

Lafone Street, Southwark -- prehistoric farming and a medieval bridge

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Introduction

An archaeological excavation was undertaken by the Museum of London Archaeology Service (MoLAS) at 10-16 Lafone Street, Southwark (Fig. 1) for a period of five weeks during June and July 1996. An evaluation, also by MoLAS, was carried out on the site in February 1996¹ and had proved positive in identifying archaeological remains, most notably part of a medieval or post-medieval wooden structure, provisionally interpreted as a channel revetment. There were also indications that the site might have prehistoric potential. It was therefore decided that full area excavation of the site should take place in order to clarify the results of the evaluation and determine the presence or absence of prehistoric activity.

Topography and geology

The geology of the Bermondsey area consists of Palaeocene London Clay, overlain by Pleistocene flood plain sand and gravel. The site lies on the flood plain on the south side of the River Thames. Topographic studies have shown that the Bermondsey area consisted of a series of shifting sandy islets (eyots) and interconnecting tidal creeks; Horsleydown, the area around the site, was one such eyot. The site of 10-16 Lafone Street is located on the eastern side of the eyot. Periodically there have been several phases of sea-level reduction or regression. Study of the Thames sediments laid down at Tilbury during the last 10,000 years has

identified at least five regression phases (Tilbury I-V), with a sixth one being possible². These events led to the accumulation of saltmarsh, reed and woodfen peats. A number of sites in the Bermondsey area have revealed evidence of the Tilbury IV regression³.

Archaeological and historical background
Evidence for prehistoric activity has been recovered at a number of sites in the Horsleydown area. Mesolithic flint flakes and blades have been found at 283 Tooley Street⁴, and prehistoric pottery and flints at Queen Elizabeth Street⁵. More conclusive evidence for prehistoric occupation has been found at Phoenix Wharf⁶ and Wolsey Street⁷. On the

1. J. Bates 1996 *10-16 Lafone Street, London, SE1, London Borough of Southwark, an Archaeological Evaluation* MoLAS.
2. R. J. Devoy 'Post-Glacial Environmental Change and Man in the Thames Estuary' in Thompson (ed) *Archaeology and Coastal Change* (1980) Soc. Antiq.
3. J. Drummond-Murray, D. Saxby and B. Watson 'Recent Archaeological Work in the Bermondsey District of Southwark' *London Archaeol* 7 (1994) 251-7.
4. D. Saxby 1994 *283, Tooley Street, An Archaeological Excavation* MoLAS.
5. T. McDonald 1988 *Archive Report on Excavations at Queen Elizabeth Street (south side), Southwark* MoL.
6. J. Bowsher 1988 *Phoenix Wharf, Bermondsey, an Archaeological Preservation in situ Watching Brief* MoLAS.

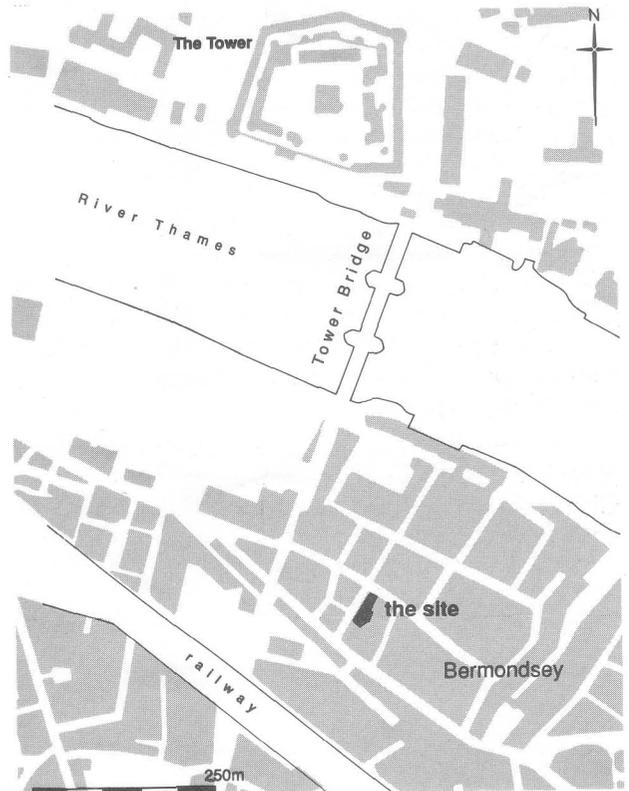


Fig. 1: site location

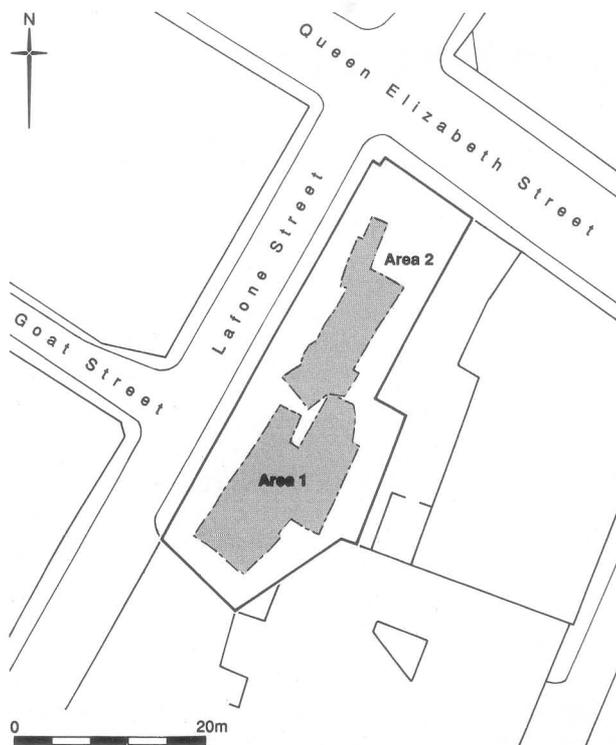


Fig. 2: site plan

former site, at the south-east corner of the eyot, a Bronze Age cooking pit lay beneath a prehistoric ploughsoil, containing Neolithic and Bronze Age pottery and worked flints. Primitive plough, spade and hoe marks indicated extensive cultivation. At Wolsey Street to the east of the eyot, further plough marks were found, together with flints and Neolithic pottery in the overlying 'ploughsoil'. Both 'ploughsoils' were sealed by silty clay deposits and peats, representing later transgressions and the Tilbury IV regression. Evidence for Iron Age occupation has been recovered from both 283 Tooley Street⁸ and 271 Tooley Street⁹.

During the Roman period, the history of Southwark and Bermondsey was one of water management, with creeks artificially confined by revetments and embankments, and land areas raised by means of dumping. A probable Roman revetment has recently been excavated just to the north-west at 141/3 and 147 Tooley St¹⁰. A fall in river levels during an early 2nd to 4th or 5th century regression (Tilbury V) allowed the settlement to expand

back into areas abandoned during the Iron Age, although fluvial deposits suggest at least one catastrophic flood in the early Roman period. At 22 White's Grounds¹¹, Queen Elizabeth St¹² and 9 Tanner St¹³, Roman field boundary or drainage ditches were found and the marginal nature of the latter two sites was demonstrated by the presence of riverine deposits sealing the Roman features.

There are no indications of occupation from the Saxon or early medieval periods, and it appears that flooding made the eyot largely uninhabitable, although 11th to 12th century pits have recently been recorded at Battle Bridge Lane¹⁴. The presence of fluvial clay has been reported at a number of sites, and documentary evidence for flooding occurs from the late 14th century onwards. There is some contemporary documentary evidence for activity in the area from the 15th century onwards. A number of moated complexes were constructed on the waterfront. Moats and channels constructed in the area were revetted with any wooden materials to hand, including old doors and sections of broken-up boats. By the 16th century, much of Horsleydown was common pasture, with a number of ditches and channels running throughout the area. Flooding continued to give the area a marginal nature until the late 17th to 18th century. Post-medieval industries included tanning and pottery manufacture.

The excavation

Two adjacent areas, together measuring approximately 37m north-south and between 5m and 10m east-west were opened up (Fig. 2). The earliest deposit comprised natural yellow sand, containing frequent roots and occasional lenses of greenish yellow clay. This extended over the entire site at a fairly constant height averaging about +0.25m OD.

Prehistoric

A number of features were observed cutting the natural sand in the southern half of the site. The most significant were a series of intercutting grooves, aligned approximately north-south and east-west (Fig. 3). These were interpreted as marks formed by ploughing with an ard during the prehistoric period, and were very similar to those found at nearby Phoenix Wharf and Wolsey Street. A number of the ard marks were excavated, and environmental samples taken of the fills, which

7. J. Drummond-Murray 1994 *Wolsey Street, an Archaeological Evaluation* MoLAS

8. D. Saxby *op cit* fn 4.

9. B. Watson 1994 *271, Tooley Street, an Archaeological Evaluation* MoLAS.

10. R. Nielsen 1995 *141/3 & 147 Tooley Street, London, SE1, an Archaeological Evaluation* MoLAS

11. T. Catchpole 1988 *Archive Report on Excavations at 22-28 White's Grounds, Southwark* MoL.

12. T. McDonald *op cit* fn 5.

13. K. Heard 1988 *Archive Report on Excavations at 9, Tanner Street, Southwark* MoL

14. I. Grainger 1995 *Battle Bridge Lane, an Archaeological Excavation* MoLAS

comprised a brown silty sand indistinguishable from the 'ploughsoil' above. The ard marks extended over an area measuring approximately 7m east-west and 2m north-south. They continued beyond the edge of excavation to both east and west, and were truncated on both the south and north sides. Further to the north, a series of four stake holes was identified also cutting the natural sand.

Apparently sealing the ard marks and the stake holes was a layer of brown silty sand, 0.15m to 0.20m thick, extending over the whole site. (It is likely that these features were in fact cutting this layer; they did not however become visible until the layer was removed.) In the southern half of the site this was a clearly defined, homogenous layer, but in the north it was much more variable, and had a less clearly defined interface with the natural sand below. A considerable quantity of burnt and struck flint was recovered from this layer, along with a single sherd of pot, dated to the late Neolithic/Early Bronze Age. The struck flints included a possible knife and a possible leaf arrow-head roughout, probably of Early Neolithic date. In addition, a calibrated radiocarbon date of between 1520 BC and 1220 BC (mid Bronze Age) was obtained from the soil.

A number of features were identified cutting this 'ploughsoil'. Potentially most significant was an east-west aligned ditch or channel towards the south of the site. This was 3m wide and extended across the width of the site. It appeared to truncate the ard marks, which were only found on its southern side, and may therefore have marked the position of a field boundary, which was later recut or eroded. In the northern part of the site two possible post-holes were identified, along with a number of shallow indeterminate features.

Sealing all the features cutting the 'ploughsoil', and extending over the whole of the site, was a peat deposit up to 0.30m thick, from which a number of burnt and struck flints and pottery fragments were recovered. Environmental samples taken from this layer produced a rich plant assemblage, with wetland plants being well represented. These included *alismataceae*, crowfoots, sedges and rushes. The layer may represent part of the Tilbury IV regression, which occurred during the late 2nd millennium BC. However, the flints included the butt of an adze and an adze-sharpening flake, usually regarded as Mesolithic. The pottery has been dated to the Roman period, and was probably deposited on the ground surface during the succeeding period of disuse.

Medieval and post-medieval

The site appears to have remained uninhabited until at least the medieval period, since there is no evidence for further activity on the site until the 13th century. This is likely to have been due to the continuing marginal nature of the islet, attested by flood deposits both at the site itself and a number of other sites in the region. During the 13th century a wooden structure was constructed within an apparent re-cut of an east-west aligned channel at the far south end of the site (Fig. 4). This was the structure partially revealed during the evaluation, and initially thought to be a revetment. It has since been interpreted as the foundations for a bridge spanning the channel, with two main phases of construction being identified. The preservation of some of these timbers was extremely good, and revealed detailed carpentry marks and techniques.

The earliest phase was set on the floor of the recut, which was probably a preparatory levelling for the structure. It comprised two parallel oak transverse baseplates located on either side of the channel, with three north-south aligned oak longitudinal plates jointed into them by mortise and tenon,

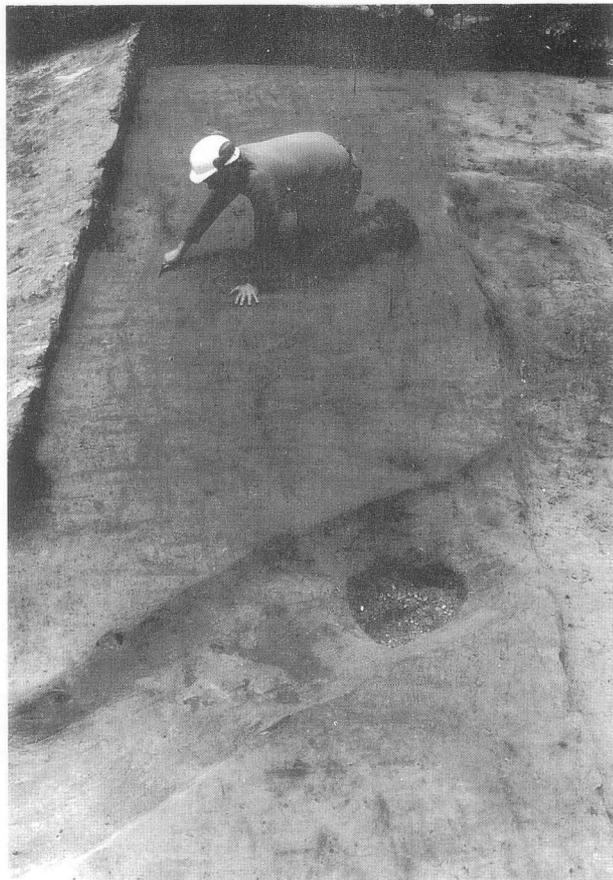


Fig. 3: cleaning of the ard marks in progress



Fig. 4: excavation of the wooden bridge in progress

forming a rigid box frame. The east-west timbers contained mortises for posts with chase mortises at their eastern ends for diagonal braces. The basal part of one post survived *in situ* towards the western end of the northern baseplate, together with the basal part of a brace also *in situ* at the eastern end of the same plate. Additionally, an intact plank set on edge above this plate at its landward side was also partially *in situ*. This was retained to the north by a series of roundwood stakes. Further displaced remnants of planking lay above the southern baseplate indicating that a similar arrangement existed on this side of the structure. The planking probably served a dual function in making the structure more rigid whilst also revetting the sides of the channel. In a modification to the existing structure, three additional north-south aligned timbers were later placed on top of the earlier north-south aligned timbers. These were non oak, crooked, roughly halved logs. Each contained a pair of centrally placed through-cut diverging chase mortises. These would have accommodated raking braces, and a remnant of

one brace survived *in situ* together with tightening wedges also *in situ* in each mortise. The modification appears to have been introduced to provide longitudinal shoring which was absent in the original design. Fig. 5 is a partial reconstruction of what this first phase may have looked like.

The final phase appeared to be of beech box frame construction, although the southern part was absent. Set on levelling chocks above the baseplates of the earlier structure, it comprised an east-west aligned transverse baseplate to the north with two mortises cut into its southern face accommodating two north-south aligned longitudinal plates, both of which were truncated to the south. One of these contained a pair of diverging chase mortises which would have accommodated braces. This latest phase appears to represent a self stable structure in which the longitudinal bracing is fully integrated into the framed structure, as opposed to the earlier phase which required modification in order to provide bracing. Dendrochronological dating of the timbers indicates a 13th century date for the construction of the bridge.

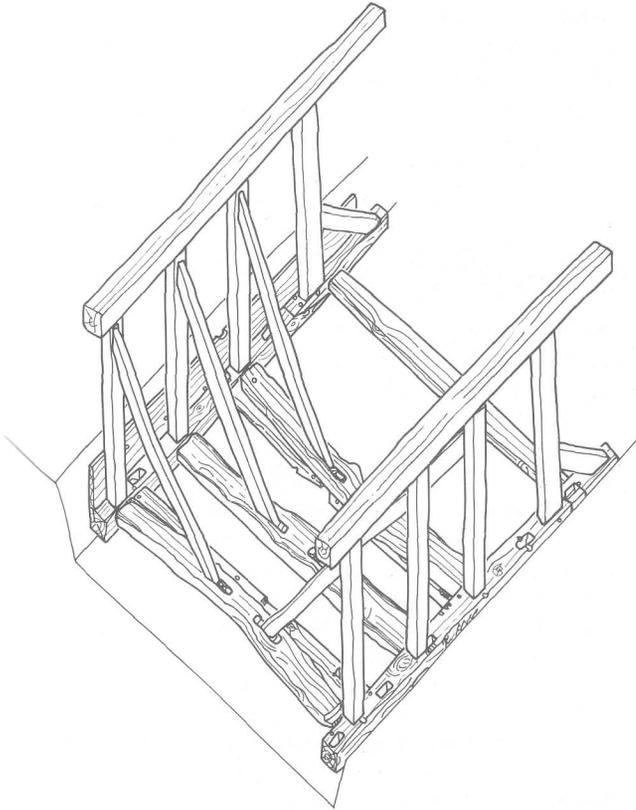


Fig. 5: sketch showing partial reconstruction of primary phase of bridge

A series of silts and gravels surrounded the timbers, probably representing gradual silting up of the channel.

A thick layer of alluvial clay representing one or more floodings of the area overlay the entire site. No dating evidence was found within this clay, but it is likely that it represents floodings which are known to have occurred during the 15th century. A north-south aligned channel, approximately 2m wide, filled with alluvial clay and probably of late medieval or early post-medieval date, cut this alluvial deposit and extended for almost the entire length of the site. Environmental sampling of the fill of this channel revealed the presence of freshwater molluscs as well as an abundance of wetland plants. Further deposits of alluvium made up the remainder of the stratigraphy of the site. This evidence for repeated floodings and the lack of any evidence for activity on the site other than the medieval bridge, indicate that the area was unsuit-

able for cultivation or occupation from the Bronze Age right through to the late post-medieval period. Late 19th century basements had destroyed any later post-medieval remains.

Discussion

The importance of the site derives from the presence of significant archaeological remains from two distinct periods: prehistoric ard marks and a medieval (13th century) bridge.

Ardmarks have been recorded on a number of sites, both in Britain and on the Continent, especially in Scandinavia. These include Gwithian in Cornwall¹⁵, Rudgeway in Gloucestershire, West Overton and South Street¹⁶ in Wiltshire and Hjerpsted and Lundehoj in Denmark. In London, they have been identified at Phoenix Wharf and Wolseley Street. Both of these sites are in Southwark, fairly close to Lafone Street.

It is rare for ard marks to survive from prehistoric times to the present day. This is partly because subsequent erosion tends to remove evidence for them from the prehistoric land surface and partly because repeated ploughing on the same site over many years would result in them becoming obscured. They will therefore only survive under certain conditions and circumstances.

The use of a 'rip ard' (a heavy ard used for initial ground breaking) would result in deeper cuts than those caused by conventional ploughing, making them more likely to survive both erosion and later shallower ploughing¹⁷. Rock carvings from Aspeberg in Sweden and Val Camonic in Italy show such an ard in use. Ard marks may also survive where later ploughing is prevented by above ground construction of barrows. This relatively common occurrence has been noted at a number of sites, including Overton, South Street, Hjerpsted and Lundehoj. This has led to the hypothesis that in these instances the ard marks may have had some ritual significance and played a part in the funerary rite¹⁸. Finally, the use of a plough to level the ground in advance of non-agricultural use, would make the ard marks more likely to survive.

The ard marks at Lafone Street may fall into the first category (survival due to the use of a rip ard), although the presence of the waterlain deposits over them suggests that it may have been necessary

15. J. V. S. Megaw, A. C. Thomas & B. Wailes 'The Bronze Age Settlement at Gwithian, Cornwall' *Proc West Cornwall Field Club* 2, no. 5 (1960-61).

16. I. F. Smith & J. G. Evans 'Excavation of two long barrows in north Wiltshire' *Antiquity* 42 (1968).

17. P. Reynolds 'Deadstock and Livestock' in R. Mercer (ed.) *Farming Practice in British Prehistory* (1981) Edinburgh: Edinburgh University Press.

18. P. Rowley-Conwy 'The Interpretation of ard marks' *Antiquity* 61 (1987).

to abandon the area due to flooding before later ploughing could take place and remove the earlier evidence.

The closest parallels to the wooden structure within the east-west channel are medieval moated bridges. Such bridges used the same methods of framing and jointing as building on dry land. Since they preserve a much greater proportion of early material at their base than other classes of timber structure, their value for the history of carpentry is obvious. The foundations of a number of such bridges have been identified and excavated, and a classification system based on type of support has been developed¹⁹. The category into which the structure at Lafone Street falls is that of bridges with a rigid and self-stable support. Dendrochronological dates of AD 1276 and AD 1277 were obtained from two samples taken from the latest structure. These dates are broadly supported both by the carpentry techniques and by parallels with surviving remains of bridges dating from the 13th century. A number of parallels can be drawn with moat bridges excavated at several sites dating from the 12th and 13th centuries. One parallel to the earliest structure, prior to its modification, is found at Eynsford Castle, Kent, while the modified version is similar to a bridge at Lewmote, Elmers End, Kent. The final structure is closely paralleled at West Derby Castle, Liverpool.

Conclusions

The excavation at Lafone Street has added significantly to the archaeological record of the area. In particular, the discovery of a third group of ard

marks dating from the Bronze Age within a relatively small area of Bermondsey, shows that a large area of land was under cultivation at this time, and indicates the presence of a settlement site in the vicinity, which has yet to be located. Analysis of environmental samples taken during the excavation should add to our knowledge of the nature of prehistoric agriculture. In addition, study of the wooden bridge timbers will add to our knowledge of medieval carpentry techniques.

Acknowledgements

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19. S. E. Rigold 'Structural Aspects of Medieval Timber Bridges' *Medieval Archaeol* 19 (1975).

Excavations and post-excavation work

City of London. Museum of London Archaeology Service, Walker House, 87 Queen Victoria Street, London EC4V 4AB (0171-410 2200).

Croydon & District, processing and cataloguing of excavated and museum collections every Tuesday throughout the year. Archaeological reference collection of fabric types, domestic animal bones, clay tobacco pipes and glass ware also available for comparative work. Enquiries to Jim Davison, 28 Blenheim Park Road, South Croydon, CR2 6BB.

Greater London (except north-east and south-east London), by Museum of London Archaeology Service. Excavations and processing in all areas. General enquiries to MOLAS, Walker House, 87 Queen Victoria Street, London EC4V 4AB (0171-410 2200).

Borough of Greenwich. Cataloguing of excavated and other archaeological material, the majority from sites in the borough. For further information contact Greenwich Borough Museum, 232 Plumstead High Street, London SE18 1JT (0181-855 324.0).

Hammersmith & Fulham, by Fulham Archaeological Rescue Group. Processing of material from Fulham Palace. Tuesdays, 7.45 p.m.-10 p.m. at Fulham Palace, Bishop's Avenue, Fulham Palace Road, SW6. Contact Keith Whitehouse, 86 Clancarty Road, SW6 (0171-731 4498).

Kingston, by Kingston upon Thames Archaeological Society. Rescue sites in the town centre. Enquiries to Kingston Heritage Centre, Fairfield Road, Kingston (0181-546 5386).

Surrey, by Surrey County Archaeological Unit. Enquiries to Rob Poulton, Archaeological Unit Manager, Old Library Headquarters, 25 West Street, Dorking, RH4 1DE (01306-886 466).

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