The Topography of North Lambeth

ROBIN DENSEM
ANDREW DOIDGE

THIS ARTICLE REVIEWS recent work on the natural topography of North Lambeth and adjacent land in Southwark based on borehole records. It was intended to indicate likely areas for settlement and land use, that is land above Thames high water and on well drained sand and gravel. The area studied is bounded by the River Thames to the north and west and the south and east limits are defined by lines drawn east from Vauxhall Bridge and south from Hopton Street. Figure 1 shows the area under consideration, together with the modern bridges as reference points. The lines of the now buried Rivers Neckinger and Effra have been shown[1].

The height and nature of the ground surface available for occupation was determined by the natural (geological) deposits or drift which comprise water lain sands, silts and clays (alluvium) over the flood plain gravels which rise away from the river to form the highest natural levels. The rise of the gravels is shown on Figure 2, and the line of the section is located on Figure 1.

The area studied has to be considered in relation to the Thames which covered low lying areas. The exact height of the water in the past is open to interpretation, but in the early Roman period it seems to have been between O.D. and +1.0 m. O.D.[2] Certainly land above +1.0m.O.D. would normally be safe from the Thames in the first century AD. By the later medieval period a rise in the level of the river relative to the land had occurred, with extensive water erosion of land above +1.0m.O.D. near London Bridge[3], and with "waterlogging" of gravel and peat at *c.* +2.1m.O.D. at the medieval Customs House site in the City from the late 13th century[4]. Additional evidence for the Thames having been considerably higher in the medieval compared to the Roman period is presented by Wilcox[5]. However the effect of this rise in the Thames water level would have been considerably offset by a series of embankments described as dykes completed by the 14th century to defend north Lambeth and Southwark from the Thames' water. The dykes were constructed from London Bridge to Water Lambeth[6] and apparently ran under modern Bankside, Upper Ground and Belvedere Road, and as Bishop's Wall down to Lambeth Palace close to modern Lambeth Bridge[7]. Thus the height of the Thames in relation to the ground crucially affected the area available for land use as low lying areas were liable to become waterlogged, at least until the dykes were built.

Another major factor affecting the choice of land for settlement was the nature of the ground itself

1. The lines of these two rivers were taken from Nicholas Barton *The Lost Rivers of London* (1962). The rivers were an important feature of the area and were open till the post medieval period.
2. G. Wilcox "The History and Archaeology of the Thames in the London Region" *Trans. London & Middx. Archaeol. Soc.*, **26** (1975), 287 presents evidence that the Thames did not rise much higher than O.D. in the early Roman period whilst the Southwark evidence suggests it was higher at *c.* +1.0m O.D., e.g. Alan H. Graham in "Southwark Excavations 1972-4" *Joint Publication of the London & Midx. Archaeol. Soc. and Surrey Archaeol. Soc.* **1** (1979) part III 1.
3. Harvey Sheldon "Excavations at Toppings and Sun Wharves Southwark 1970-1972" *Trans. London & Middx. Archaeol. Soc.*, **25** (1974), 4 and fig. 4.
4. Tim Tatton-Brown "Excavations at the Customs House Site. City of London, 1973" *Trans. London & Middx. Archaeol. Soc.*, **25** (1974), 121.
5. G. Wilcox (1975), 285-92, cited in note 2 above.
6. Water Lambeth (shown on Fig. 1) lies immediately south of the Manor house site which developed into the Archbishop's Palace in the 13th century. Excavations at 129 Lambeth Road in 1973 revealed 13th century features (report forthcoming in a joint publication of the London & Middx. Archaeol. Soc. and the Surrey Archaeol. Soc.) and work in 1966-7 on land south of 18 Lambeth High Street located medieval pottery probably associated with ditches (interim report available from Cuming Museum, SE17). Position and extent of settlement on Fig. 1 from Donald Imber *Lambeth Lost and Found* (1976) (this is an unpublished documentary survey of Lambeth available for inspection at the SLAEC office).
7. Thomas Codrington "London South of the Thames" *Surrey Archaeol. Coll.* **23** (1915)), 115; Imber (1976), items 148, 149 and 151 (see note 6 above); Manning & Bray *History and Antiquities of Surrey* Vol. 1 (1804), 224.

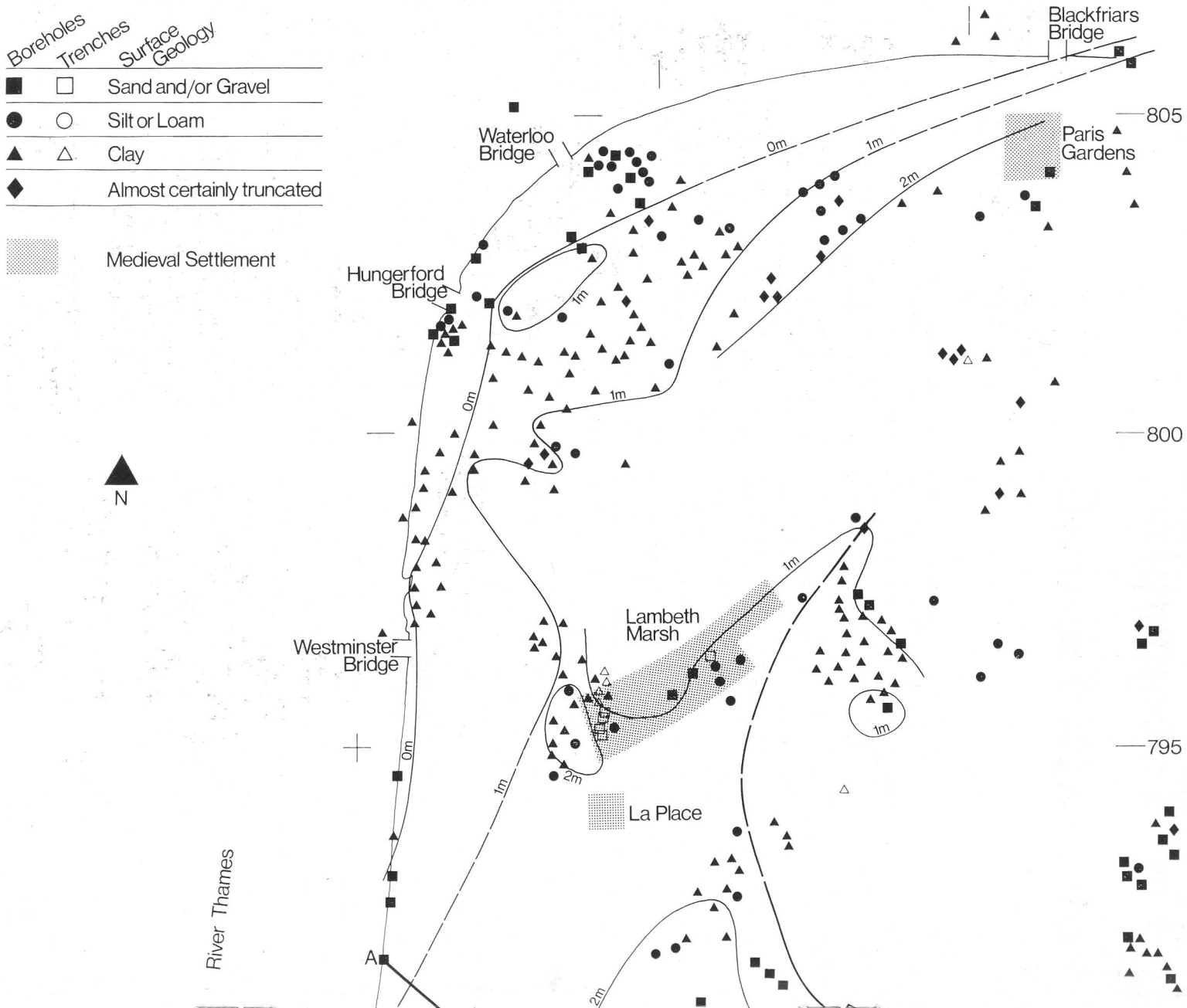
Boreholes
Trenches
Surface Geology
Sand and/or Gravel
Silt or Loam
Clay
Almost certainly truncated
Medieval Settlement
N
Blackfriars Bridge
Waterloo Bridge
Hungerford Bridge
Westminster Bridge
Paris Gardens
Lambeth Marsh
La Place
River Thames
805
800
795
0m
1m
2m
A

Fig. 1: North Lambeth and adjacent land in Southwark, with the top of the surface geology contoured at intervals above Ordnance Datum (one metre is about 3ft 3in.).

and recent work has highlighted the decisive effect this had on settlement patterns[8].

In order to study the surface drift geology of the area which determined both the height of the land and its nature some 390 individual borehole records from 86 sites were collected, which might be 75 per cent of the total available, together with information from 11 archaeological trenches on four sites. The site of each borehole and trench has been marked on Figure 1 by symbols which differentiate the nature of the top of the natural into one of three groups for each borehole or trench. The groups should reflect different levels of attractiveness for settlement and land use. The most attractive category is comprised of sites where the top natural is sand and gravel and this represents, where it is above the water level of the Thames, dry, firm, well drained land. The second category includes those sites with silts and loams (mixture of sand, silt and clay in roughly equal parts) as the top of the natural and these are softer and less well drained sites than those of the first category, but still quite attractive. The third group is composed of those sites where the top natural is clay; here the land would not drain well and this group is therefore the least suitable for occupation. The contour lines on Figure 1 have been interpolated from the heights for the top of the natural from the bores and trenches[9].

The interpolation is only provisional and several factors should be borne in mind. For the earlier records the heights were related to the Liverpool datum which was abandoned around 1930 in favour of the current Newlyn datum and for records around 1930 it is not always clear which datum was used. Liverpool heights have been converted to the higher Newlyn datum by subtracting 0.38m (*c.* 1.25ft). Several surface heights were much lower than their near neighbours and these presumably represent sites where the bores were drilled through a cut feature which had removed the top of the natural. It is not possible to tell how many of the borehole sites record natural deposits which have been truncated in this way. Lastly there is the difficulty of differentiating natural from what the borehole records refer to as 'made ground' i.e. the overlying archaeological levels. This is not always easy to demonstrate on an archaeological site when the area is exposed in plan, and some confusion must have inevitably occurred between 'made ground' and natural from the narrow boreholes. This could for any one bore have wrongly raised or lowered the surface of the natural.

However, with these reservations, the surface of the natural has been contoured at 1m vertical intervals on Figure 1 and where the contour is more uncertain it has been dotted. The areas left devoid of contours reflect the clustered distribution of the bores, which has left gaps in their coverage of the area. The 'extra' +1.0m contour passing through Lambeth Marsh probably represents part of a complex natural feature that more data would enlarge.

Also on Figure 1, marked by hatching, are the known medieval settlements and buildings shown so that their location can be considered in relation to local topography. The two villages of Water Lambeth[10] and Lambeth Marsh[11] are included as well as the hamlet and later Manor House site of Paris Gardens[12]. The isolated medieval Manor house at Vauxhall, La Sale Faukes[13], the Black Princes's

8. Harvey Sheldon and Laura Schaaf "A Survey of Roman Sites in Greater London" in *Collectanea Londiniensia* (1978), 60.

9. In order to draw the contours, the heights were plotted on a 1:2500 map which is available at the SLAEC office.

10. See note 6 above.

11. Lambeth Marsh's first documentary references are from the post-medieval period. Excavations at Finck Street in 1977 exposed part of a building of probable Tudor date, and levels dating back to the 13th century. Report forthcoming in a joint publication of the London & Middx. Archaeol. Soc. and the Surrey Arch. Soc. Position and extent of settlement from Imber (1976), see note 6 above.

12. London County Council *Survey of London vol. XXII Bankside* (1950), 94-5. The Manor House appears to have been built by 1505 though a house and 3 cottages are attested in 1308.

13. Imber (1976 item 31, and for location on Figure 1, see note 6 above.

Annual Lecture and General Meeting

THE ANNUAL MEETING of *the London Archaeologist* will take place on Friday May 18th at 7 pm in the Lecture Theatre of the Museum of London.

This year the lecture (open to the public) will be "Industrial Archaeology" by Mr Denis Smith. Prior to the lecture, the annual report and accounts will be presented. The proceedings will include the election of officers and also the election to the Publication Committee of the six local society representatives, whose nomination should be made in writing not less than 14 days before the AGM to the Chairman, c/o Coalecroft Road, SW15.

Local societies are invited to send one representative with voting powers to the AGM; individual subscribers to the magazine and their friends will also be welcome to attend.

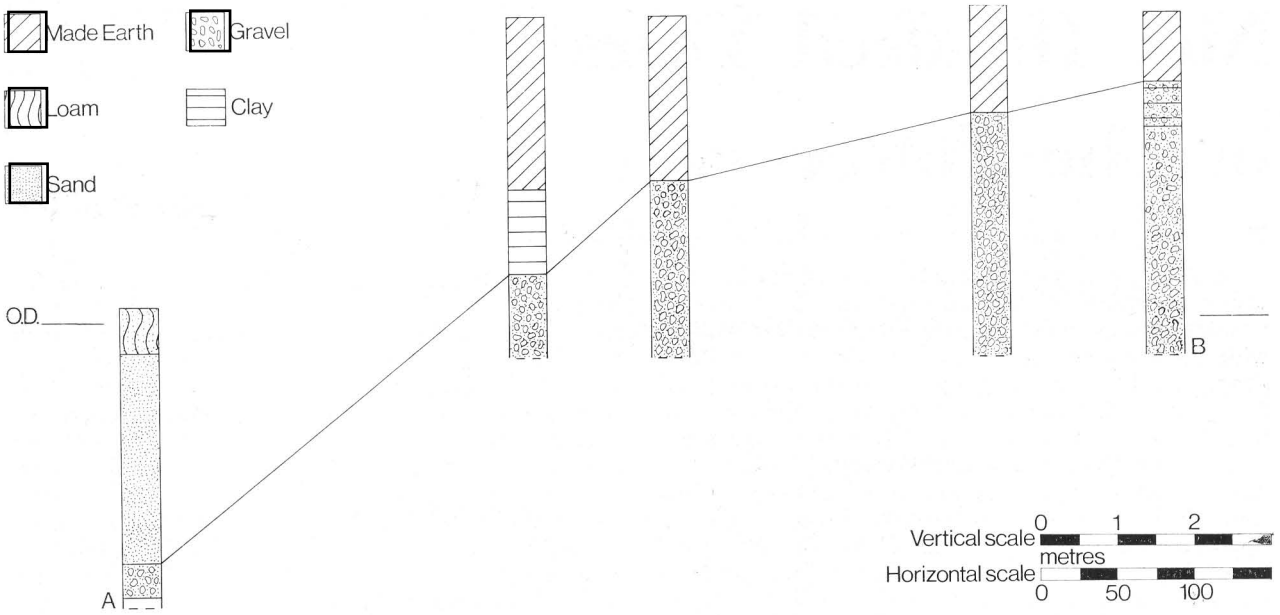

Fig. 2: Borehole sections along line A-B, located on Fig 1. (Note that 1m is about 3ft 3in, 100m is about 330ft.)

Palace at Kennington[14] and the mansion La Place, by modern Carlisle Lane[15], are also located. It can clearly be seen from Figure 1 that all these medieval sites are situated on good building ground and that except for La Sale Faukes, which was presumably protected by an embankment against the Thames, they are on high ground. Water Lambeth appears to lie on a spur of high sand and gravel projecting towards the Thames and from Figure 1 the reason for settlement there is clear. The siting of the Black Prince's Palace by the Effra might demonstrate the importance of a good water supply to the choosing of land for occupation.

In conclusion it seems that though the work is useful to the understanding of the local topography, specifically the nature and height of the top of the natural levels upon which archaeological levels were lain, information from more sites is needed to complete the picture. It is likely that the collection of the records from additional boreholes which will be done as redevelopment continues in Lambeth would cause the contours drawn of Figure 1 to be revised. It would be possible to have a computer drawn contour plan of the area using a computer programme called Symap which works from plotted heights and applies mathematical best-fit criteria to the data. Another programme, Symvu, would draw a three-dimensional projection of the surface from the contours. Probably more data would be required to fill in the blank areas before this should be attempted.

Acknowledgements

The main sources of borehole records were the Institute of Geological Sciences (Frank Berry, Esq), the Records and Technical Services Dept of the Thames Water Authority (E. M. Wakefield, Esq), the Soil Investigation Unit of the Structural Engineering section of the Department of Architecture and Civic Design at the GLC (A. R. Lamb, Esq) and Ove Arup Ltd (Richard Hughes, Esq). Additional boreholes were provided by Foundation Engineering Ltd (O. G. Wojcicki, Esq), Ground Engineering Ltd (C. P. Chiverrell, Esq), Wembley Laboratories Ltd (Dr. D. J. Dixon), Wimpey Laboratories Ltd (P. J. Neasby, Esq) and Lawrence J. Hewitt & Partners (Colin Toms, Esq) and the Directorate of Civil Engineering and Public Services of the London Borough of Lambeth. We would like to thank the above organisations and individuals for providing access to borehole records. Colleagues at SLAEC contributed many valuable ideas as the work progressed. Of those who read the draft and made helpful comments, Harvey Sheldon is to be specially thanked. Frank Berry provided encouragement; and our thanks also go to Alison Bristow for the typing.

14. Graham Dawson *The Black Prince's Palace at Kennington, Surrey* British Archaeological Report No. 26 (1976).

15. Imber (1976) item 41, and for location on Figure 1, see note 6 above.