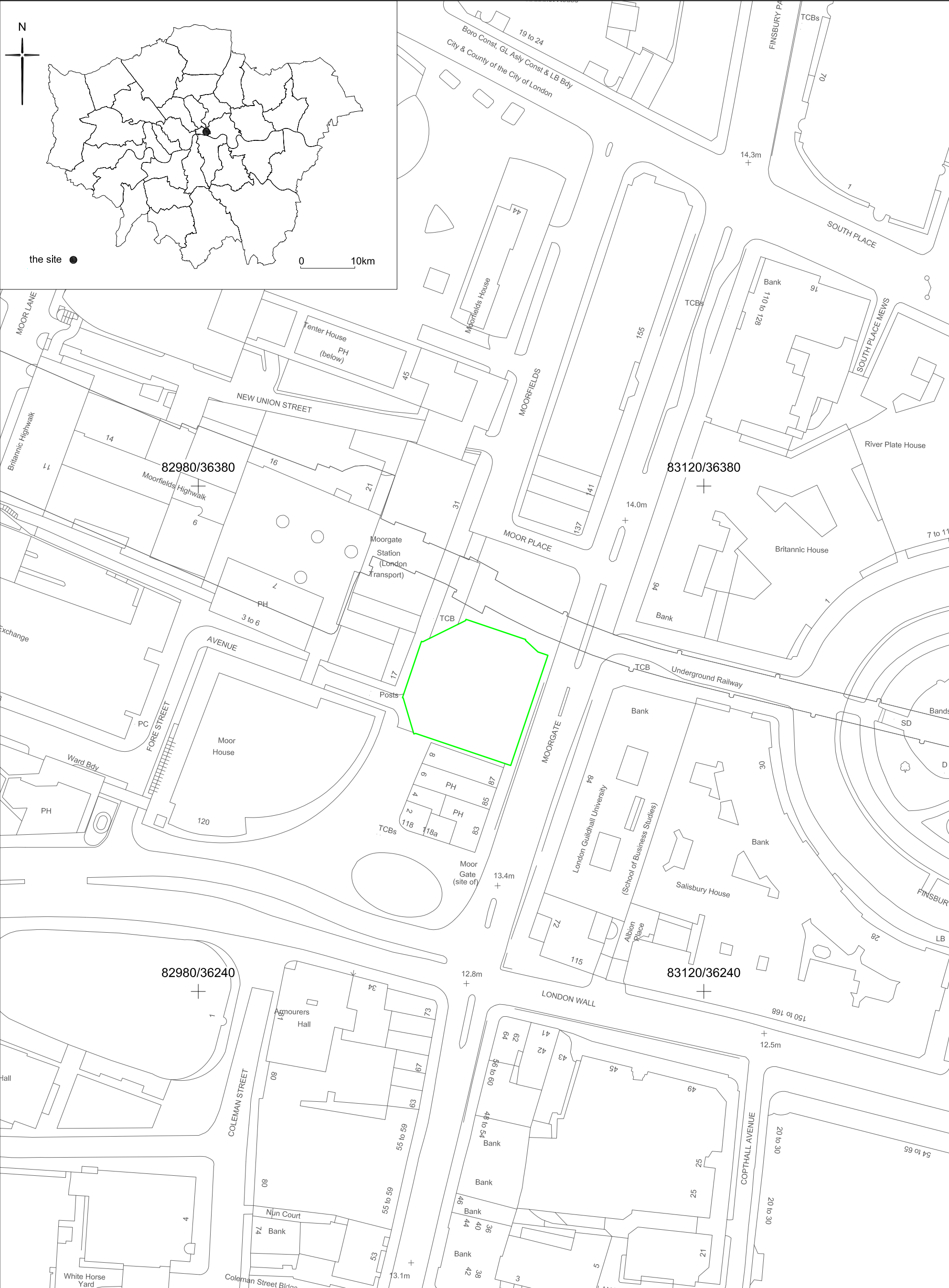


Fig 1 Site location (XSP10)

Site outline

1:1000 @ A3
0 50m

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Fig 2 Location of excavation and watching brief areas

- Site outline
- Trench edge
- Watching brief area
- Location of 2011 evaluation trenches
- Truncation
- TBMs

1:200 @ A3
0 10m

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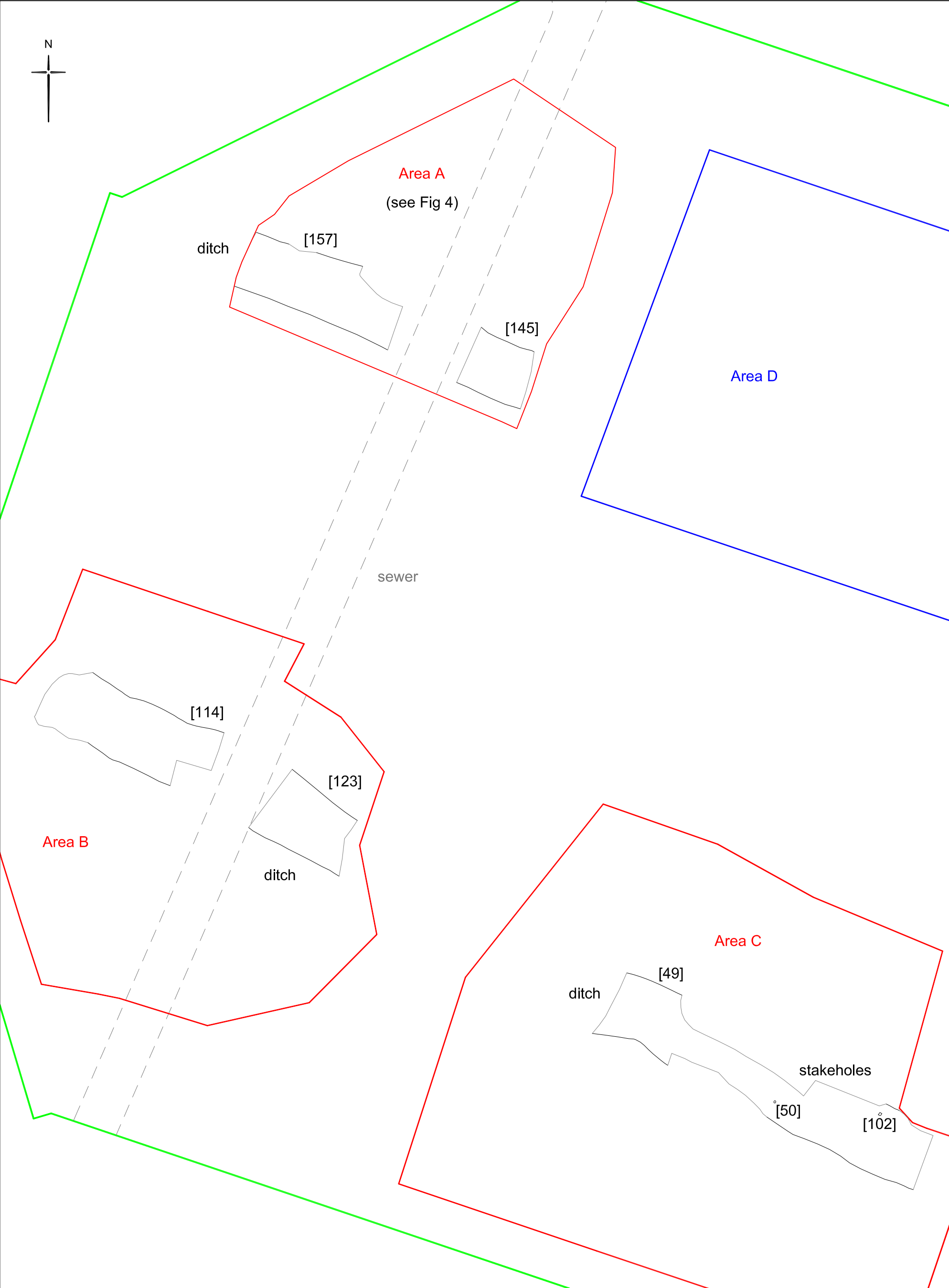


Fig 3 Roman features

- Site outline
- Trench edge
- Watching brief area
- Archaeological features
- Truncation

0 1:100 @ A3 5m

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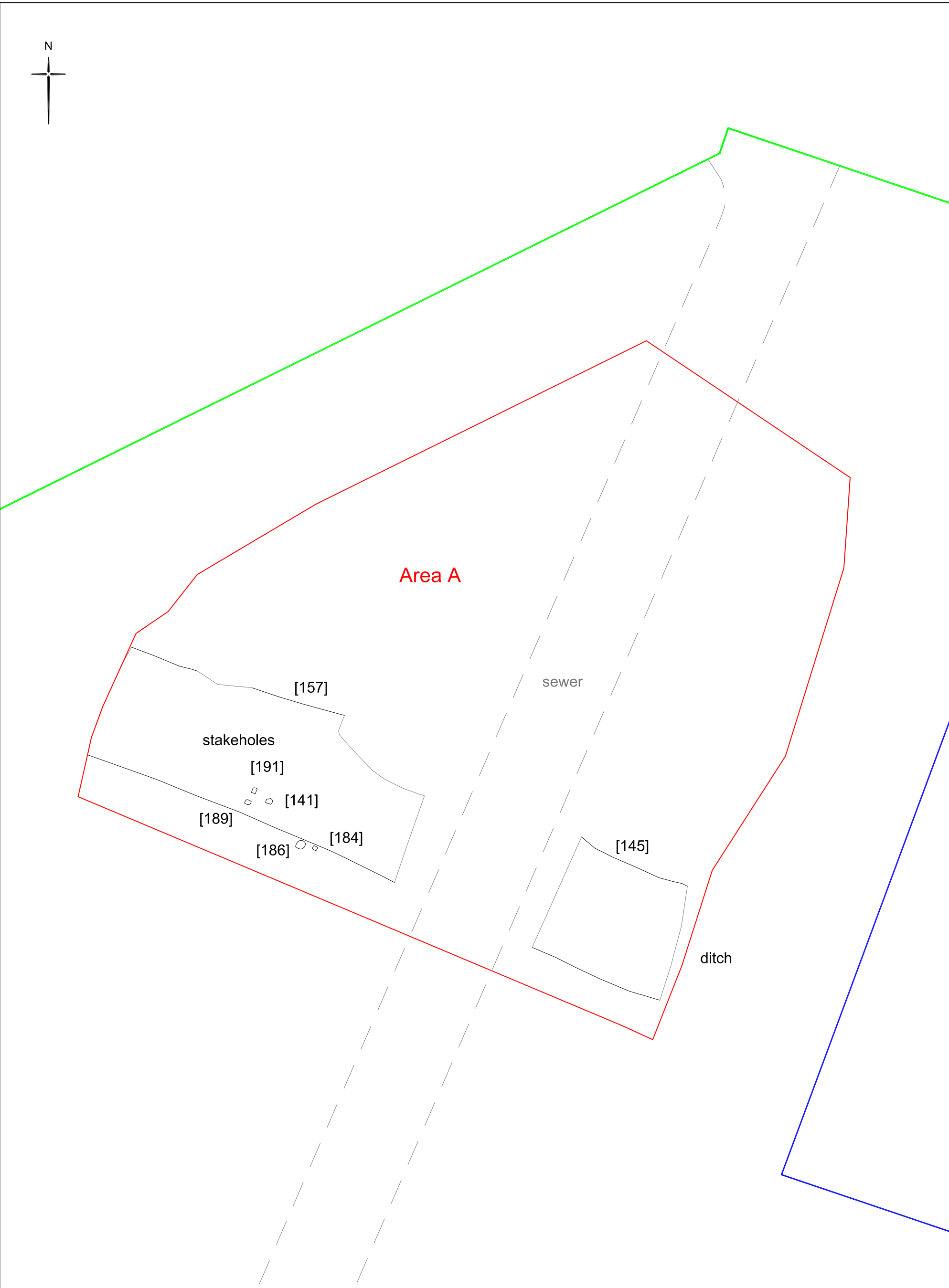


Fig 4 Detail of Roman features in Area A

- Site outline
- Trench edge
- Watching brief area
- Archaeological features
- Truncation

0 1:50 @ A3 2.5m

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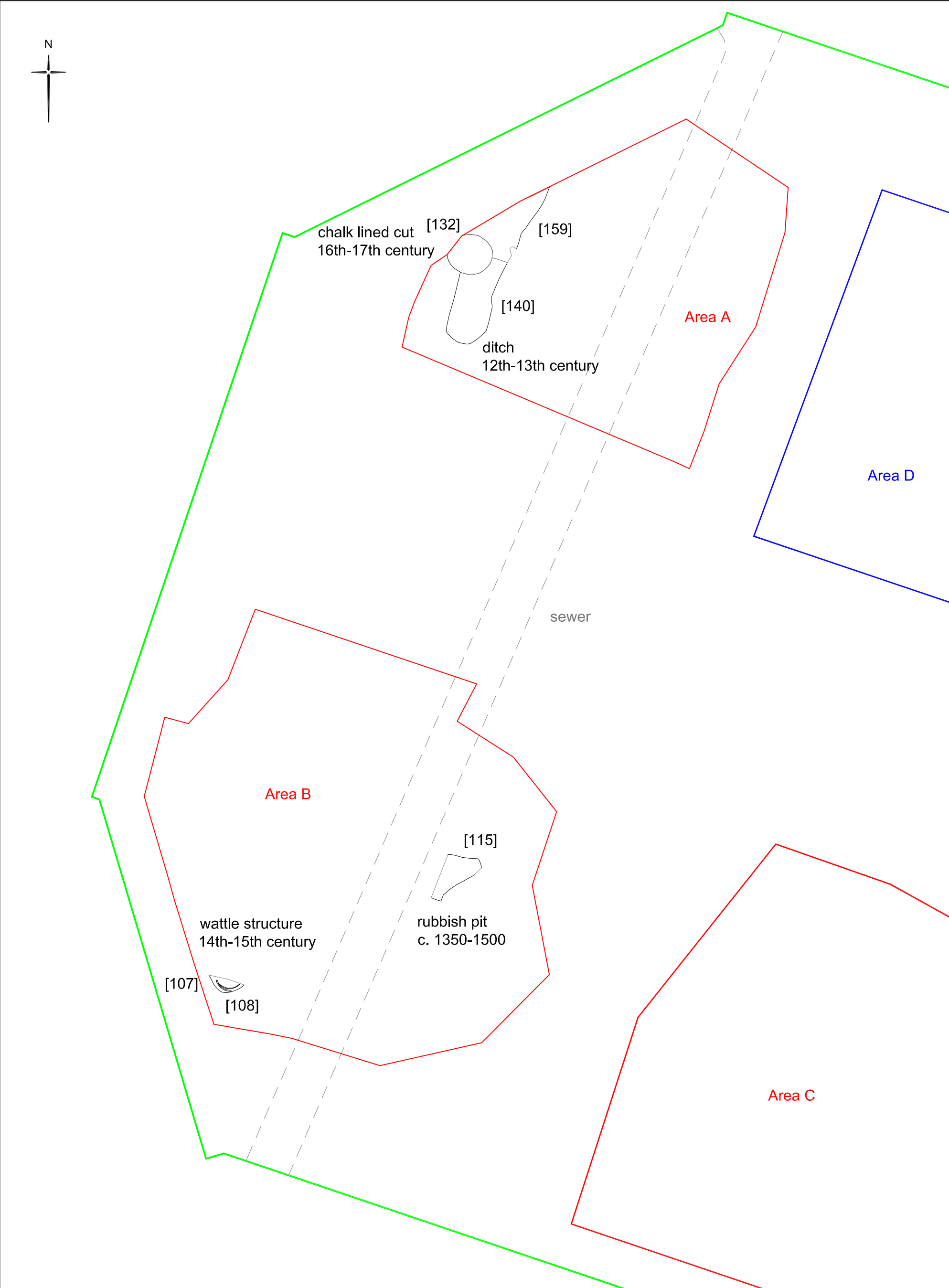


Fig 5 Medieval and Post Medieval features

- Site outline
- Trench edge
- Watching brief area
- Archaeological features
- Truncation

0 1:100 @ A3 5m

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