Notes and News

ARCHAEOLOGICAL EVIDENCE FOR THE WATERFRONT OF MIDDLE SAXON LONDON (Figs. 1–3)

Work undertaken by the Museum of London's Department of Greater London Archaeology (DGLA) since the mid 1980s has shown that *Lundenwic* (mid Saxon London) was located on the north bank of the Thames, a kilometre upstream of the former Roman city of *Londinium* (Fig. 1a).[1] It has been suggested that the river at *Lundenwic* was tidal, which would have assisted the settlement in its function as a seaport, for ships entering the Thames estuary could approach the settlement's waterfront on an incoming tide.[2]

On topographical grounds it is likely that *Lundenwic*'s waterfront lay in the narrow strip of land between the NW. side of the Victoria Embankment,[3] and the bottom of the river terrace that rises steeply to the Strand. Archaeological evidence to support this view was discovered in 1988 during the redevelopment of 18–20 York Buildings, a site 40 m NW. of the Victoria Embankment Gardens (Fig. 1b).[4] Although construction work at this site had begun, and there was little time for archaeological investigation, the DGLA was able to excavate a small trench (A) (Fig. 2), revealing part of what appeared to be a mid Saxon waterfront embankment over 5.5 m below modern street level. During a subsequent watching brief similar deposits were recorded in two trenches (B and C) dug by contractors. The site was recorded rapidly and under difficult conditions, and only small areas were available for investigation. Consequently the interpretations offered in this note are provisional.

The geological strata at York Buildings comprised clay, overlain by sandy foreshore deposits. Although the foreshore sand contained discarded animal bones and oyster shells, it had probably accumulated naturally at the edge of the river. Driven into the foreshore were a number of untrimmed stakes, some aligned in rows, and a line of planks (Fig. 2). Several stakes were identified as oak and alder, and the planks were oak, and had been split (rather than sawn).[5] Five stakes in trench A were in a row aligned roughly parallel to the Thames. In trench B a structure made of planks and stakes with traces of wattle apparently formed a crude revetment at right angles to the river (Fig. 3).[6] The revetment was traced for 3.80 m, but its full dimensions are not known since it extended beyond the sides of the trench. The planks were placed upright, edge to edge, although a few overlapped slightly. Seven of the planks sampled for dendrochronological analysis could be dated, and came from oaks felled between A.D. 670 and 690.[7] Six of these had sapwood, while the timber with the latest ring (A.D. 679) apparently retained its bark. This suggests the structure was built in A.D. 679 or shortly after, only a few years after the earliest reference to the Saxon 'port of London' made in Frithuwald's charter of A.D. 672–74.[8]

The upper parts of the stakes and planks were surrounded by layers of fibrous material apparently consisting of fine, well-sorted plant matter, and where this was particularly well preserved, slender wood stems could be seen aligned parallel to each other. Samples were found to consist of alder branches between 10 and 50 mm in diameter.[9] This may have been driftwood or debris from *Lundenwic*, but its regularity suggests brushwood laid down to make an embankment. In trench A the material comprised a single layer *c.* 0.2 m thick, with its top at +0.80 m OD, and contained mid Saxon pottery and loomweight fragments. Animal bones from the layer were in good condition, and at least two were articulated, suggesting little disturbance or redeposition. The deposit was overlain by a scatter of flint cobbles, ragstone

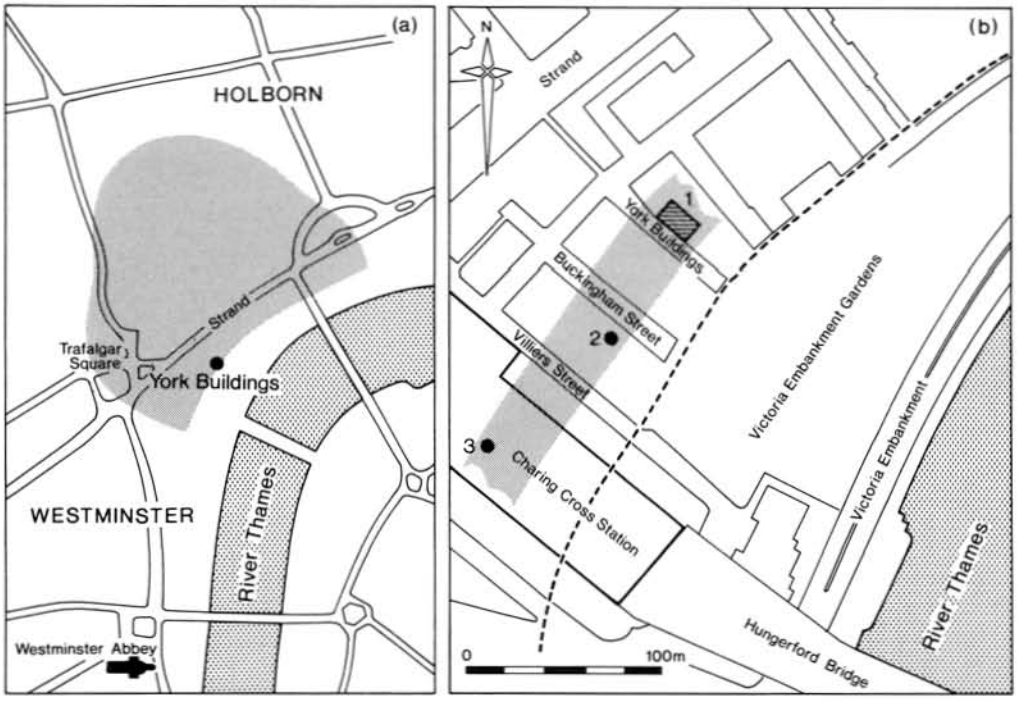

FIG. 1

(a) Map showing the position and extent of *Lundenwic* (indicated by tone), based on current archaeological evidence. (b) Map showing the location of the sites: 18–20 York Buildings (1); 12 Buckingham Street (2); and Charing Cross Station (3) in relation to the conjectural mid Saxon waterfront (indicated by tone), and the 16th-century waterfront (dashed line)

fragments and Roman tile, possibly intended to weigh down the brushwood. To the NW. the embankment was thicker and comprised several layers; in trench B the strata were up to 0.80 m thick, with the top of the embankment at +1.30 m OD, and in trench C they were up to 0.70 m thick, with the top of the embankment at +1.13 m OD.

Traces of wooden remains were also observed in pile holes across the entire length of the site,[10] indicating that the embankment was, at this point, at least 17 m wide (NW.–SE.). However, the deposits across the site may not have been exactly contemporaneous, for the embankment may have been built in stages, gradually developing and extending during the mid Saxon period as areas of foreshore were reclaimed. Such areas could have been marked out at low tide with lines of planks and stakes hammered into the foreshore, and filled with bundles of brushwood. The stakes and planks would have retained the brushwood, and protected the edges of the reclaimed land. If extensions were added to the embankment existing revetments would have become enclosed, which might explain why the structures at York Buildings were completely surrounded by brushwood.

The embankment in trench A was covered by dark grey waterlaid clay, between 30 mm and 0.24 m deep. It contained freshwater molluscan remains, and a seed assemblage dominated by bankside and shallow water flora, including bulrush and sea club-rush;[11] these two brackish water species may indicate that the river was tidal at that point. Above it was a layer of brown-grey waterlaid clay, between 0.20 m and 0.65 m deep, with its highest point at +1.60 m OD. It was oxidized, suggesting that it had been exposed for a period of time, and may have been deposited under tidal conditions. The lower part of the clay produced mid

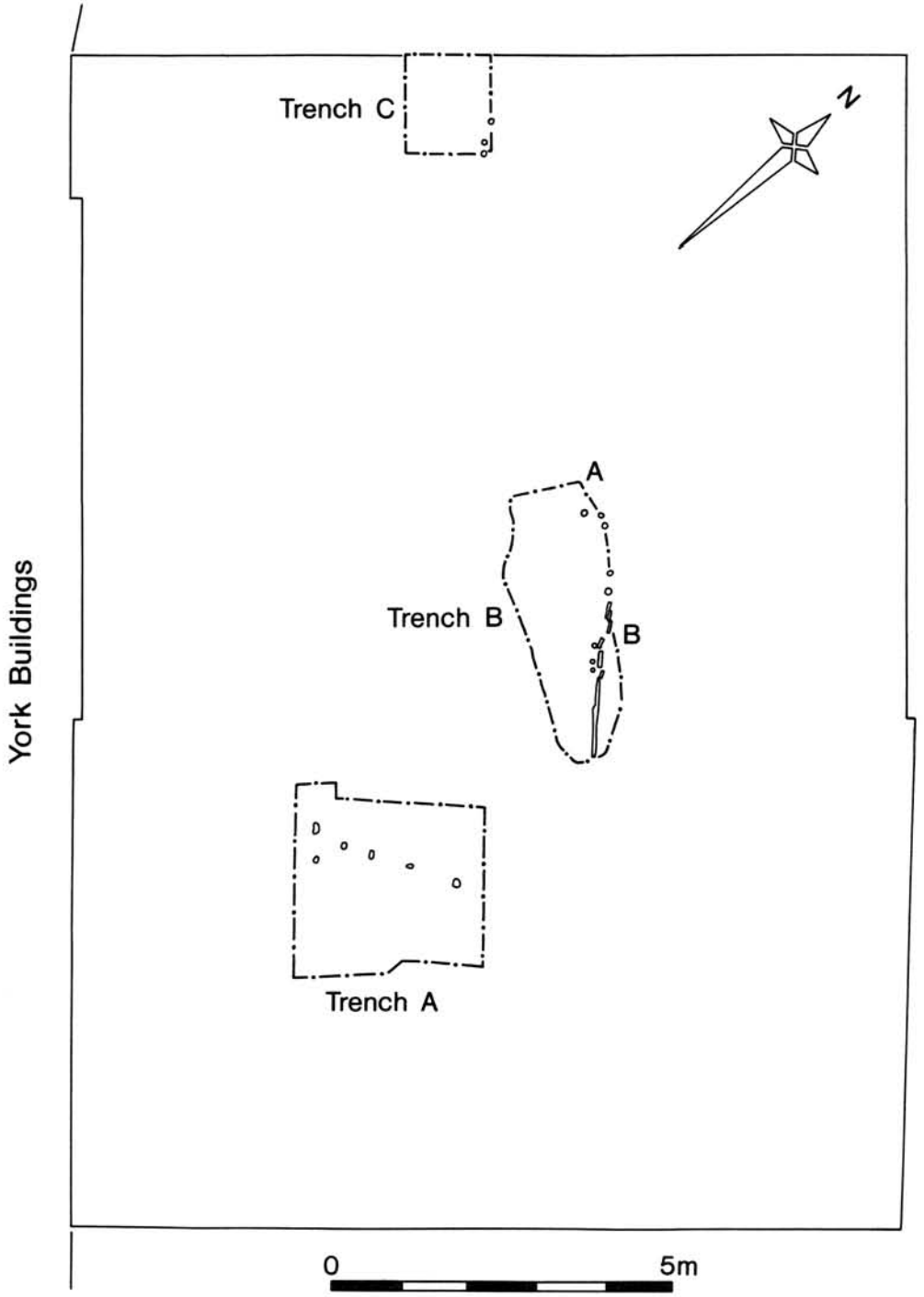

FIG. 2

Plan of trenches A, B and C at 18–20 York Buildings, showing the position of mid Saxon stakes and planks

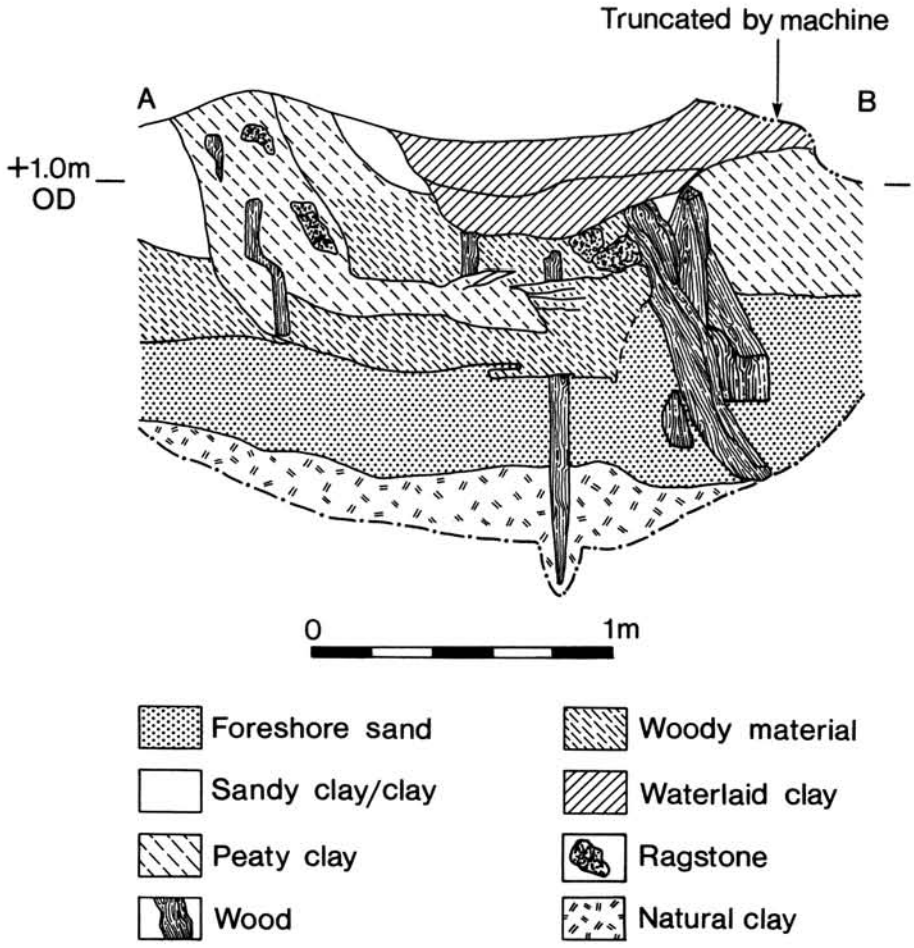

FIG. 3
Section across the waterfront embankment in trench B, showing part of the late 7th-century revetment

Saxon artefacts, while its upper part yielded finds ranging in date from the 7th to 12th centuries.[12] The alluvial deposits may have extended N. to trench B, where similar clay lay in a hollow in the embankment.

The presence of alluvium above the SE. part of the embankment indicates that this section of the waterfront was submerged by the river. Inundation may have occurred during high tides, or have been caused by a rise in river level after the embankment was built.[13] There are slight indications that the site was on a tidal stretch of the river, but at present the evidence is not conclusive. This problem may be resolved when the remaining environmental samples (for molluscs, diatoms, insects and possibly pollen) from the site are studied.

Mid Saxon waterfront deposits may also have been recorded by the DGLA during watching briefs beneath Charing Cross Station[14] and at 12 Buckingham Street (Fig. 1b),[15] although the evidence from both sites is tenuous. In 1987 an engineer's test pit at Charing Cross revealed undated deposits containing fibrous plant matter, pieces of wood, and an untrimmed wooden stake, which was upright with its top at +1.19 m OD. In Buckingham

Street the following year pieces of oak and what appeared to be wattle fencing were recovered from pile holes. One piece of worked wood was dated to the 7th century by dendrochronological analysis, although it was without sapwood and may therefore have come from a tree felled at a later date.[16] Although the wood may have been part of an embankment, it could just as easily represent an accumulation of driftwood at the edge of the river. The deposits at both sites could not be dated conclusively, but their location, and their similar levels and appearance to the material at York Buildings, make a Saxon date a distinct possibility.

While these results are encouraging, further fieldwork in this area is badly needed to plot the line of the mid Saxon riverside, and to investigate the nature and development of the waterfront.

ACKNOWLEDGEMENTS

The excavation at York Buildings, and the preparation of this note, were generously sponsored by Lancaster Holdings Ltd. The work of Michael Jones, who prepared the illustrations, is gratefully acknowledged. Thanks are also due to Peter Hinton, James Rackham, Scott McCracken and Ian Tyers for commenting on the text.

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NOTES

[1] The archaeological evidence for the extramural settlement is summarized in R. Cowie, 'A Gazetteer of Middle Saxon Sites and Finds in the Strand/Westminster Area', *Trans. London and Middlesex Archaeol. Soc.* (forthcoming).

[2] G. Milne, *The Port of Roman London* (London, 1985), 86. A. Vince (ed.), 'The Development of Saxon London', in A. Vince (ed.), *Aspects of Saxo-Norman: II, Finds and Environmental Evidence*, London and Middlesex Archaeol. Soc. Special Paper 12 (1991), 409–35, p. 419.

[3] The NW. side of the Victoria Embankment marks the line of the pre-1860 waterfront, which according to documentary and cartographic evidence dates back to the 16th century, and possibly earlier.

[4] TQ 3036 8054; site code: YKB 88. R. Cowie, 'An Archaeological Excavation at 18–20 York Buildings, WC2' (DGLA archive report, unpublished). R. Cowie and R. Whytehead, 'Lundenwic: The Archaeological Evidence for Middle Saxon London', *Antiquity* 63 (1989), 710.

[5] I. Tyers, 'York Buildings, WC2, Saxon Timbers' (Museum of London Environmental Section Dendrochronology Report 1/89, unpublished).

[6] The only comparable mid Saxon structure found at an English 'wic' emporium was the revetment at Bridge Street, Ipswich, which consisted of vertical posts with interwoven branches and horizontals. See *Medieval Archaeol.* 26 (1982), 208; K. Wade, 'Ipswich', in R. Hodges and B. Hobley (eds.), *The Rebirth of Towns in the West A.D. 700–1050* CBA Research Report no. 68 (1988), 94–96.

[7] Tyers, op. cit. in note 5.

[8] Translation in D. Whitelock (ed.), *English Historical Documents Vol. 1 c. 500–1042* (London, 1955), 440–41.

[9] Tyers, op. cit. in note 5.

[10] The remains were seen by the Site Engineer, Hedley Constant, Myton Ltd.

[11] Information from a preliminary environmental assessment and synthesis by E. Pearson, J. Rackham and I. Tyers of the Museum of London Environmental Section.

[12] During the 12th century earth was dumped over the alluvium, probably to reclaim land and establish a serviceable waterfront for Norwich Inn, the London residence of the bishops of Norwich. The date agrees with the available documentary evidence, for the earliest known reference to the inn is an order issued in 1237 to repair the quay (L.C.C. Survey of London, 18 (1937), 51), suggesting that by the mid 13th century the waterfront of the estate had existed for some time.

[13] Research has shown that there has been a general (though not continuous) rise in the level of the Thames from prehistoric times up to the present day — summarized in Milne, op. cit. in note 2, 79–86. At New Palace Yard, *c.* 150 m NE. of Westminster Abbey, a rise in river level during the Saxon period resulted in the deposition of alluvial clay, the top of which lay at +1.60 m OD. Deposition had ceased by the 1090s, when the Great Hall was built for William Rufus (V. Horsman and B. Davison, 'The New Palace Yard and Its Fountains: Excavations in the Palace of Westminster 1972–4', *The Antiquaries J.* 69 pt. 2 (1989), 286.

[14] TQ 3027 8041; site code: CHA 87. R. Cowie, 'Watching Brief at Charing Cross/Villiers Street' (DGLA archive report, unpublished).

[15] TQ 3033 8048; site code: BHM 88. Stuart Hoad, Museum of London, pers. comm.

[16] Ian Tyers, Museum of London, pers. comm.