

‘Welcome to *Pontibus* ... gateway to the West’

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incorporating contributions by

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CONTENTS

	Page
Summary.....	2
Background.....	3
Site location	3
Project background.....	3
Methods	3
On-site investigations.....	3
Aims of post-excavation analysis and publication	5
Post-excavation analyses	5
Evidence.....	7
Archaeological background	7
Prehistoric	7
Romano-British	10
Post-Roman and medieval.....	11
Geotopography and prehistoric activity	12
Geotopography	13
Alluvium.....	14
Prehistoric activity	16
Romano-British occupation.....	21
Early Romano-British; Phase I (1st–early 2nd centuries AD).....	23
2nd century AD; Phase II (AD120–200).....	35
Late Romano-British; Phase III (late 3rd–4th centuries AD)	50
Medieval occupation.....	55
Post-medieval	60
Discussion	61
Endnote (tables)	65

LIST OF ILLUSTRATIONS

1	Staines. Location plan	4
2	Staines. Site, and location of archaeological investigations with post-medieval and modern features	fold-out
3	Staines. Other archaeological investigations in Staines, limits of main gravel island and levels of alluvium.....	8–9
4	Staines. Geotopography.....	12
5	Staines. Area 2: northern half; prehistoric	15
6	Staines. Area 1: all phases	17
7	Staines. Area 4: south trenches, all phases	18
8	Staines. Area 5: all phases	19
9	Staines. Area 4: north trench; prehistoric, Romano-British Phases I and II.....	20
10	Staines. Area 2: south half; Romano-British Phase I.....	22
11	Staines. Trajan sestertius	25

12	Staines. Area 2: north half; Romano-British Phases I and III	27
13	Staines. Cattle scapula showing perforations for hanging and curing	29
	Colour plate 1 Staines. Romano-British ceramics	30
14	Staines. Copper-alloy objects	32
15	Staines. Copper-alloy objects	33
16	Staines. Canid coprolite containing pig phalanx	34
17	Staines. Area 4: north trench; Romano-British Phase II building	36
18	Staines. Romano-British Phase II building, Area 4 (from north)	37
19	Staines. Area 4: section through foundations of west wall of Romano-British Phase II building.	38
20	Staines. Area 4: section through north wall of Romano-British Phase II building	38
21	Staines. Phase II building foundations and sill wall (west wall, from east)	39
	Colour plate 2a Staines. Painted wall plaster: fragments from various zones of dado	41
	Colour plate 2b Staines. Painted wall plaster: imitation marble design	41
22	Staines. Area 4: section through tessellated floor of Romano-British Phase II building	42
23	Staines. Tessellated floor and partition wall (from south-east)	43
24	Staines. Excavated segment in tessellated floor showing subsidence and underlying pits (from south-east)	44
25	Staines. Area 2: south half; Romano-British Phases II, III and unspecified, and medieval	45
26	Staines. Area 3: all phases	46
27	Staines. Romano-British pits at south end in Area 2 (from north).	47
28	Staines. Area 3: north-south section through channel 3256, and wells 3160 and 3186	48
29	Staines. Worked bone objects	49
30	Staines. Fragment of <i>dea nutrix</i> clay figurine	50
31	Staines. Area 2: section through main, Romano-British Phase III, east-west ditch sequence 752, 793, 790 and medieval ditch 789	52
32	Staines. Area 2: section through Romano-British Phase III east-west ditch sequence 956, 955 and 1021, and medieval ditch 947	53
33	Staines. Area 2: section through Romano-British Phase III east-west ditch sequence 1186, 1187, 1188, and medieval ditch 1107	53
34	Staines. Romano-British Phase III wattle-lined pit, north end Area 2	54
35	Staines. Area 2: north half; medieval	57
36	Staines. Medieval timber-lined cesspit, Area 5	58

Summary

A five-year programme of archaeological investigations was undertaken within a c 9ha area to the north of the High Street, Staines on land formerly predominantly occupied by the Central Trading Estate. The vast majority of the archaeological evidence pertains to the Romano-British settlement established in the second half of the 1st century AD at this important bridging point across the Thames, forming the main route from London to the west of the province. The early settlement flourished, with expansion in the 2nd century AD, followed by a hiatus and apparent contraction in the late 2nd/early 3rd centuries, occupation continuing to the end of the Roman period. Much of the land to the north of the main road formed areas of refuse disposal and small-holdings, with probable animal corralling and grazing, the latter extending into the rich meadowland bordering the north side of the gravel island on which the town was built. The single building for which evidence was recovered corresponds with the 2nd century phase of expansion. The basic economy of the town seems to have remained much the same throughout the Romano-British period, with most foodstuffs being brought in from the surrounding area. Post-Roman activity was negligible until the 12th century, with a subsequent concentration in the eastern half of the main gravel island. Here, burgrave plots – small-holdings, some used for horticultural purposes, others for storage/stabling and the keeping of animals – extending on

to the water-meadows to the north, were established at right-angles to the course followed by the current High Street.

(Note: the tables referred to in the text are available on the Archaeology Data Service website: see *Endnote*)

Background

SITE LOCATION

Staines is centred on one of a series of low lying gravel ‘islands’ within the flood plain of the middle Thames valley, situated on the north bank of the river Thames at its confluence with the braided tributary channels of the rivers Colne and Wraysbury (fig 1). The total area covered by the archaeological investigations occupied a c 9ha area to the north of Staines High Street (centred at NGR 503450 171750), bounded by the railway line, the Wraysbury river and the High Street (fig 2). A substantial proportion of the land had formerly been occupied by the Central Trading Estate, together with properties along both sides of the former Norris Road at the east end of the High Street and between 32–42 High Street and land bounding other High Street properties.

PROJECT BACKGROUND

In July 1996, Wessex Archaeology was commissioned by MEPC UK Ltd, through their archaeological consultants CgMs Consulting Ltd, to undertake the first in a programme of archaeological investigations at the site. Subsequent phases of the programme, totalling ten in all, were undertaken each year, the final excavations being completed in May 2000. The investigations were occasioned by two major redevelopment projects by MEPC UK Ltd, known as Two Rivers – covering the old Central Trading Estate and Norris Road areas – and the Tilly’s Lane development encompassing land along and to the rear of the High Street. Both development sites comprised numerous properties under various ownership or occupation (fig 2). The complex process of land acquisition, securing vacant possession, demolition and construction, dictated the sequence and programme of archaeological work and the areas available for investigation at any one time.

Methods

ON-SITE INVESTIGATIONS

Engineering borehole surveys (Soil Mechanics 1996) had been undertaken on behalf of the client prior to commencement of the archaeological investigations. The results were a factor in the location of the archaeological trenches and formed part of the suite of data used for the geotopographic analysis.

The archaeological investigations at Two Rivers commenced with two phases of evaluation by machine excavated trial trenches and test pits – Tr 1–18 in July 1996, and Tr 19–29 between October and November 1996 (fig 2) – each being located in accordance with the layout given in the specification (Chadwick 1996). The aim of the evaluations was to characterize the geotopography and the archaeological potential of the site; consequently the first phase included a geosedimentological study (Bates & Pine 1996) of the gravels and sedimentary sequences exposed within the test pits. Soil samples were retained by Geoarchaeological Service Facility (Kubiena and monolith) and Wessex Archaeology (bulk and contiguous column) from deposit sequences which appeared to contain the greatest potential for palaeoenvironmental data recovery.

Three phases of excavation followed, the location of trenches being based on the areas of high archaeological potential indicated by the evaluation results and the desk-based

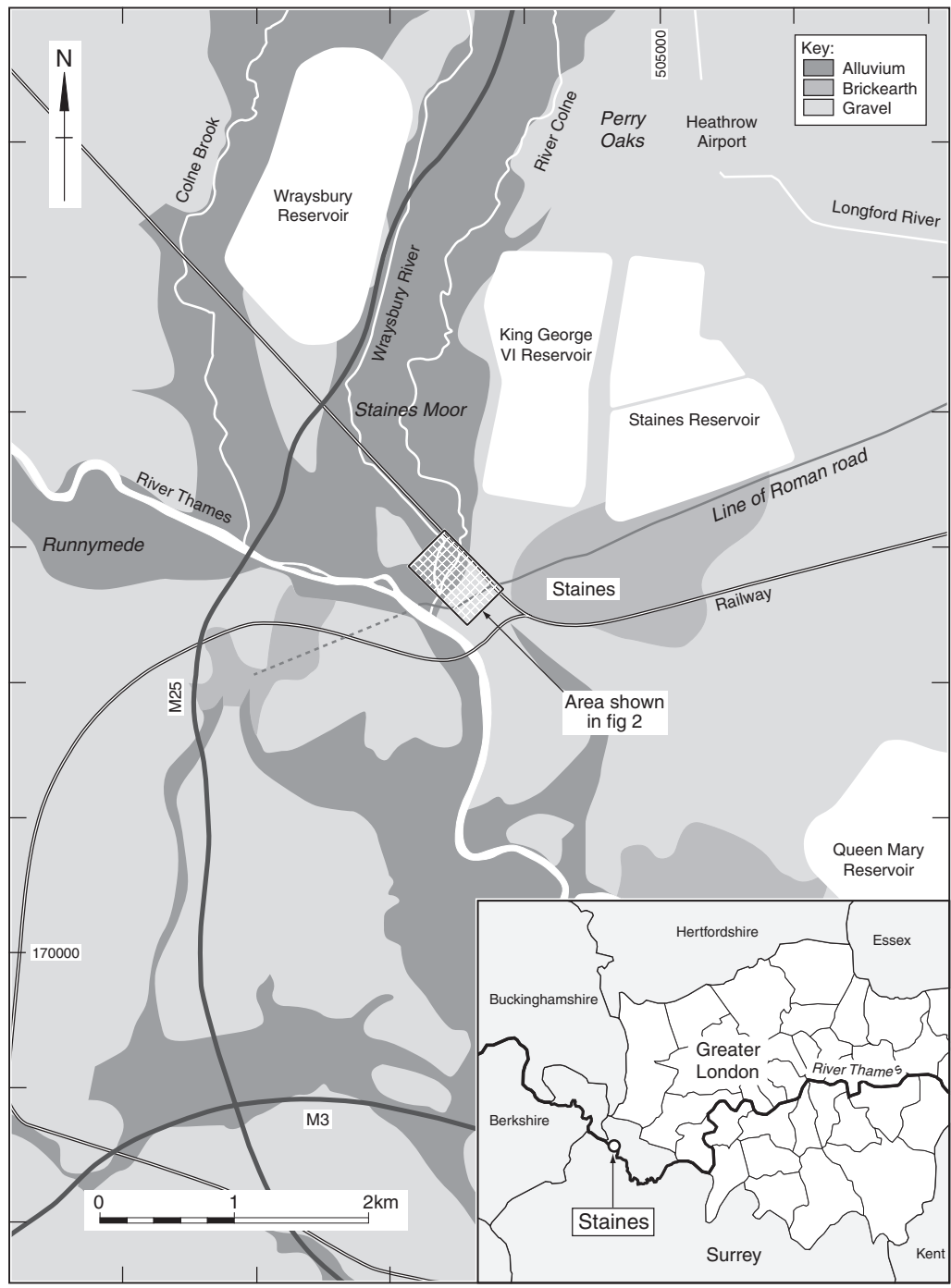


Fig 1 Staines. Location plan. (© Crown Copyright. NC/2004/33611)

assessment undertaken by the Surrey County Archaeological Unit (Jones 1996). Area 1 and the northern half of Area 2 were excavated between April and July 1997; the southern, High Street portion of Area 2 between April and June 1998; and the central portion of Area 2 and pile cap locations a–m between August and October 1998 (fig 2).

The Tilly's Lane programme included two stages of evaluation (Tr 30 in May 1997 and Tr 31 in December 1998), the results from which, together with those from the desk-based assessment of the High Street (Chadwick 1997), were used to highlight areas for excavation. Two stages of excavation were undertaken: Area 3 between April and June 1999, and Areas 4 and 5 between February and May 2000. A borehole survey (seventeen boreholes) between Areas 3 and 4, to provide information on the geotopographic profiles, was carried out between September and October 1999 (fig 2).

Assessment reports of the results from each stage of the archaeological investigations were produced (Wessex Archaeology 1996a and b; 1997a and b; 1998a; 1999a, b and c; 2000) and are retained in the archive.

AIMS OF POST-EXCAVATION ANALYSIS AND PUBLICATION

In their vision for the future of Roman small town studies, Burnham & Wachter (1990, 323) suggested that 'more time and effort should be put into recreating the whole urban topography and environment [...] most urgently needed here is a series of representative waterlogged deposits, which may yield evidence for the local vegetation cover' and that the 'aim of every excavator should be the total restoration of the visual appearance, the function, the people and their environment in every small town.'

The wide area covered by the investigations, the diversity of geotopography and nature of the archaeological evidence, led to the view that the current publication should consider principally the interaction of human populations with the landscape throughout the represented periods in this part of Staines; to this end it was decided to integrate all the relevant sources of data into a single narrative. While this does not represent the only way in which the data could be presented, it was felt, given the form and nature of the archaeological evidence in this instance, to be most appropriate, and going some way towards fulfilling the aims set out by Burnham & Wachter (*ibid*).

POST-EXCAVATION ANALYSES

A total of 3639 contexts was recorded, 1188 drawings were made, 267 films used, 395 objects recovered and 395 samples of various types were taken. The basic quantification of all recovered finds is presented in table 1.

There was a very high level of residuality of Romano-British material in both Romano-British deposits of a later date than the material itself and in all subsequent phases, occasionally to the exclusion of finds pertaining to the date of the individual feature; for example, 35% of all Romano-British sherds were found in medieval or later contexts. Consequently, careful consideration of the stratigraphic sequence was essential. Six major phases of activity were distinguished: prehistoric, Middle/Late Bronze Age (1500–700BC); early Romano-British (Phase I; 1st–early 2nd century AD); 2nd century AD (Phase II; AD120–200); late Romano-British (Phase III; late 3rd–4th century AD); medieval (11th–14th century); and post-medieval and modern (AD1500 onwards).

All the pottery was scanned and spot dated to provided quantified information on broad ware types and vessel forms, with the sherds from medieval and later phases being more superficially scanned (table 2). No detailed fabric and form analysis was undertaken. A site-specific vessel form series was established to encompass all Romano-British vessels not belonging to widely traded fabric groups, but imports and regional wares were recorded using the well-known published corpora (tables 3 and 4). The proportions and percentages presented in the report are based on sherd count; estimates of the minimum number of vessels

were made using rim forms. The scope of analysis was limited by a number of factors including the nature of the surviving *in-situ* archaeology, which resulted in relatively little of the pottery being found in features or deposits directly related to the activities in which it was used, and the high level of residuality (see previous paragraph). As with all the other categories of data, the results from the pottery analysis were compared with contemporaneous material from other sites on a regional and local scale and in particular with other published data from sites within Staines – the pottery assemblage largely conforming to the patterns of ceramic supply already observed in the town (Crouch & Shanks 1984). However, no detailed information or data from the numerous unpublished sites within Staines (see *Archaeological background*, below; fig 3) was accessible at the time this report was being prepared.

The ceramic building material (CBM) was quantified by context, the fragments being grouped into brick/tile type by broad chronological period (tables 5 and 6). 'Brick' has been used to describe all types of Roman building brick and house/paving bricks of later periods. The thickness of the Roman bricks was used to assess the range of types present; fragments with two parallel surfaces and > 31mm thick were defined as bricks; broken pieces with two parallel surfaces < 30mm thick were defined as 'flat', most probably belong to *tegulae*; very broken pieces with no surviving surfaces, and one or two surfaces at right-angles were defined as 'featureless'. It was difficult to distinguish between the medieval and post-medieval material, the majority comprising roof tile of a type dating from c AD1250 onwards with very little change. Fabrics were not recorded.

Although many of the coins are worn and corroded, careful cleaning has made it possible to identify 67 fully and make a basic identification of a further ten. Using standard methodologies (Ravetz 1963; Harl 1996, 16–20; Reece 1996), the date was primarily used to demonstrate peaks and troughs in circulation – coin loss being a factor of the velocity of circulation (Reece 1991; 1995).

All other artefactual finds were catalogued and dated where possible, types recorded and parallels observed (table 1).

Human bone was recovered from eighteen contexts (table 7). Age was assessed from the stage of skeletal and tooth development, and length of immature diaphyses (Beek 1983; Bass 1987), and the patterns and degree of age-related changes (Brothwell 1972). Sex was ascertained from the sexually dimorphic traits of the skeleton (Buikstra & Ubelaker 1994).

The analysis of the medieval environmental data attempted to minimize the problem of contamination by selection from only those features containing no datable earlier material and from parts of the site where there was limited intrusion into underlying Romano-British deposits. It is possible, however, as demonstrated by some of the animal bone found to have distinctive Roman butchery marks (similar stray occurrences were found at Lincoln: Dobney *et al* 1996), that some apparently secure medieval assemblages may incorporate some redeposited Roman environmental material.

After flotation of the bulk samples, charcoal fragments (table 8), charred plant remains (tables 9 and 10), waterlogged plants (table 11) and mineralized plant microfossils (table 12) were selected for analysis. Charcoal samples were prepared for examination using standard methods (Gale & Cutler 2000) and the anatomical structures were matched to prepared reference slides. Where possible the maturity (ie heartwood/sapwood) of the wood was assessed and the number of growth rings recorded. The taxa identified are given in table 8; classification follows that of *Flora Europaea* (Tutin *et al* 1964–80). The samples containing charred plant remains were sub-sampled by the specialist (see tables 9 and 10 for volumes), and the crop and weed species identified were quantified (tables 9 and 10). The nomenclature of the non-cultivated species among the charred and waterlogged remains follows that of Stace (1997). Table 12 lists the mineralized plant macrofossils recovered from the flots and residues. Mineralized arthropod remains are also listed, although these have not been identified by an entomologist. Nomenclature and most of the habitat information is taken from Stace (1991).

Samples taken for molluscs were processed following standard methods (Evans 1972, 44–5). Snail shells were also present in a number of the bulk samples. The preservation and diversity

of shells from all the samples was assessed. The contiguous columns from one prehistoric and one late Romano-British channel were selected for full identification as being of greatest assistance in determining the local environment and formation processes related to the features (table 13).

Analysis of the animal bone consisted of a species count for all material, and a detailed examination of a selection of the most secure and representative Romano-British (2621 of 4503) and medieval (806 of 2283) contexts from each Area (table 14). All fragments were identified to species and element with the exception of ribs, vertebrae (other than axis, atlas and sacrum), unidentified shaft and other fragments of the ungulates which were identified only to the level of cattle/horse-sized and sheep/pig-sized; fragments which could not be assigned even to this level have been recorded as mammalian. Where possible, sheep and goat were separated according to Boessneck (1969) and Payne (1985). Recently broken bones were joined where possible and counted as single fragments. Tooth eruption and wear stages of cattle, sheep and pig were recorded following Grant (1982). Measurements generally follow von den Driesch (1976); domestic ungulate withers height calculations are based on factors recommended by von den Driesch & Boessneck (1974) and shoulder heights of dogs are calculated using the factors of Harcourt (1974).

Summaries of the data recovered within the individual areas of study are presented in tabulated form (tables 2–14). Further detail, where appropriate, and material derived from individual specialist discussions have been integrated within the text. Individual specialist reports are retained in the archive which is currently held by Wessex Archaeology (under site codes W1657 and W5931) prior to deposition at a suitable museum; digital copies are available on request.

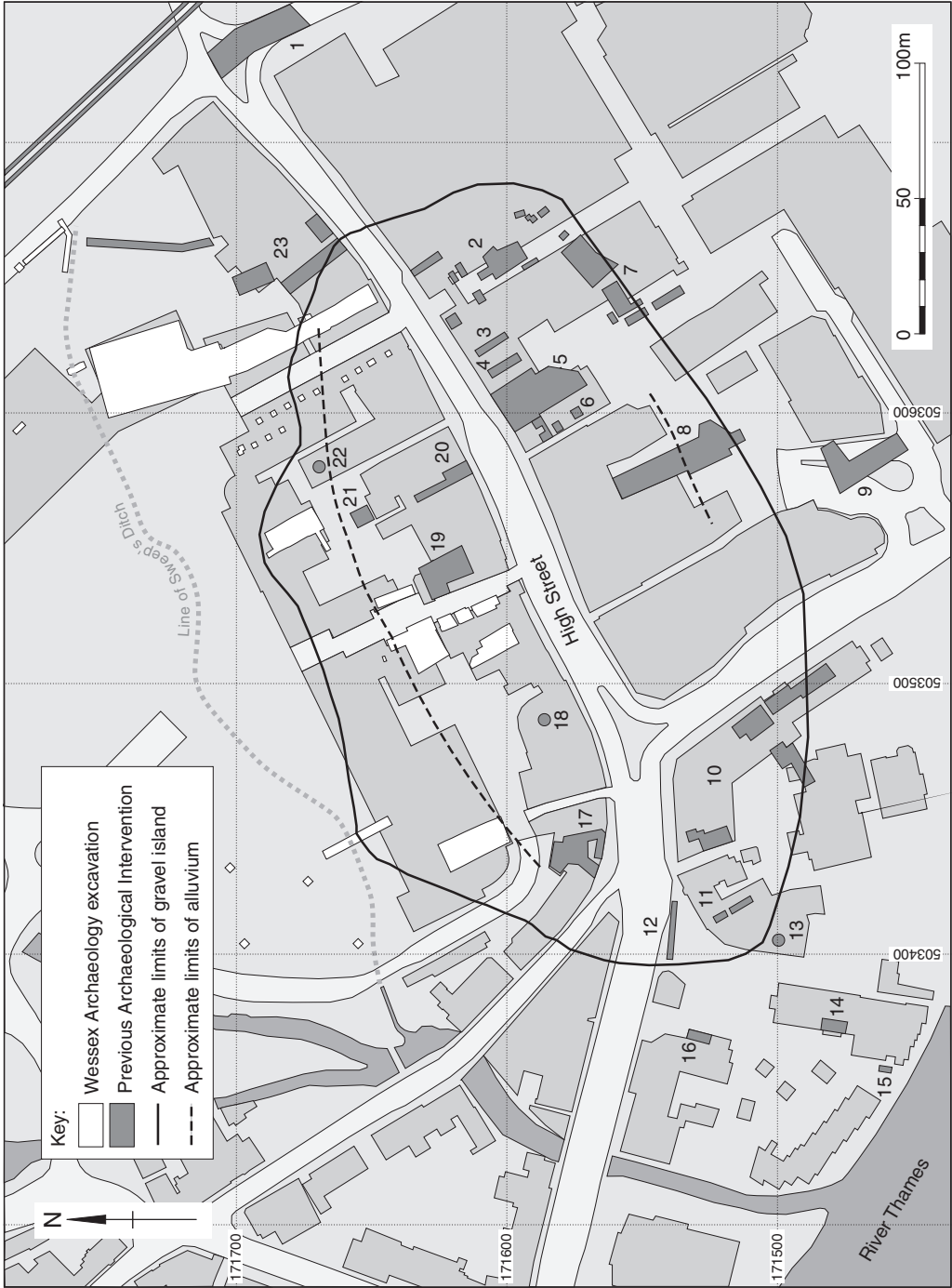
Evidence

ARCHAEOLOGICAL BACKGROUND

Since 1969 c 22 archaeological interventions – excluding the investigations presented here – have been made along or within the immediate vicinity of the High Street (fig 3; Crouch 1976; Crouch & Shanks 1984; Burnham & Wachter 1990; Bird *et al* 1990; Bird *et al* 1996). The results from two of the sites – Friends’ Burial Ground (Crouch 1976; fig 3, site 8) and Elmsleigh House (Crouch & Shanks 1984; fig 3, site 7) – have been published, both including some discussion of other sites. Burnham & Wachter (1990) make reference to at least six of the unpublished sites (fig 3, sites 1, 2, 5, 6, 10 and 11) and summaries of the seven excavations conducted in the late 1980s and 1990s may be found in the round-up of archaeology in Surrey as documented in the *Surrey Archaeological Collections* (Bird *et al* 1990; 1996; fig 3, sites 3, 4, 14, 16, 17, 19 and 23). The available data on the town centre sites, together with that for the numerous other archaeological interventions made within the confines of the present town assist in creating a broad impression of the area across a wide temporal sphere (Bird *et al* 1990, 210–11; 1991, 153–4; 1994, 207–8; 1996, 199–200; Jackson *et al* 1999, 231–2; Howe *et al* 2000, 193–6). No further detailed information or data from these unpublished sites was accessible at the time this report was being prepared.

Prehistoric

The evidence for prehistoric activity within the immediate area is limited. For much of the prehistoric period a large proportion of the Friends’ Burial Ground site (Crouch 1976; fig 3, site 8) was occupied by a wide east–west palaeochannel separating two small gravel islands. A few possible Neolithic and Bronze Age features together with an Iron Age pit were excavated on the southernmost of these islands, which was c 10m wide and bordered to the south by a second channel (Crouch 1976). All the prehistoric pottery from the excavation (325 sherds; Barrett 1984) was recovered from Romano-British features. Similarly, at



Elmsleigh House a small number (fifteen; fig 3, site 7) of struck flints were recovered from Roman and post-Roman features, which Jones (1976) thought could have been redeposited from adjacent deposits or have been imported from gravel workings elsewhere in the vicinity. Fragments of abraded prehistoric pottery and flint tools have been found at the north-east end of the High Street gravel island (fig 3, site 23), where a Bronze Age ditch and ‘burnt mound’ were situated at the north end of the excavations adjacent to a prehistoric palaeochannel (Jones 1989). A possible Iron Age feature was recorded at the west end of the island at 2–8 High Street (Chadwick 1997; fig 3, site 17).

There is far more extensive evidence for prehistoric activity within the wider vicinity. Church Lammas lies about 0.5km to the north-west of the site; investigations in the area have recovered worked flint of Late Glacial (John Lewis, pers comm) and Mesolithic date, redeposited Neolithic and Bronze Age pottery, small quantities of Middle Bronze Age flint and pot sherds in association with a rectangular enclosure, and a few pits of Middle Bronze Age and Early Iron Age date (Bird *et al* 1994, 207; Jackson *et al* 1999, 232). Slightly further to the north-west, c 1.2km from the site, lies the Neolithic causewayed enclosure at Staines Moor where a small amount of Bronze Age and Iron Age material was also recovered (Robertson-MacKay 1962; Robertson-MacKay *et al* 1981). Some 3.5km to the north-east of Staines, extensive settlement and prehistoric activity has been uncovered over the years in connection with the development of Heathrow airport (fig 1; Grimes 1960; Canham 1978; Grimes & Close-Brooks 1993). In the recent excavations at Perry Oaks (Barrett *et al* 2000; John Lewis, pers comm) there was evidence for human activity extending from the Mesolithic (pits), through a Neolithic monumental landscape and extensive Middle–Late Bronze Age settlement with field systems, the latter continuing into the Middle Iron Age with an associated settlement. East of the High Street, along London Road, numerous pits and Late Neolithic to Late Bronze Age pottery have been recovered in various investigations (Poulton 1999; Howe *et al* 2000, 194–6). Multi-period prehistoric sites have been found between Egham and Thorpe Lea to the south of Staines (Johnson 1975; Bird *et al* 1991), demonstrating the presence of settlements and small farms with continuity of land use from the Neolithic onwards. Runnymede lies 1.6km upstream (west) on the Thames (fig 1); here evidence was mainly for the extensive Late Bronze Age riverside settlement with its round and rectangular houses (Needham 1991).

The prehistoric landscape around Staines was undoubtedly rich and well populated, and that activity is likely to have extended onto the main gravel island on which the present town is centred, if only in a transient form. One possible reason for the apparent dearth of *in-situ* prehistoric activity within the area of the present town may have been the topography and

Fig 3 (opposite) Staines. Other archaeological investigations in Staines, limits of main gravel island and levels of alluvium. (© Crown Copyright. NC/2004/33611)

KEY:

- | | |
|--|---|
| 1 Mumford and Lobb. Excavated 1972. | 11 County Sports. Excavated 1981. |
| 2 Central Area Development. Excavated 1976/7. | 12 Market Square. Monitoring and salvage 1975. |
| 3 Lloyds Bank. Excavated 1992. | 13 Conservative Club. Excavated 1970. |
| 4 73–75 High Street. Excavated 1989. | 14 Town Hall. Excavation and monitoring 1993. |
| 5 Barclays Bank. Monitoring and salvage 1969. | 15 Day centre. Monitoring and salvage 1978. |
| 6 National Westminster Bank. Monitoring and salvage 1976. | 16 Market Square. Excavation and monitoring 1989. |
| 7 Elmsleigh House. Excavated 1974/5 (Crouch 1976) | 17 2–8 High Street. Excavation 1995. |
| 8 Friends’ Burial Ground site. Excavated 1975–6 (Crouch & Shanks 1984) | 18 Near the Angel Inn. Salvage findspot late 19th century. |
| 9 Thames Street. Excavated 1970. | 19 Abbey National. Monitoring and recording 1994. |
| 10 Johnson and Clarks. Excavation and monitoring 1970, 1979, 1985–6. | 20–21 Reeves, and Halifax Building Society. Excavations 1971. |
| | 22 Perrings. Excavation 1971 |
| | 23 Prudential. Excavations 1989. |

changes in water levels: rises in the latter may even have scoured away what may have comprised relatively flimsy evidence (Crouch 1996).

Romano-British

While the nature of activity within the prehistoric period may be somewhat elusive, the importance of the town in the Romano-British period is well documented – *Pontibus* ('at the bridges'; Rivet 1970, 76) being recorded initially in the Antonine Itinerary (*Iter VII*; Rivet 1970, 49) – and the archaeology investigated extensively. The majority of interventions have been made to the south of the High Street, which is thought to overlie the line of the Roman road running between London (*Londinium*) and Silchester (*Calleva*), with *Pontibus* lying *c.* 21 Roman miles from the former and *c.* 27 Roman miles from the latter (*ibid.*). A comprehensive overview of the evidence recovered up to the late 1980s is presented by Burnham & Wachter (1990, 306–10) and forms the basis for the following brief summary.

The origins of the town, although clearly inextricably linked with the bridging of the Thames along the main route west from London, are not fully understood. There is no conclusive evidence for early Romano-British activity 'let alone a fort' (*ibid.*), the fragment of helmet cheek-piece (Robinson 1976) recovered from one of the High Street sites (fig 3, site 5) being considered insufficient to support the premise of a military origin, however probable that may be (Frere 1975, 4–5; Rivet 1975, 113–14; Bird 1987, 166). The earliest evidence for Romano-British activity is from the second half of the 1st century, either late Neronian (AD54–68) or early Flavian (AD69–96).

The position of the bridge or bridges is unknown, but the Thames bridging point has been assumed to be within the same area as the later medieval bridge which crossed the river just south of its junction with the Colne at the south end of the market square (Crouch 1976, fig 2). Interventions in the area of the market square over the last two decades have failed to find supporting evidence in the form of an approach road or indications of a bridge. Work in 1989 (fig 3, site 16) revealed evidence of an east–west channel feeding into the Colne and there is further evidence to suggest the continued existence of the southernmost of the channels noted in the prehistoric period at the Friends' Burial Ground site (Crouch & Shanks 1984; fig 3, site 8), or at least a successor to it. Other excavations (fig 3, sites 8, 10, and 13–15) have found evidence for Roman 'river frontages', 'foreshores' or 'near foreshore' activity (Jones 1982; 1996; Chadwick 1997). The combined evidence indicates the existence of a channel along the southern margins of the island, possibly feeding into the Colne just above its confluence with the Thames (see 'flood line' marked on fig 2 in Crouch 1976).

The town appears to have followed a 'typical' ribbon development with no evidence of side streets or lanes, although a possible east–west or north–south road with roadside ditches (date uncertain) was observed in Thames Street (fig 3, site 9; Crouch 1976, 74), but this would have lain to the south of the channel bounding the southern margins of the gravel island (*ibid.*, fig 2).

Civilian activity expanded in the later 1st century with the construction of timber buildings (some with several rebuilds) along the south side of the road, which were replaced in the mid-2nd century by structures with flint and ragstone foundations. At the west end of the gravel island (fig 3, site 11), late 1st century roundhouses – suggestive of native influences – were succeeded by ovens and wells in the 2nd century. The prosperity of the town in the mid-2nd century is suggested by the presence of painted plaster walls and floors of *opus signinum* and clay in some structures (fig 3, sites 2 and 10), with the probable existence of mosaic floors being suggested by the recovery of tesserae. Elsewhere (site 5), a timber-framed building with a tiled roof, wattle-and-daub walls, and clay, chalk and gravel floors also had some associated painted wall plaster. One of the structures (site 12) may have burnt down but in the absence of similar evidence from other parts of the town this seems to indicate a relatively isolated house fire rather than a general conflagration – the former being a potentially common hazard with open fires and timber buildings. In the late 2nd to early 3rd centuries occupation appears to have reached a hiatus, with an intensification of seasonal flooding and indications

of a general phase of demolition (fig 3, site 8; Crouch & Shanks 1984; Bird *et al* 1990, 210). The succeeding late Romano-British occupation (late 3rd–4th century) appears to have been of a more dispersed nature, with simplified buildings (fig 3, sites 2 and 7) ‘probably outbuilding in the backlands’ (Burnham & Wachter 1990, 306–10). A house of beam-slot construction (site 7) appears to have been dismantled in the mid-4th century, an action seen as indicative of contraction of the settlement or a change of use (*ibid*).

Evidence from the north side of the High Street has been more limited. There is an unsubstantiated late 19th century reference to the existence of a bath house and tessellated pavement (Burnham & Wachter 1990, 306–10; fig 3, site 18). There was evidence for early 2nd century structures towards the street front at the east end of the High Street (site 23), with east–west boundary ditches and a river channel towards the north end of the site, but little indication of late Romano-British activity (Bird *et al* 1990, 210–11; Jones 1996). At the west end of the High Street there was evidence for some Romano-British structures from site 17 (fig 3; Jones 1996; Chadwick 1997), but no dates or details are currently available.

The artefactual evidence suggests a healthy early Romano-British (AD43–150) economy with a range of imports (Burnham & Wachter 1990, 306–10). Iron-working slag has been found at numerous sites to the south of the road but no *in-situ* evidence of metalworking. There is limited indication of other forms of industrial or manufacturing activity; a possible 2nd century pottery kiln was excavated in 1971 on the north side of the High Street (fig 3, site 3), but no details are yet available and it seems rather unusual that only six wasters were recovered (Crouch 1976). Evidence for butchered cattle bone and the proximity of meadowland has led to the suggestion that the town may have functioned as one of a number of centres for the cattle trade serving London (Bird 1996, 224), though this is likely to form only one of a number of potential functions which may have changed and developed over time (eg fort/let, road station, economic and/or possible administrative centre; Rivet 1970, 65; 1975, 113–14; Frere 1975, 4–5; Smith 1987, 241; Bird 1987, 166–9; 2000, 156 and 164).

Currently there is little evidence to indicate the location of the town’s cemetery(ies), though a few small burial groups have recently been found on the eastern approaches (Howe *et al* 2000, 194; 2001, 347–8), with occasional neonatal burials or redeposited fragments of human bone within the confines of the town itself (Crouch & Shanks 1984).

No known villas exist within the vicinity of Staines but there is extensive evidence for small settlements and farmsteads across the surrounding areas, particularly around Heathrow at Harlington, Cranford and Harmondsworth for example (Bird 2000), and at Thorpe Lea and Egham to the south (*ibid*).

Post-Roman and medieval

The documentary evidence for the Saxon and medieval history of Staines has been discussed in detail by Jones (1982). Periodic winter flooding still occurred, but the numerous watercourses surrounding the town were used to advantage, six mills being recorded on the manor in 1086 (*ibid* 188) including Hale Mill which lay within the area of land between the edge of the High Street island and the river Colne (fig 3).

In the late 4th and 5th centuries the south and west end of the High Street was progressively affected by major flooding (Crouch 1976; Jones 1982, 209; Burnham & Wachter 1990, 306–10). ‘Blackearth’ deposits reportedly developed on at least one site (Bird *et al* 1990; fig 3, site 4). Redeposited Saxon pottery was found in gullies on the southern margins of the town together with worn Romano-British material (Crouch 1976; Bird *et al* 1990, 210; Burnham & Wachter 1990, 306–10). Most of the Saxon and early medieval features found in excavation comprise those associated with the channel (or a version of it) running along the southern margins of the town (Jones 1982; fig 3, sites 2, 7, 8 and 10). Numerous late Saxon features have recently been revealed in excavations to the north-west of the site, opposite the parish church, which has been taken as indicative of a shift in focus away from the Roman town within the Saxon period (Jackson *et al* 1999, 232). A building and associated

features believed to be of Saxo-Norman date were found in the southern part of the Friends' Burial Ground site (Crouch & Shanks 1984).

Structural evidence from the early 13th century (fig 3, sites 10 and 11) provides further indication that occupation may have been concentrated towards the western half of the current High Street. Much of the Elmsleigh site (site 2) was used for arable cultivation throughout most of the medieval period to the 15th century (Crouch 1976), other features comprising only a few pits and gullies. Similarly, activity at the Friends' Burial Ground site (site 8) seems to have been limited to pits, ditches and wells (Crouch & Shanks 1984). At the far east end of the island (site 23) there were several dense concentrations of pits, east-west ditches and wells, with some evidence for buildings and a 'tethering ground' (Jones 1996). There appears to be little evidence for the development of property boundaries based on the line of the High Street (Jones 1982).

GEOTOPOGRAPHY AND PREHISTORIC ACTIVITY

The area within the confines of the site comprises a series of low-lying gravel islands intercut by braided water channels (fig 4). The two main areas of higher relief lay to the north-west between the Colne and Wraysbury rivers (figs 2 and 3, Area 1) and the south forming the main gravel island on which the town is centred (figs 2-4, Areas 2-5). Alluvial deposits were laid down in the corridors between the gravel islands in the Early Holocene.

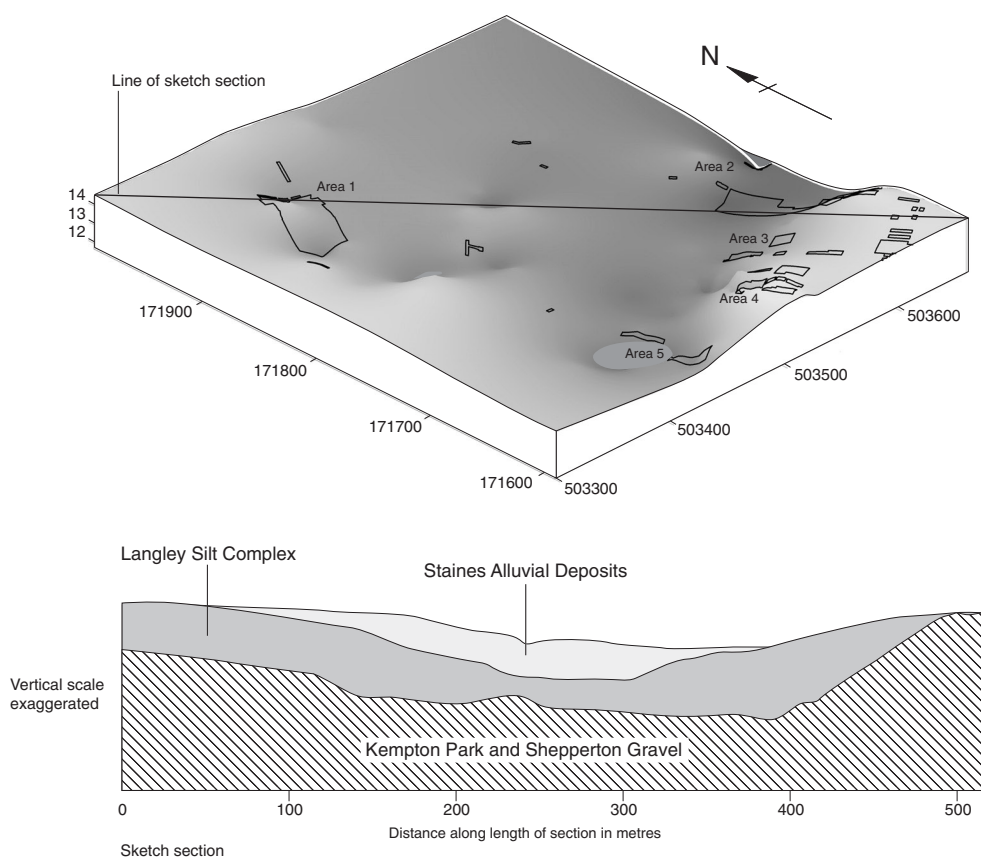


Fig 4 Staines. Geotopography.

It has long been recognized that factors which will have impacted on the nature and spread of human activity in the vicinity include the form and extent of the gravel islands – particularly the southern, High Street, island – and the condition of the adjacent flood plain, together with the extent and timing of flood incursions and alluviation. Previous archaeological investigations have defined the southern, eastern and western limits of the main gravel island, the presence of palaeochannels on the southern margins, and the broad timing and extent of alluviation (see *Archaeological background*, above). One of the aims of the programme of archaeological works reported here was to investigate the form, nature and extent of the main gravel island to the north of the High Street and those islands known to exist to the north, and the timing and impact of alluviation across these northern zones, thereby providing a complete view of the geotopography of the area in and around the town.

Geotopography

The Staines environs is mapped as Kempton Park or Upper Floodplain Gravel, comprising sand and river gravel. The upper part of the formation, which also includes organic material, ended *c* 34,000–30,000 BP (Middle Devensian; Gibbard 1985, 62), making it younger than the Taplow Gravels. The Kempton Park Gravels cannot confidently be distinguished from the Shepperton Gravels because of the Colne confluence (Gibbard 1985, 67), and nearer to the Thames corridor they may more properly be ascribed to the younger, Shepperton or ‘Lower Floodplain’ Gravel facies (Gibbard 1985, 70–8). These flood plain gravels overlie London Clay and are a result of flooding during the Late Devensian *c* 15,000–10,000 BP. The gravels are mantled by reddish-brown silty clays – the ‘brickearth’ of the ‘Langley Silt Complex’ (*sensu* Gibbard 1985, 57–62) – and a combined fluvial (overbank ‘flood-loam’) and aeolian/reworked loessic deposit (Gibbard 1974; 1977; Catt 1977) probably largely derived from the underlying London Clay by solifluction processes under periglacial conditions which incorporated sand and local gravel (Whitaker 1889, 397; Gibbard 1985, 65). Early Holocene alluvial deposits in the Staines area seem to occur exclusively over the Shepperton Gravels and lie within corridors between gravel islands; Gibbard (1985) labelled these ‘Staines Alluvial Deposits’ (SAD). These include sands deposited in medium-energy fluvial regimes, and localized peats towards the base (presumably prehistoric) which are related to slack water and fen or alder carr conditions, and tufaceous and calcareous marls.

The surface topography of the gravel provides the basic form of the earlier Holocene landscape (fig 4) comprising a low undulating surface, which rarely exceeds 15–16m OD (Area 1), cut by the Colne and Wraysbury rivers and a former watercourse following the northern margins of the main (southern) gravel island. The low surface relief was further diminished by earlier prehistoric alluviation and deposition of calcareous marls and tufaceous deposits (fig 4). While the main island generally appears to form an elongated oval, narrowing to the east and the west, the northern margins do not form an even sweep but a series of undulations (fig 3). Similarly, the profile of the island is far from uniform. Although the level of the gravel shows an overall drop to the north, east and west from a central high point of *c* 15m OD at the south end of Area 4 (fig 2) to *c* 12m OD on the north-eastern margin, it appears to do so not within a single gradual slope but as a series of natural ‘terraces’, the fall becoming progressively slightly steeper to the north. Other slight variations across the surface may be indicative of natural hollows in the gravel or the remnants of small palaeochannels. The recorded height of the gravel towards the street frontage may have been reduced by subsequent human activity, particularly towards the centre of the island. Little or no soils, sediments or archaeological layers survived over the gravel along the street front, archaeological features cutting the gravel being exposed immediately below the post-medieval/modern overburden in all but the south-east corner of Area 2 (gravel height *c* 14.7m OD). The level of the gravel in the Elmsleigh House excavations (Crouch 1976) – on the south-east margins of the gravel island (fig 3, site 7) – was 12.04m OD, which corresponds closely with the island margin levels to the north (no other levels are currently available for south of the road).

The Holocene evolution of the Thames in London has been subject to detailed study (Sidell *et al* 2000). Here the river is recorded as having evolved from a braided system to a single, meandering channel in the Upper Palaeolithic/Mesolithic, and to a tidal river in the Neolithic/Bronze Age, with contraction in the width of the channel but no apparent change in river level. The tidal head never extended beyond Thorney Island and the formation of the river islands was found to have occurred in the Neolithic (*ibid*). The changes recorded in the City both reflect and will have affected the nature of the river system at Staines. Early Holocene/Neolithic molluscan evidence from the Thames foreshore *c* 1.3km to the west (upstream) of Staines suggests a sizeable, slow-flowing river of bright water with localized dense weed and aquatic plants, and a clean, firm, muddy substrate (Kennard & Woodward 1906; Cooper 1907, 1922). However, records from slightly further downstream (Maitland Howard 1952), also on the south side of the river, suggest quiet backwaters among reeds and stones (Cooper 1924) and the accompanying fauna confirm well-vegetated swampy pools of clean, slow-flowing water.

Alluvium

The situation of Staines at the confluence of the Colne and the Wraysbury and, thereafter, the Thames, represents an area undoubtedly susceptible to seasonal flooding. More significantly, slight changes in the hydrology may have had minor, but significant effects upon the suitable use to which the land adjacent to the rivers could be put. Such effects may be caused by minor fluctuations in the climate or weather patterns, and as a result of clearance, tillage and modification upstream or possibly river-bank changes downstream.

The Holocene alluvium associated with the archaeological evidence of Romano-British activity – which seems to represent the upper part of the Staines Alluvial Deposits *sensu* Gibbard (1985) – is typically greenish to grey fine-grained silts, but no physical characteristics allow a distinction to be made between the pre- and post-Romano-British phases of alluviation, such differentiation being made solely on stratigraphic and archaeological grounds. The form of the alluvium does not indicate prolonged periods of deep water, nor massive inwashes of mud on floodwaters, but slight variations in the seasonal groundwater levels and local hydrology. The overall impression is of a water-meadow-type landscape. Flooding would have been more pronounced on the flood plain in the winter, with water levels extending to their highest and standing water lasting longer, and would have generally been measurable in centimetres rather than metres and lasted for weeks rather than months. It would have extended onto the edges of the higher, normally dry gravel islands and created areas of shallow still water – resulting in the deposition of thin layers of mud. After mixing of the mud by soil fauna, animals and human activity, perhaps incorporating some stones and artefactual material, by the following spring it would be unnoticed among the new vegetation. The increased nutrients introduced as a result of the flooding may have assisted in the production of healthy, fast-growing grass – of benefit to grazing cattle – and the growth of *Phragmites* reed beds. The further the floodwater from the source (ie the river) the less material it would have contained to be dropped as mud. So, on the fringes of flooding events, quantities of mud and alluvium may have been negligible and imperceptible. Consequently, the maximum extent of the alluviation which has been mapped (figs 3 and 4) does not equate to the maximum extent of flooding. Although the seasonal flooding in itself may have been minor and is unlikely to have driven people away, it probably had a significant effect on the use to which land on the northern margins of the island was put.

On the main High Street island pre-Romano-British and Romano-British surface deposits of alluvial material were observed across all of Areas 3 and 5, all but the southern quarter of Area 2 and the northern extension of Area 4 (figs 2 and 3). In general, those areas above 14m OD do not appear to have any deposits of alluvial material, though the potential removal of such deposits as the result of subsequent human activity in some areas cannot be ruled out (see above with reference to gravels). Alluvium was found at higher levels (15.35–15.40m

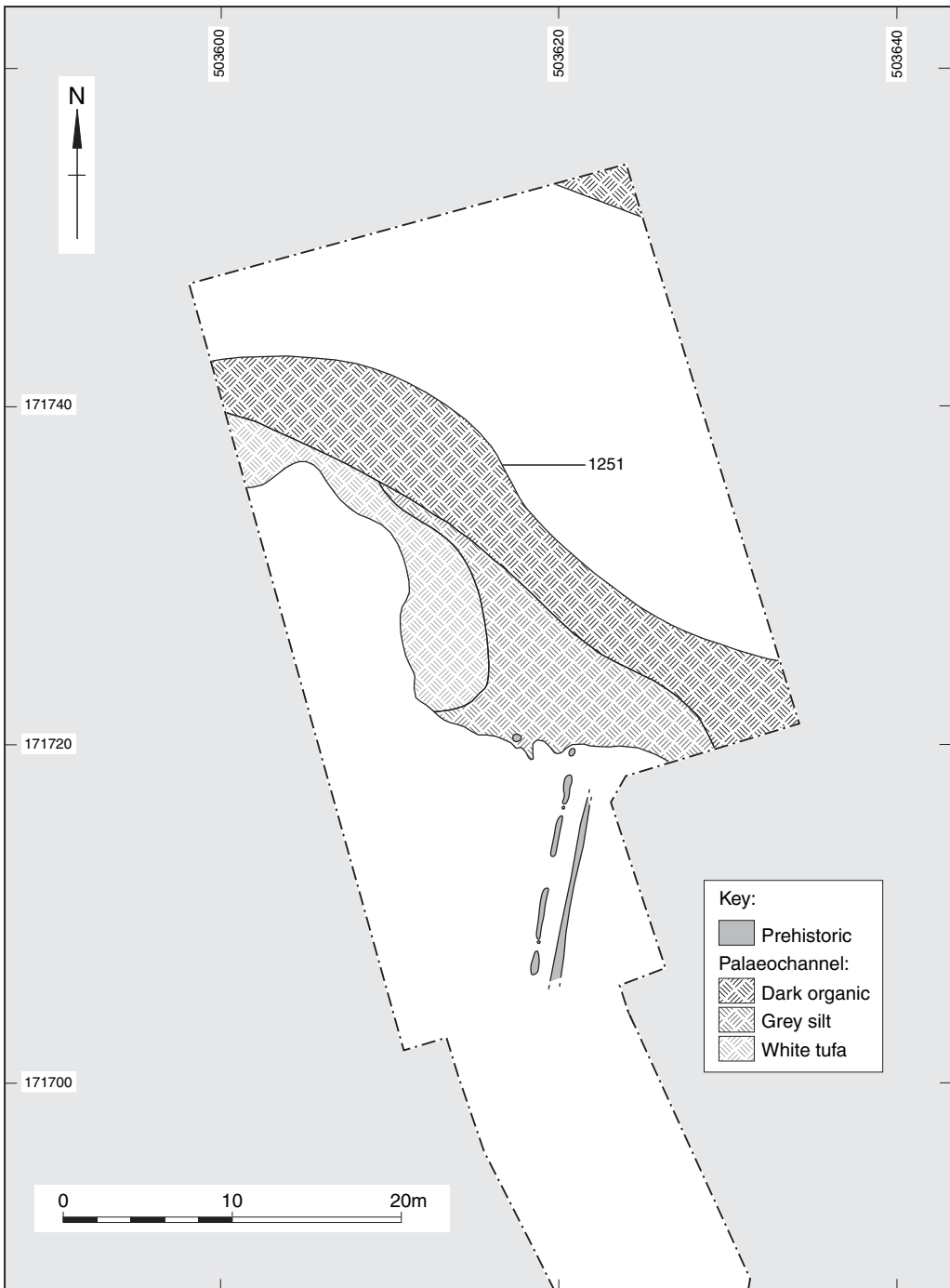


Fig 5 Staines. Area 2: northern half; prehistoric.

OD) along parts of the northern margins of the site and adjacent to the Colne, and on the topographic high between the Colne and the Wraysbury (14.57–15.38m OD, increasing to north) forming the north-western gravel island over which Area 1 was situated. Alluvial deposits were recorded up to 13.48m OD in the Elmsleigh House excavations (Crouch 1976) on the south-east margins of the main gravel island (fig 3, site 7), though whether this represents the highest extent of the alluvial deposits is unknown, other data currently being unavailable.

Prehistoric activity

At some stage in prehistory – most likely within the Neolithic or Bronze Age, ie sub-boreal/sub-Atlantic – the Colne followed a slightly more eastern course, as shown by the river terraces found in one of the evaluation trenches (Tr 26, fig 2), and it is likely that both rivers would at times have moved from their current courses. It is probable that throughout the prehistoric period, the area between the gravel islands was crossed by variously sized streams which periodically silted up to re-form along a slightly different route. The margins between the gravel islands and the surrounding lowland are likely to have provided a focus for such streams. The course of one such channel in Area 2 seems to have followed the contours of the main island, though set *c* 75m north of its approximate limits (figs 3–5).

Evidence for pre-Romano-British activity across the site is scant, though if, as is probable, much of that activity was of a transient nature or predominantly related to grazing, it is unlikely to have left much tangible evidence. There is also the strong possibility that ephemeral evidence may have been erased by subsequent natural and/or human activity. The limited dating evidence recovered for the prehistoric period is mainly Middle to Late Bronze Age (tables 1–4), with *in-situ* Middle (including Deverel-Rimbury type, some with finger-impressed cordons) and Late Bronze Age pottery from Areas 1, 4 and 5, and Late Bronze Age pottery redeposited in later features in Areas 2 and 4 (tables 2 and 4). The *in-situ* evidence suggests low-key agricultural activity and/or stock enclosures or grazing, mainly focused on the north-west gravel island (Area 1, figs 2 and 4) between the Colne and Wraysbury, from where over half the Bronze Age sherds were recovered. The greater amounts of pottery from this area compared with other parts of the site suggests that the focus of the settlement exploiting this land lay to the north or west, and a similar complex of features was recorded to the north-west at Church Lammas and Staines Moor (see *Archaeological background*, above). The water-meadow-type landscape suggested by the topographic and alluvial data would have been open, probably with small, dispersed shrubs but no overwhelming shade, and prone to minor seasonal fluctuations in the water levels. The higher, dry ground of the islands would have provided an ideal location from which to exploit the surrounding low-lying, rich summer meadowland. It is unlikely that there was any deliberate large-scale clearance of woodland or shrubs, though if the natural meadowland had been used for grazing as suspected, browsing by cattle may have curtailed the development of a more wooded landscape.

Several phases of activity were clearly represented by a series of boundary and enclosure ditches in Area 1 (fig 6), one enclosure (295) containing a few badly truncated internal features of unknown function (see fig 2 for the extent of post-medieval and modern intrusions). Several heavily truncated ditches and pits were also excavated in the south-western part of Area 4 (fig 7). None of these features contained archaeological components other than the few fragments of pottery mentioned above.

The date and nature of other potentially prehistoric features is even more tenuous, such as the small section of bank, apparently of Bronze Age date, constructed directly over the island gravel in the south-west corner of Area 5 (fig 8), which was subsequently sealed by at least two episodes of (Romano-British) alluviation. Several channels, some entirely natural (Area 2, fig 5) others, as in the case of those in Area 4 (fig 9), possibly partly modified – ie ‘canalized’ – by human activity, were recorded on the northern margins of the main gravel

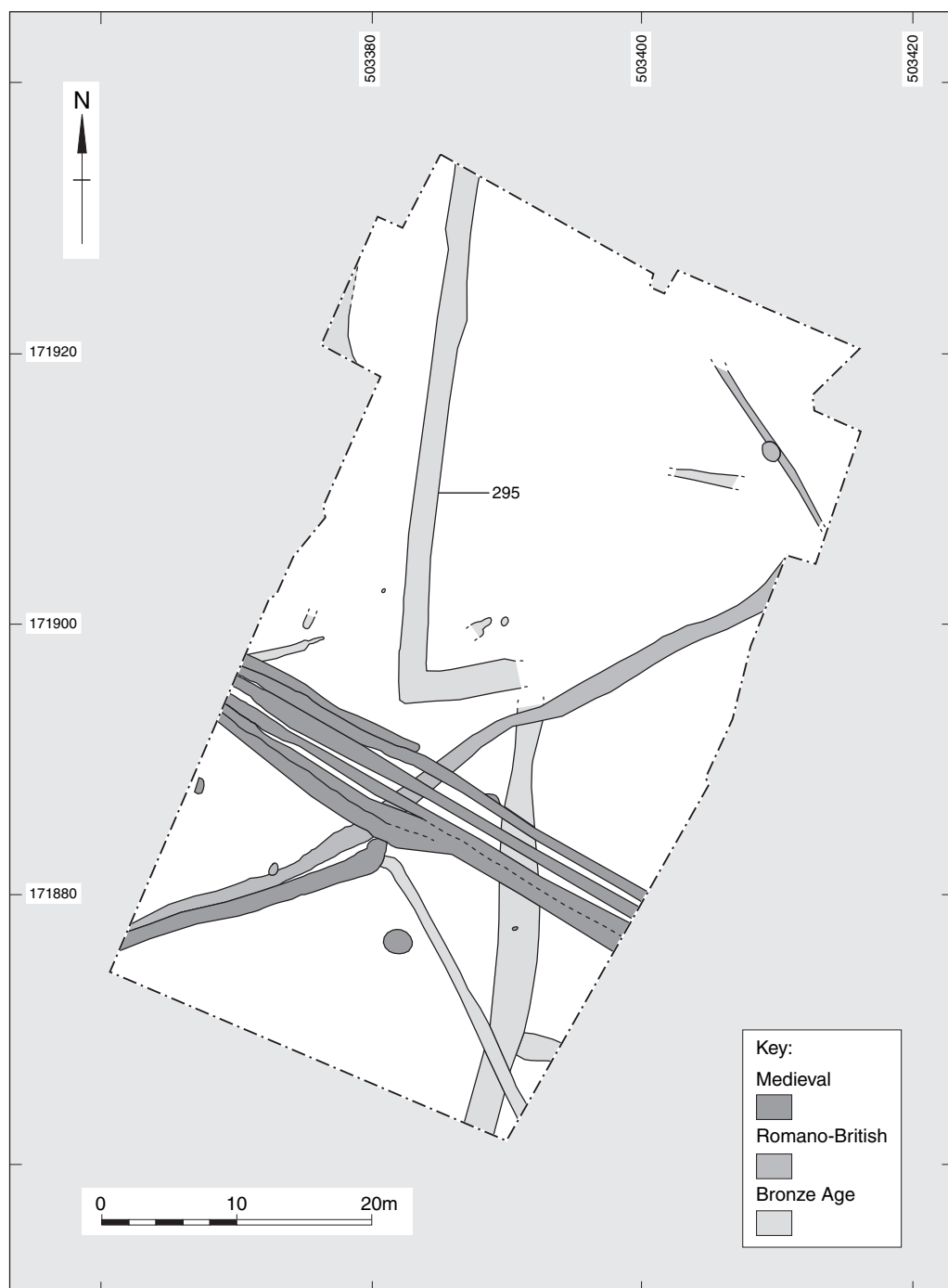


Fig 6 Staines. Area 1: all phases.

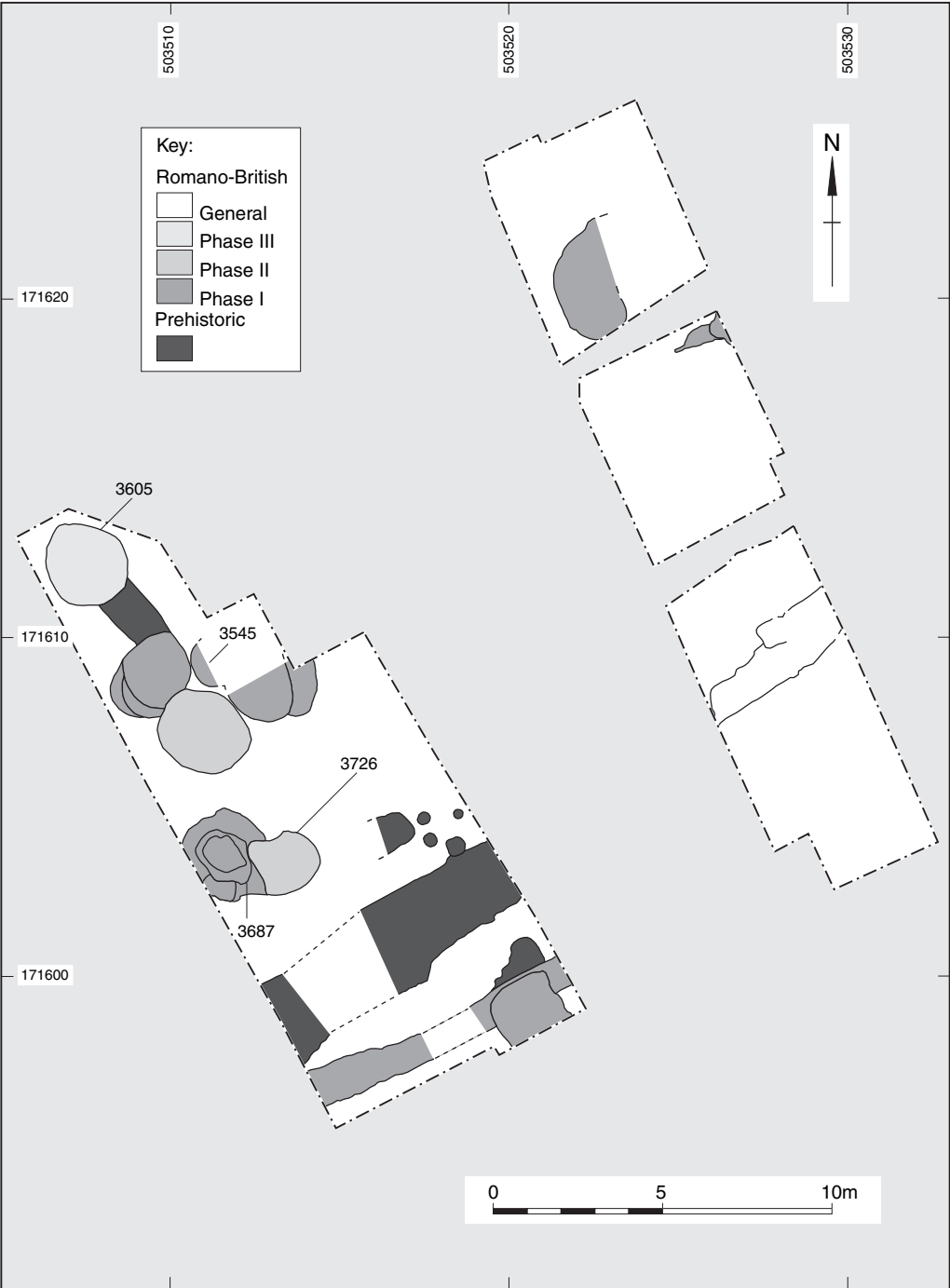


Fig 7 Staines. Area 4: south trenches, all phases.

island. In the absence of any artefactual evidence the dating of these features is not clear, but given the exceptionally high level of residual Romano-British material recovered from all 2nd century AD and later features on the site (see above), the channels in Area 4 have been assumed to be prehistoric, though it is possible that the later of the two could still have been open in the Romano-British Phase I (both were badly disturbed by modern intrusions, see fig 2). The palaeochannels in Area 2 had cut through $\approx 0.7\text{m}$ of alluvium into the underlying sand and gravels (at $\approx 12.7\text{m}$ OD) and were sealed by $\approx 0.6\text{m}$ of later alluvium (upper level at 14m OD). Romano-British Phase I features had been cut through the alluvial deposits sealing the palaeochannels suggesting the latter were either prehistoric – possibly Bronze Age – or, had the alluvium above them formed rapidly over a short period, it is possible that they could be Late Iron Age or even mid-1st century AD in date. The only finds

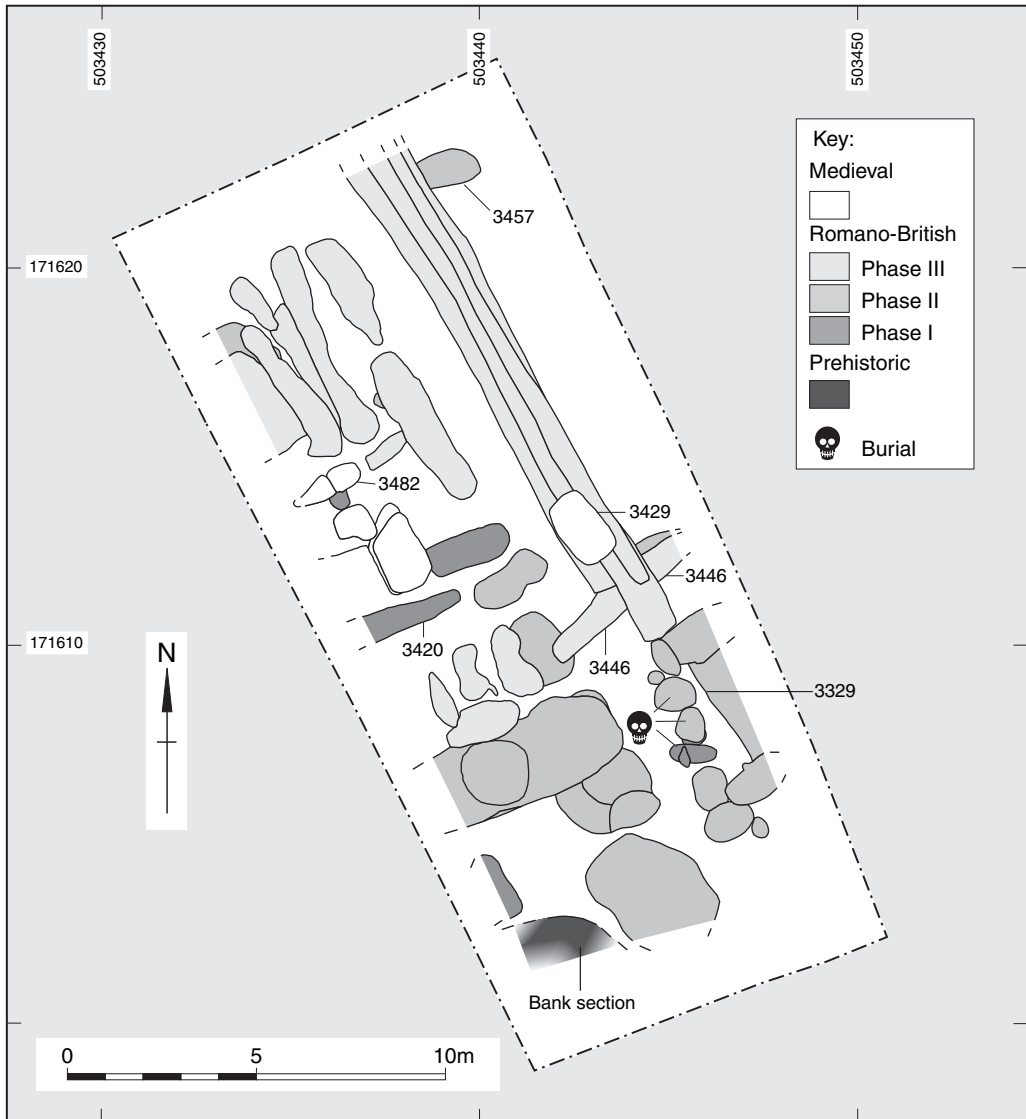


Fig 8 Staines. Area 5: all phases.

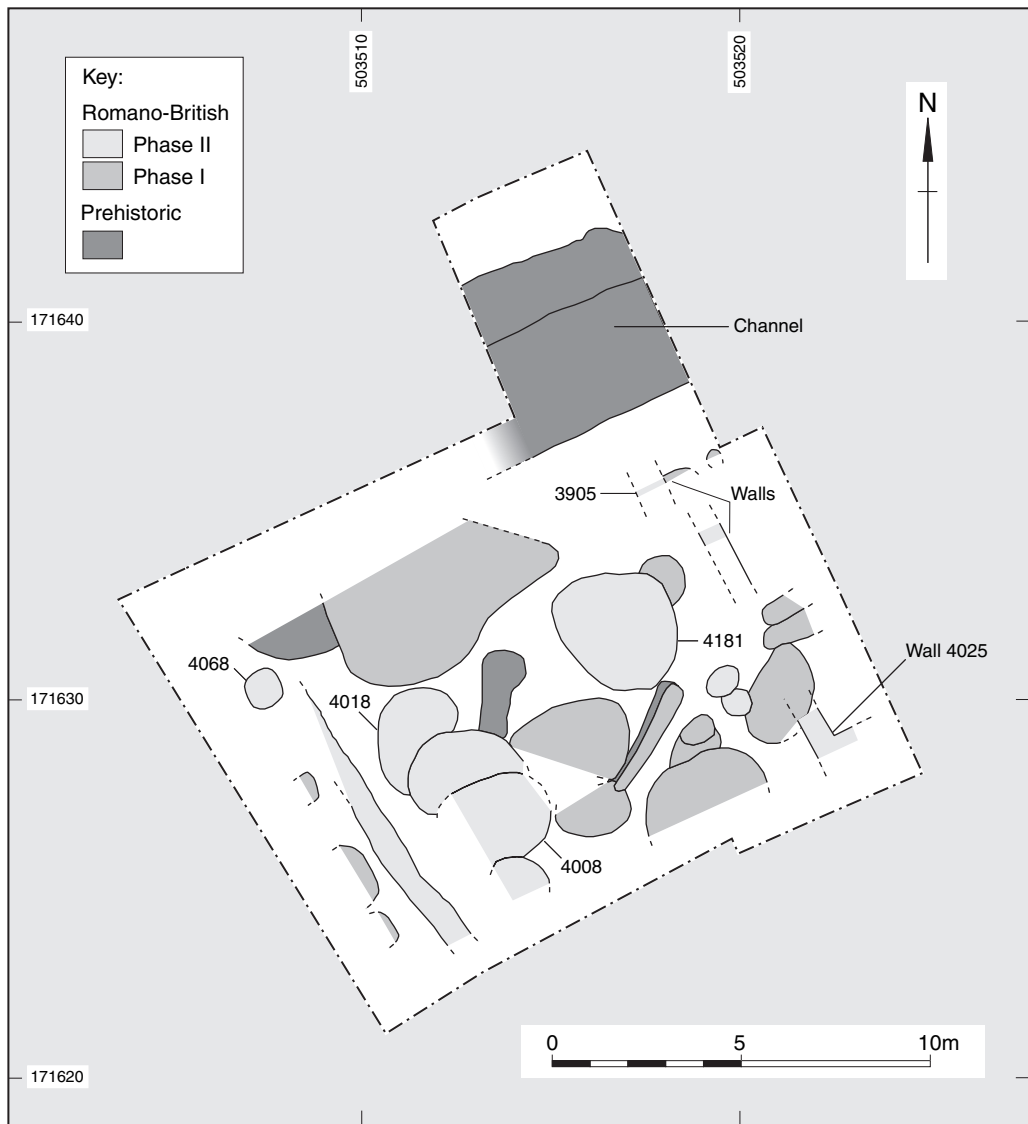


Fig 9 Staines. Area 4: north trench; prehistoric, Romano-British Phases I and II.

recovered comprised a few undiagnostic struck flints and fragments of animal bone, including a single fragment of red deer bone derived from a large animal, which is typical of prehistoric and early historic material (table 14). The main channel in Area 2 (1251, fig 5) was deeper and had a clear profile at its north end in comparison with the shallower and less well defined southern portion, and had clearly migrated from east to west, with tufa at its base and rich organic clays towards the top. It contained largely aquatic molluscan fauna indicative of a relatively large body of water, initially comprising well oxygenated, slow-flowing bright water, with rich vegetation and a muddy substrate, and swampy margins or flood plain (table 13). Subsequently it became less species rich, probably slower flowing, with the grassy and marshy edge habitats becoming more significant, indicating shallowing of the channel and invasion of marsh. The mollusc assemblages are not those seen in early Holocene environs (Kennard

& Woodward 1906; Cooper 1907; 1922), but are fairly typical of the later prehistoric alluvium recorded in the area (Maitland Howard 1952).

A few features – a pit, a posthole and linear features – of unknown function were excavated at the north ends of Areas 2 and 4 (figs 5 and 9) which were tentatively placed in the prehistoric phase on stratigraphic grounds and owing to the total absence of any artefactual evidence (see *Post-excavation analysis*, above). These features could pertain to the Bronze Age, Late Iron Age or even the very early Romano-British period, a date towards the latter end seeming most likely for those in Area 4. The narrow, parallel linear features in Area 2 (fig 5) were presumably related, and appear to lead off the gravel island towards the main palaeochannel (1251).

If the main gravel island was being used immediately prior to the inception of the Romano-British settlement, the associated activity left no detectable impact on the land and was probably of a transient nature, or – as seems likely in the Bronze Age – was related to grazing. The total absence of any domestic debris other than seven sherds of Iron Age pottery – all residual in Romano-British or later contexts in Area 1 and the central part of Area 2 – suggests there was no settlement in the immediate vicinity of the site. The only other find dated to this period is a single coin, a south-western gold quarter stater issued from the early to mid-1st century BC, recovered from the Romano-British Phase III alluvial deposits at the north end of Area 2 together with a substantial number of Romano-British coins (table 1). The gold coin was well outside its usual distribution area and its owner either careless or unlucky to have dropped such a valuable item unnoticed; alternatively it may have formed a deliberate deposit, a votive offering made at the river crossing – a practice observed elsewhere in the pre-Roman Iron Age (Haselgrove 1996). No features or deposits could be confidently dated to this period (see above, this section). A few sherds of grog-, organic- and calcareous-tempered pottery, which may belong to the first half of the 1st century AD, were recovered from three of the pits at the base of the stratigraphic sequence in the south-east corner of Area 2 (fig 10). The sherds may be residual, or show a continuation in use of such wares for a short time, or be indicative of pre-conquest activity.

ROMANO-BRITISH OCCUPATION

The Romano-British activity on site was divided into three phases (see *Post-excavation analysis*, above). The date range for the early phase (Phase I) corresponds fairly closely with the standard dates for the early Romano-British period but those for Phase II, at AD120–200, do not fit comfortably with the standard of AD150–250 for the mid-Romano-British period and consequently the phase has not been addressed in this way. The late Romano-British Phase III follows the standard range of AD250–410. One of the aims of analysis was to separate the various data assemblages into the three Romano-British phases to allow temporal and geographic variations across the site to be assessed. However, with certain data types, including the ceramic building material (table 5) and animal bone (table 14), the groups created for the individual phases were too small to be statistically viable. The materials themselves could not be closely dated and phasing within the overall period has been by association and stratigraphic location – consequently many of the deposits could not confidently be assigned a closer date than ‘Romano-British’. The high degree of residuality which clearly existed from the 2nd century onwards also affected the confidence with which the less diagnostic material types could be attributed to a particular phase. Consequently, although information and discussion pertaining to some categories of data is presented in the Phase I section, it may also relate to the later Romano-British phases.

The landscape which would have greeted those who were to establish the settlement of *Pontibus* will have been one of low relief, with a lush vegetation cover against the backdrop of the broad, bright river Thames being fed from the west end of the main gravel island by the Colne and Wraysbury rivers. Successive alluvial deposits throughout the prehistoric period over the seasonally flooded low-lying areas between the islands would, to some degree, have

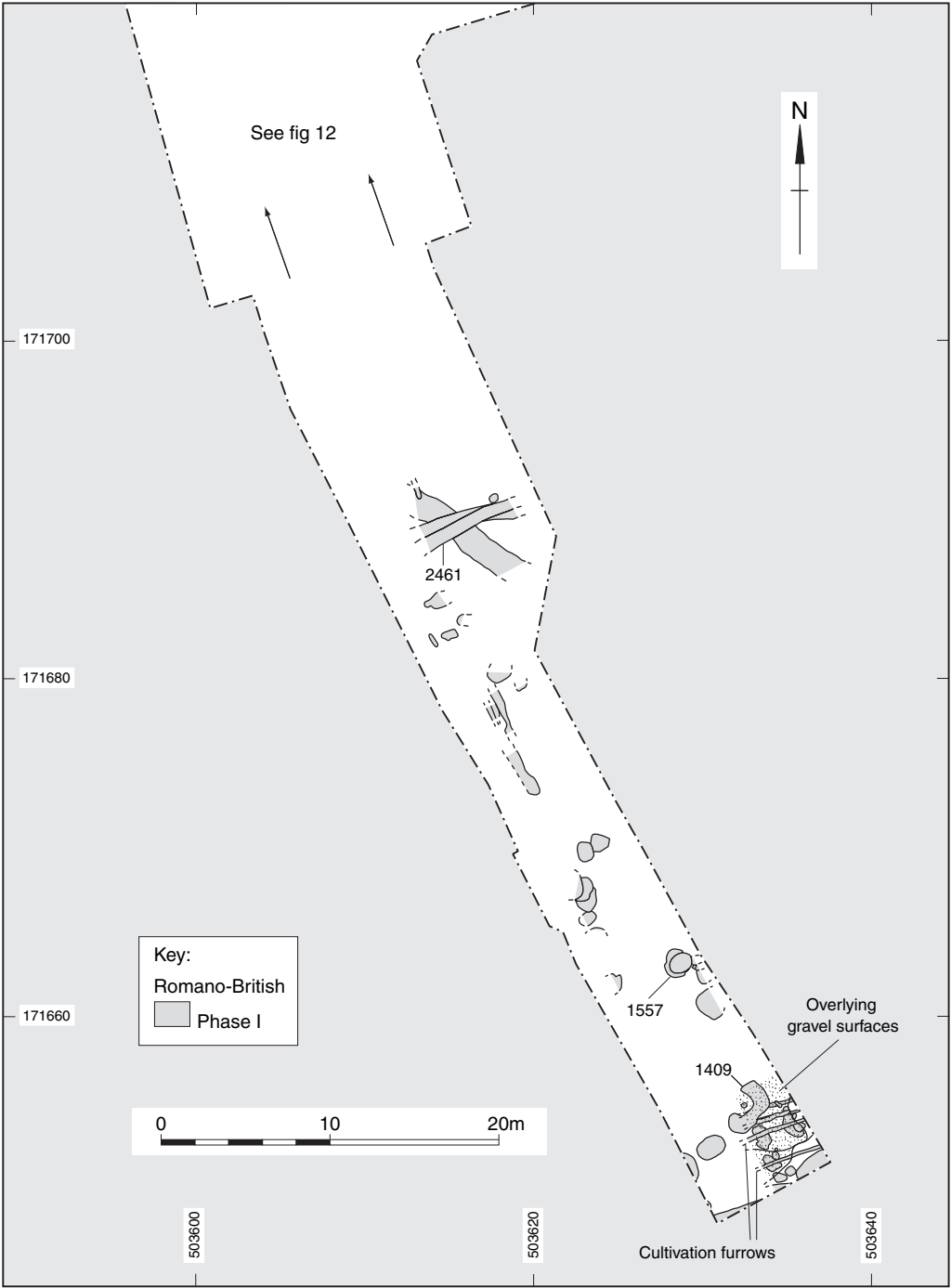


Fig 10 Staines. Area 2: south half; Romano-British Phase I.

lessened the already low relief described above, with an increase of up to a metre in the level of the ground surface in places. The gravel island forming what was to become the focus of the Roman settlement would have offered an east–west stretch of land, the majority of which remained dry throughout most years (fig 3), extending close to the bank of the Thames. The generally open landscape, incorporating a mosaic of soil conditions, would have supported a range of species. A variety of shrubs – alder in the low wetlands between the islands, holly, hawthorn and blackthorn on the higher sandy or drier loams, and hazel and heather in the open areas, together with wild food species including bramble, dog rose, sloe, wild plum and elder – would have been scattered between single specimens or small stands of larger trees including willow and poplar in the low-lying areas, oak and birch on the damp island margins or acidic soils, and elm and beech on the higher ground (table 10). Although there were slight progressive changes throughout the Romano-British period associated with the periodic seasonal flooding and alluviation, and eventual ‘reclamation’ of parts of the wetland, there appears to have been little change in the vegetation over time with any visible variations between the phases lying in how the landscape was manipulated and exploited (tables 8–12).

The majority of the surviving *in-situ* features and deposits within the site comprised pits and ditches, the former largely towards the south or roadside areas of the main gravel island, and the latter towards the north or island margins and on the north-west island (Area 1). These features not only inform on the land use to the north of the road but their contents provide information with reference to the economy of the town, and the wealth and status (real or aspired to) of the inhabitants. As the pits were mostly used for refuse disposal, their contents reflect the time-scale over which they were used. It is, however, difficult to define their period of use since their fills tend to relate to the phase in which they fell out of use, rather than that in which they were functioning.

The absence of *in-situ* evidence for buildings in all except Phase II could present a misleading impression. Box-frame timber buildings may leave little or no trace of their existence – avoiding putting timbers in the ground so they would not rot – as, for example, at Sipson to the north-east (Bird 2000). The high degree of subsequent disturbance, particularly along the street-front areas (fig 2), may have obliterated insubstantial negative features or surfaces. Large quantities of Romano-British ceramic building material were recovered, mostly redeposited within pits and ditches across all areas of the site except Area 1 (tables 5 and 6). All the material (excluding tesserae) consists of small fragments (table 5) of relatively fresh appearance suggesting it had not travelled far. Although there are slight variations in the proportions of the different brick and tile forms across the areas, this is insufficient to suggest demolition of adjacent buildings or the presence of specific types of building close to any particular part of the site.

Although all the pottery recovered in excavation had been deposited in pits and ditch fills together with other domestic debris, its crisp, unabraded condition and mean sherd weight of 18g, demonstrated it had not been subject to repeated redeposition. The percentage composition of the assemblage is broadly average for the Romano-British period (tables 2–4), with clear temporal peaks in quantity in Phases I and II.

There is a lack of distinguishing features within the animal bone assemblage which may reflect the nature of the town; a roadside settlement such as *Pontibus* might be expected to show intermediate features, probably containing the refuse from a mix of backgrounds including passing travellers (military and civilian) as well as the permanent inhabitants (of low and relatively high status) and intermittent visitors from the rural hinterland.

Early Romano-British; Phase I (1st–early 2nd centuries AD)

It is not yet known how closely the founding of *Pontibus* followed the commencement of Roman occupation in Britain. The establishment of a bridgehead across the Thames is commonly accepted as the probable starting point for the town, but when that occurred and how soon afterwards the settlement developed remains unclear. The ceramic and

numismatic data both indicate that occupation of the site commenced in the early part of the second half of the 1st century AD. The early town appears to have flourished, ideally positioned as it was to take advantage of passing trade between London and the west as it crossed the major barrier of the Thames via the newly erected bridge or bridges. The north side of the Roman road, at least within the confines of the site (fig 2), appears to have been used for 'marginal' activities at this stage, but there obviously were brick and tile structures, including some highly romanized buildings with hypocausts and tile roofs in the vicinity – though on which side of the road remains unclear. There is little direct evidence for arable agriculture, but the numerous small boundary ditches in the northern part of the main gravel island may be indicative of smallholdings for the cultivation of household crops and keeping of a few of the smaller domestic animals. The north-western gravel island (Area 1) was probably used as farmland throughout the Romano-British period, predominantly for keeping animals, with further grazing being provided by the rich meadowland between the islands. However, the bulk of the cereal crops and most of the cattle appear to have been brought in from the numerous farms in the local hinterland. The areas closest to the road were used for refuse disposal, perhaps serving households to the south of the road as well as any that may have existed on the north side. There was some very small-scale manufacturing of ceramic building material and smithing, with exploitation of local resources to provide the necessary high-temperature fuels for the latter, as well as building materials, domestic fuels and animal fodder/bedding. The periodic winter flooding of the lowlands is likely to have influenced the type of land use on the margins of the main island but to have had a limited effect on the main settlement, while enriching the meadowland for spring and summer grazing.

The earliest coins recovered – Claudian copies issued between AD41 and 64 (Area 2), an *as* of Vespasian issued between AD69 and 79 (Area 3) and a *denarius* of Domitian issued in AD81 (Area 4) – were all residual in much later deposits and could not be used as an indication as to which part of the site may have been occupied first. The earliest *in-situ* coin – one of only a few from a stratigraphically contemporaneous deposit – was a relatively unworn Trajanic *sestertius* (AD114–117; fig 11) from a pit in Area 4; but even here there is the ubiquitous problem of how long coins remained in circulation. The assemblage shows a peak for the site in the later 1st century, matched by the results from the other published coin reports from Staines (Hammerson 1976; 1984), with levels above the national average (Reece 1991; 1995) suggesting a high level of activity. The earliest datable pottery comprised South Gaulish samian ware (tables 3 and 4), most of which was Flavian (late 1st century) but including three small joining fragments from a pre-Flavian form 36 cup from two pits in the southern half of Area 2 (a medieval pit cutting a Romano-British one and presumably incorporating some of the latter's contents in its own fill). There were no imported pre-Flavian finewares in the assemblage, but from *c* AD60–70 onwards a restricted range of vessels was available, including Central Gaulish colour-coated wares (*c* AD70–120). None of the features contained more detailed divisions of datable ceramics which could be linked with the stratigraphic sequences.

Although no *in-situ* structural remains were found, the presence of numerous large fragments of ceramic building material in several Phases I contexts suggests that there were some buildings in the vicinity of the site at this time in which this material was being used (table 5). Box flue (*tubulus*) fragments, found in a general scatter across the main island but with most from Areas 2 (residual in medieval deposits) and 4 (Phases I and III), suggest there was at least one highly 'romanized' building with hypocausts constructed and/or remodelled or demolished during the Romano-British Phase I. The presence of *tegulae* and *imbrices* fragments indicate that several buildings – across all phases – must have supported tiled roofs. Overall, the Romano-British ceramic building material assemblage is dominated by *tegulae* and flat fragments (33% of Romano-British material) and brick (19%), with 9% being flue tiles. Bricks were produced in a variety of sizes to serve specific purposes (Brodrick 1987, 34–62) and all the common brick types (*ibid*, fig 1) are probably represented: *bessales* and *pedales*



Fig 11 Staines. Trajan sesterlius.

were most frequently used for hypocaust pillars; *lydion* for use in bonding or lacing courses in walls (*ibid.*, 34–7); *sesquipedalis* for flooring; and *bipedales*, the largest of all Roman bricks, to bridge the gaps above hypocaust pillars and arches.

The earliest definable evidence of activity was concentrated in the south-east corner of Area 2. Here, a number of Late Iron Age/Romano-British Phase I pits (see *Prehistoric activity*, above) were sealed by a c 0.19m-deep worked soil which was crossed by series of parallel, east–west, narrow linear features, interpreted as probable cultivation furrows (fig 10). These features comprise the most direct evidence for arable activity in the immediate vicinity. However, the majority of the features towards the northern margins of the main island and extending into the alluvial off-island deposits in Area 2 were ditches following either an east–west or north–south alignment – parallel or at right-angles to the line of the road (figs 7, 8, 10 and 12) – which probably represent the remains of land boundaries forming horticultural plots or compounds for a household’s domestic animals (see below, this section). The charred plant remains indicate that the site incorporated a mixed habitat of grassland, probably on the lower-lying island margins as well as the off-island meadowland areas, and arable or waste ground on the main island (tables 9 and 10). The potential arable use of some of these plots is further supported across the central part of Area 2 by indications of the working of some of the earlier alluvial deposits, including those apparently laid down during Phase I. The negligible quantities of pottery recovered from Area 1 – with an average mean sherd weight of 8g compared with the overall average of 18g for the site – and the relatively abraded condition of both the pottery and the ceramic building material, indicated the material had probably derived from compost used in manuring. The presence of an unphased enclosure and likely use of the surrounding meadowland suggest the north-western island was probably largely used for grazing (cattle being best suited) and possibly seasonal corralling of animals.

The agricultural function of the south end of Area 2 is likely to have been relatively short lived, the area subsequently being sealed by a surfaced yard, presumably associated with a building outside the area of excavation. The surfaces comprised two layers of gravel (fig 10) above and partly incorporating the remnants of a ‘cobbled’ area of medium-sized (c 20–80mm) gravel with ceramic building material inclusions. Immediately to the north of this surfaced area were several pits, some of which may originally have been used for storage, one pit (1557, fig 10) having two depressions in its base of an appropriate size to have held Dressel 20 amphorae and their contents. The latest of the surfaces was overlain by a series of burnt deposits (including 1510 and 1511 – not illustrated), the lower ones of which proved

to be the remnants of a dung/compost heap which had caught fire. Mineralized plant remains and millipede segments were indicative of the damp conditions seen within compost heaps (Carruthers 2000) and the charred plants were dominated by weeds, the interpretation of the deposit as compost being supported by the presence of henbane (tables 8–10). Charred remains from later deposits in the same area indicated domestic refuse including charred grain and burnt animal bone fragments.

Winter flooding of the type outlined above (see *Alluvium*) appears to have continued throughout much of Phase I, with alluvial deposits extending across the on-island Areas 3 and 4, and the central part of Area 2 – where it reached a (surviving) depth of 0.15–0.2m. The off-island ditch 1245 in Area 2 (fig 12) differs noticeably to the others on site in terms of its orientation and it may represent an early attempt at land drainage or control of the local hydrology. The ditch was cut 1.18m into the pre- and possibly Romano-British Phase I alluvium; the base had contained standing water for some time before being sealed by reworked alluvium with evidence for gleying and waterlogging, and subsequently by a deep (presumably relatively uninterrupted) alluvium infill. There is some evidence to suggest a slight increase in the extent and possibly the duration of flooding during parts of Phase I (see *Prehistoric activity*, above); whether this was caused by climatic variations – it is known that Britain became wetter at some stage during the Romano-British period – or human manipulation of the river-bank up- or downstream affecting the local hydrology, is unknown. Any slight variances in seasonal flooding may have affected the ecological regimes, altering or reducing the configuration of the reed beds and extending the period of standing shallow flood waters. Such changes may have hindered good grassland growth for early spring or summer cattle grazing in some years.

There is very little physical evidence for human activity extending off island; most of that within the on-island alluvial zone (fig 3) comprised the plots within boundary ditches where any occasional seasonal inundations would not have caused much, if any, disruption; the year-round disposal of refuse was largely confined to the main island areas beyond the apparent limits of alluviation, though the level of flood water could have extended further at times, possibly as far as the road in places. Some small attempt was obviously made to use the northern part of Area 2 subsequent to the infilling of ditch 1245, with several very shallow (0.15m) linear features probably linked to horticultural activity, but it was clearly not considered worthwhile to expend too much effort on this potentially unstable part of the site, leaving it instead to its natural and undoubtedly useful state as rich meadowland and reed beds. Environmental evidence shows that hay was being gathered locally in this period, presumably from these rich grasslands, to provide winter fodder and bedding for the settlement's animals.

Most of the excavated features towards the road are indicative of domestic refuse disposal taking place in and possibly on open ground away from areas of domestic occupation. The pits in Areas 2 and 4 form relatively dense, discrete concentrations situated within c 50m of the presumed course of the Roman road – for which there was no evidence in excavation, but a small ditch at the south end of Area 4 (fig 7) may represent a roadside boundary. Given the relatively restricted area of permanently dry land on the island (fig 3), it is possible that dwellings on the south side of the road – with limited space for (and currently little evidence of) refuse disposal at a tolerable distance from the dwellings – used land to the north of the road for the general dumping of debris. Alternatively, it is plausible that the land between the excavated areas may have been occupied by dwellings disposing of their rubbish on adjacent open areas. In either case, evidence for food waste and dung from many of the pits and some ditches suggests an area which would have attracted flies and vermin in the summer and, consequently, may not have been considered the most desirable residential location.

Evidence for industrial activity was scarce, clearly only small scale and the products sometimes unclear as, for example, with the industrial waste (fired clay and slag) among the domestic debris from at least one pit in Area 4 (3687, fig 7). The presence of ceramic building material production waste – overfired, sometimes warped and/or bloated fragments –

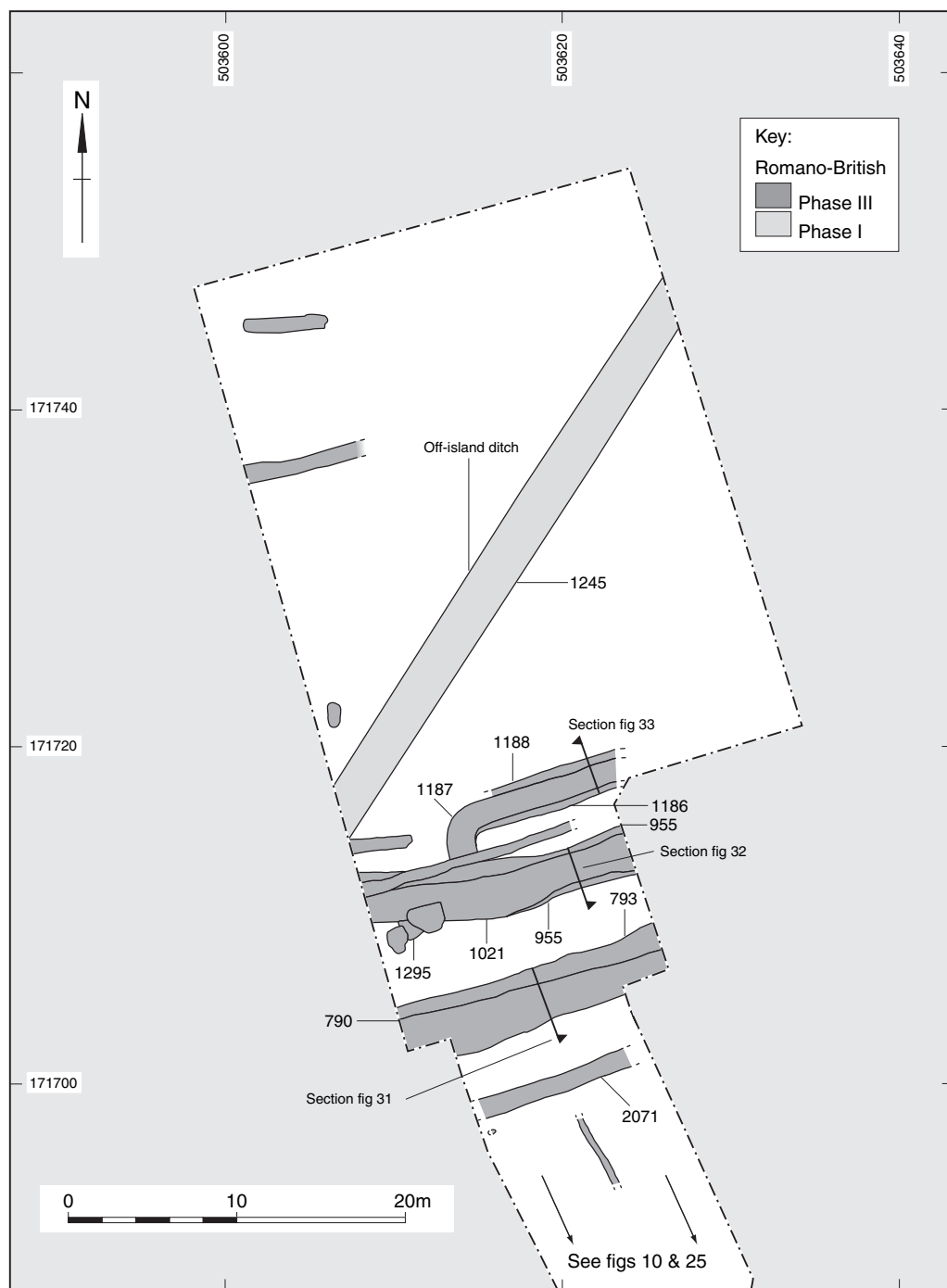


Fig 12 Staines. Area 2: north half; Romano-British Phases I and III.

suggests that it was being manufactured (again, on a small scale) in the vicinity. The over-fired material includes all types, though brick predominated, and one fragment of brick fused to a *tegula* during firing indicates mixed kiln batches. These waste fragments were found spread across all areas of the site except Area 1 and throughout the Romano-British period, but were most common in Phases II and III (particularly the former) in Areas 3, 4 and 5. One over-fired brick fragment had mortar adhering to the surface and had clearly been used, presumably in rubble walling.

Various locally available resources were being exploited, probably for specific purposes. For example, the use of poles and cordwood to produce hot, long-lasting fires is inferred from the presence of charred oak heartwood from samples taken in Area 2 (table 8); this material is most likely associated with a specific activity such as smithing rather than a domestic fire. Oak bark is used in tanning and larger timbers would be used for construction. The recovery of heather – which makes a good fuel, traditionally being used as fast-burning kindling, and as animal fodder, thatching, bedding and packing (Edlin 1949; Mabey 1996) – from the charcoal samples was restricted to those from Area 4 suggesting it may have been linked to some form of activity specific to that area. Other species, such as hazel, alder and willow could have been used for hurdle making.

All the cereals represented among the charred plant remains recovered from Areas 2 and 5 (tables 9 and 10) – bread wheat, barley, emmer wheat, rye and oats (though it is unclear whether the latter would have been cultivated at this stage or grew as a weed on arable land) – are likely to have been brought in from one of the numerous farmsteads known to exist to the north and south of the town (see *Archaeological background*, above), though the distances and condition on import may have varied between crops. The nature of the soils and landscape within the site boundaries would not have been best suited to these types of crops, and it is unlikely that they would be grown in small plots such as those suggested by the identified features, but at least some processing of the bread wheat was being carried out on site. Although not generally common crops in the Romano-British period (Greig 1991), peas and field beans were being cultivated, possibly in the relatively confined spaces indicated by the various boundary ditches within the confines of the site. In addition, the wild plant foods apparently readily available in the immediate vicinity (see introduction to *Romano-British occupation*, above) are likely to have been exploited throughout the Romano-British period.

For animal protein there seems to have been a typical reliance on meat from domestic stock (table 14), particularly cattle, some of which could have been pastured on the nearby meadows but with most brought in on the hoof from local farmsteads and butchered on site. Sheep and pigs were relatively important but secondary. The type of landscape within the confines of the site – low-lying, damp meadowland – is unsuitable for keeping sheep and they are all likely to have been supplied by local farms. At least some of the pigs, together with the small number of domestic poultry evident from the site, could have been kept inside the settlement within the small plots or on the open ground. There is some evidence of wildfowling (eg larger ducks) and fishing (eg salmon smolt), but no indication of hunting until the later phases.

There was little distinction between the Romano-British phases either in terms of the animal species identified, their frequency of occurrence or the use to which they were put. The species and proportions have similarities with other sites of this period, but do not fit easily into a simple clear category of settlement type, tending towards *vici* and romanized settlements and being furthest removed from legionary sites (table 14; King 1987). There were fewer sheep but more pigs than at most rural sites, and the absence of calves and aged cattle distinguish the assemblage from rural producer sites. The cattle are mostly not at the prime age for slaughter but are not old, and may have been used for ploughing and breeding before being driven in for slaughter. It has been suggested that these features could indicate the existence of civic organization in the procurement of the all-important beef supply (Maltby 1994). There are also departures from the characteristic assemblages of the ‘inner’ urban areas such as Dorchester in Dorset, and Winchester and Silchester in Hampshire, which tend to

have more pig, bird and fish bones than seen in the Staines assemblage, the latter being closer to those assemblages from the more 'impoverished' suburban areas in this respect (Maltby 1993; Hamilton-Dyer 1993a; 1993b; 2000; Serjeantson 2000). While the bone from a number of contexts suggests bulk processing, there are no large-scale dumps such as those found in towns like Winchester (Maltby 1994; forthcoming), Dorchester (Hamilton-Dyer 1993b; Maltby 1993) and Silchester (Maltby 1994; Hamilton-Dyer 1997) and the bones, which are in variable condition, are mixed with other, more general, bone waste. This implies that the bones derive from different sources, an observation supported by the anatomical distribution with a few clear dumps of head and foot bones (slaughter and/or tanning) and concentrations of ribs, vertebrae and limb fragments (consumption waste).

Butchery techniques, especially of cattle, followed a distinctive style indicative of specialists trained in or following Roman methods (O'Connor 1986; Lauwerier 1988; Maltby 1989), including separation of joints, de-boning and chopping into small pieces, all using heavy bladed instruments. Several bones show evidence of trimming, with shoulder joints probably being cured by brining and smoking (fig 13), and knife marks along the edge of the shoulder blade indicate that the cured meat was stripped from the bone (Schmidt 1972; Lauwerier 1988; Dobney *et al* 1996). There is some evidence for the head being chopped up for meat after skinning and horn core removal, suggesting a need to exploit low-value parts of the animal for soups or stews in low-status households. A number of the cattle vertebrae had been axially chopped in a technique of carcass splitting which would have required a building rarely seen at rural, native sites, with a strong, suitably high beam from which to hang the carcass.

The supplementation of locally available foodstuffs by what, at least to the native population in this earliest phase of occupation, represented exotic imports is indicated by the presence of Dressel 20 and Italian Dressel 2-4 amphorae. The former were from southern Spain and would have held c 66 litres of olive oil (Sealy 1985). Parts of a minimum of thirteen vessels were recovered from deposits across the main island, but some had been altered,



Fig 13 Staines. Cattle scapula showing perforations for hanging and curing.

repaired and probably re-used for other purposes and it is possible that they reached *Pontibus* empty or with other contents.

The status and aspirations of the occupants of *Pontibus* is in part reflected through their diet and their dwellings, but is also demonstrated in the fragments of portable property they left behind. Most of the samian – representing the ‘best’ ceramic table ware – was in good condition, with little trace of wear on the footrings suggesting it had either been subject to sparing usage or used for comparatively short periods before being broken. Three vessels had been drilled for lead rivet repairs indicating some curation of the wares, but most appear to have been discarded once broken implying a relatively steady supply of replacements. Twelve vessels had stamps and the undersides of two central Gaulish platter bases had scratched geometric graffiti. The other imported finewares played a complementary role to the samian on the Romano-British table. Most sherds were from beakers but other forms included a Pompeian Red Ware flagon. Two of the glazed sherds were from a mould-decorated flagon (Greene 1978, form 2) while the other is probably from a lamp or figurine; both would have been comparatively rare, ‘high-status’ items. Many of the finewares, however, were supplied by relatively local industries – potential sources of the mica-dusted wares, for example, include *Pontibus* itself, the Colne valley, London and the *Verulamium* region. Most of these sherds were from bowls and dishes but 60 sherds from a single globular beaker with an illiterate stamp on the underside of the base were recovered from a Phase I pit (colour plate 1, front left). A few sherds of white eggshell ware made in London *c* AD90–130 (Marsh 1978, 199; Davies *et al* 1994, 146) were also found.

Oxidized wares were probably used as medium-quality tableware. Flagons were always the most common form, but others included jars, bowls, dishes and beakers as well as more unusual types such as *tazze* and a small unguent jar (colour plate 1, rear second left). The



Colour plate 1 Staines. Romano-British ceramics. Clockwise from top left: Phase III Alice Holt/Farnham ware jar; Phase I greyware unguent jar; Phase II honey-pot; Phase II ‘poppy-head’ beaker; Phase I greyware jar; Phase II greyware plain rimmed dish; Phase I mica-dusted beaker.

assemblage is, unsurprisingly, overwhelmingly dominated by the unoxidized coarsewares, representing 79% of all sherds and spanning the whole Romano-British period. During the 1st and first half of the 2nd centuries AD these were dominated by products of the local industries from around Staines, and in the Colne and Lower Thames valleys (eg greyware jar, colour plate 1, front right), with, perhaps, some from Alice Holt.

Mortaria represent only c 1% of the sherds from the assemblage (tables 3 and 4). Amphorae appear most frequently in Phase I; they were essentially containers of imported goods – wine and oil – though they were often subsequently re-used as general storage jars (see above, this section). An incomplete stamp was noted on one amphora handle fragment (examined by Dr A P Fitzpatrick) and reads 'JACELS', probably SCALENSIA or L. SCALENSIS (Callender 1965, 242–3, no 1576, fig 16, 36; Remesal Rodríguez 1986, 198, no 250). It is likely to date from the later 1st to mid-2nd century AD, but the place of production is not known. One vessel had had the numerals 'VII' scratched, after firing, into its exterior surface just beneath the rim. Although of uncertain meaning, the numerals 'VII' are perhaps the most common graffito found on amphorae in Roman Britain, and may refer to some measure of capacity (Mark Hassall, pers comm). A similar graffito is known on an unclassified amphora sherd from Leadenhall Court in the City of London in a group dated to c AD180/200–230 (Symonds & Tomber 1992, fig 6, 20) and on handle fragments from the Friends' Burial Ground site (probably of Antonine date: Crouch & Shanks 1984, 68, fig 36, 271). Alterations to amphorae, including the sawing-off of handles and deliberate trimming or reshaping of rims, were relatively common on military sites and noted both in this assemblage and that from the Barclays Bank site to the south of the road (Crouch 1976, 76). The composition of the amphorae assemblage compares well with that from the Friends' Burial Ground site (Farrington 1984, 71–2), but overall amphorae appear to be less common taking account of the fact that the site covers a much larger area. The re-use of vessels and a high number of graffiti were also observed at the Friends' Burial Ground site (*ibid*, fig 36, 269–72).

Apart from the alterations made to the obviously useful large containers (amphorae) there is very little evidence for mending, even of the higher status samian vessels (see previous paragraph), suggesting a relatively affluent component within the town's population with ready access to replacement goods. Only one other vessel, a greyware bowl or dish, showed evidence of repair: a black, pitch/resin-like 'glue' was noted on one of the broken edges of the rim, with a copper-alloy rivet surviving in a hole drilled through the flange. Although it is not unknown for coarseware vessels to be repaired, it is not very common, and lead or iron staples and leather thongs were more frequently used than copper alloy. For someone to have gone to these lengths over a coarseware vessel suggest the town also included inhabitants at the lower end of the social stratum.

Only eighteen sherds of samian and amphorae from five deposits (three pits and two layers) showed signs of post-depositional burning. The samian showed no significant distribution, but most of the amphorae were from the south end of Area 2 in Romano-British and later deposits. The small quantities are not suggestive of a catastrophic fire, rather incidental burning on a domestic fire, though there may be some case for arguing that those from Area 4, if contemporary, could be the product of a limited house fire or one within a storage structure.

Excluding the coinage, relatively few non-ceramic artefacts were recovered (table 1), the iron generally representing nails of various sizes and forms. Glass objects and fragments of vessel glass (table 1) were recovered from across the main island including: four melon beads, generally dated to the 1st–2nd centuries but most commonly seen in the 1st century; blue/green cylindrical/prismatic bottles – one with moulded concentric circles – which were most common in the 1st and 2nd centuries AD; and the rim from a pillar moulded bowl dated to the second half of the 1st century. The copper-alloy objects (table 1; figs 14 and 15) mostly comprised personal items, including five fragments of armlet (two twisted cable, two strip, and one plain wire), five brooches (four bow and one plate) two sets of tweezers, and four toilet instruments (three spoon probes and one toilet spoon). Toilet spoons and probes

were made throughout the Romano-British period; small cupped scoops (fig 14, no 1) may have been used for cleaning ears, but most scoops – both round and long – are recognized as being used for extracting cosmetics from flasks, boxes and small pots (Crummy 1983, 59–61). The double-ended instruments (fig 14, nos 2–3) are less common, and were used as surgeon's sounds and for the extraction and application of cosmetics or medical ointments. Crummy's fig 65, no 1925, shows a comparative instrument to that in figure 14, no 2, which appears to have been bent in a very similar fashion; while this may be post-depositional at points of weakness, it is tempting to see it as the repeated product of over-zealous probing and frustration at trying to extract the last dried up bits from the bottom of the pot. The

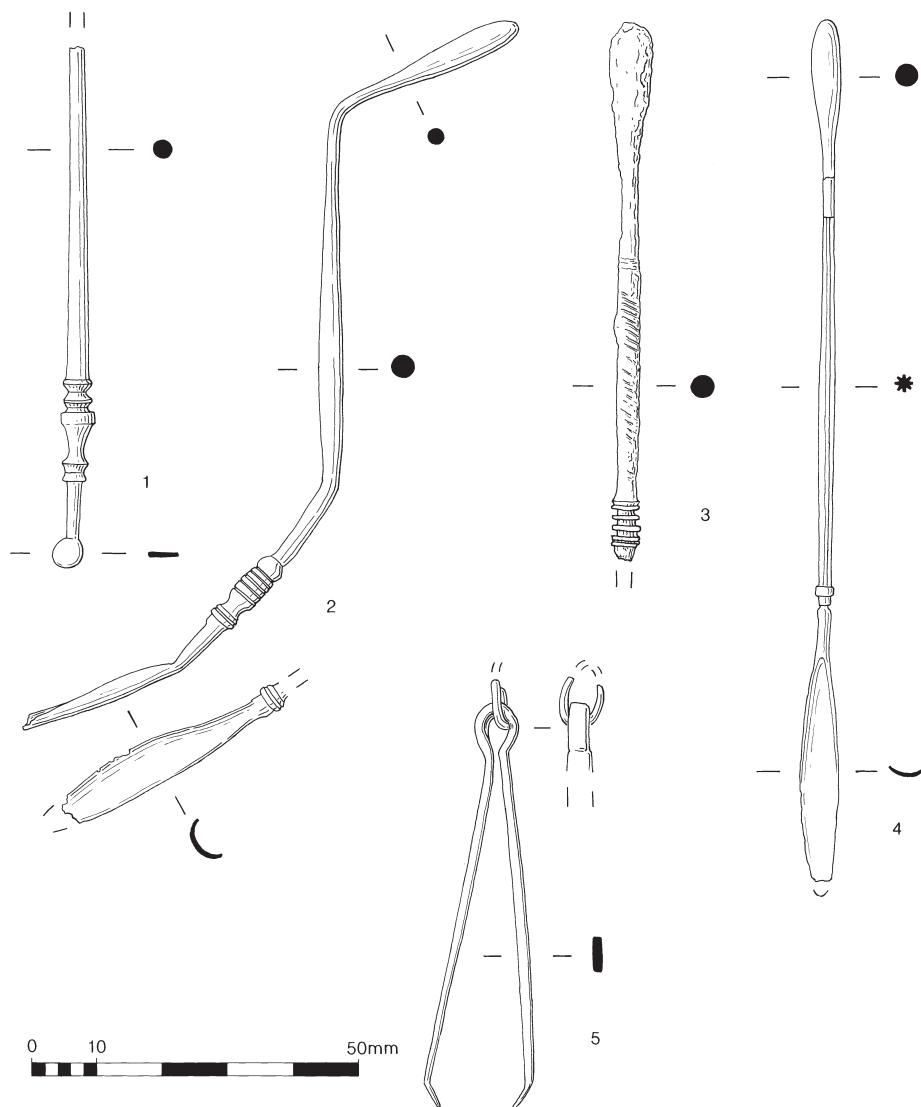


Fig 14 Staines. Copper-alloy objects. 1: toilet implement (toilet spoon); ON 360; Area 2, RB context 2315. 2: toilet implement (spoon probe); ON 600; Area 4 medieval context 3721. 3: toilet implement (spoon probe); ON 280; Area 2, RB Phase I context 1536. 4: toilet implement (spoon probe); ON 573; Area 5, RB Phase II context 3366. 5: tweezers with suspension ring; ON 354; Area 2, TB Phase III context 2281.

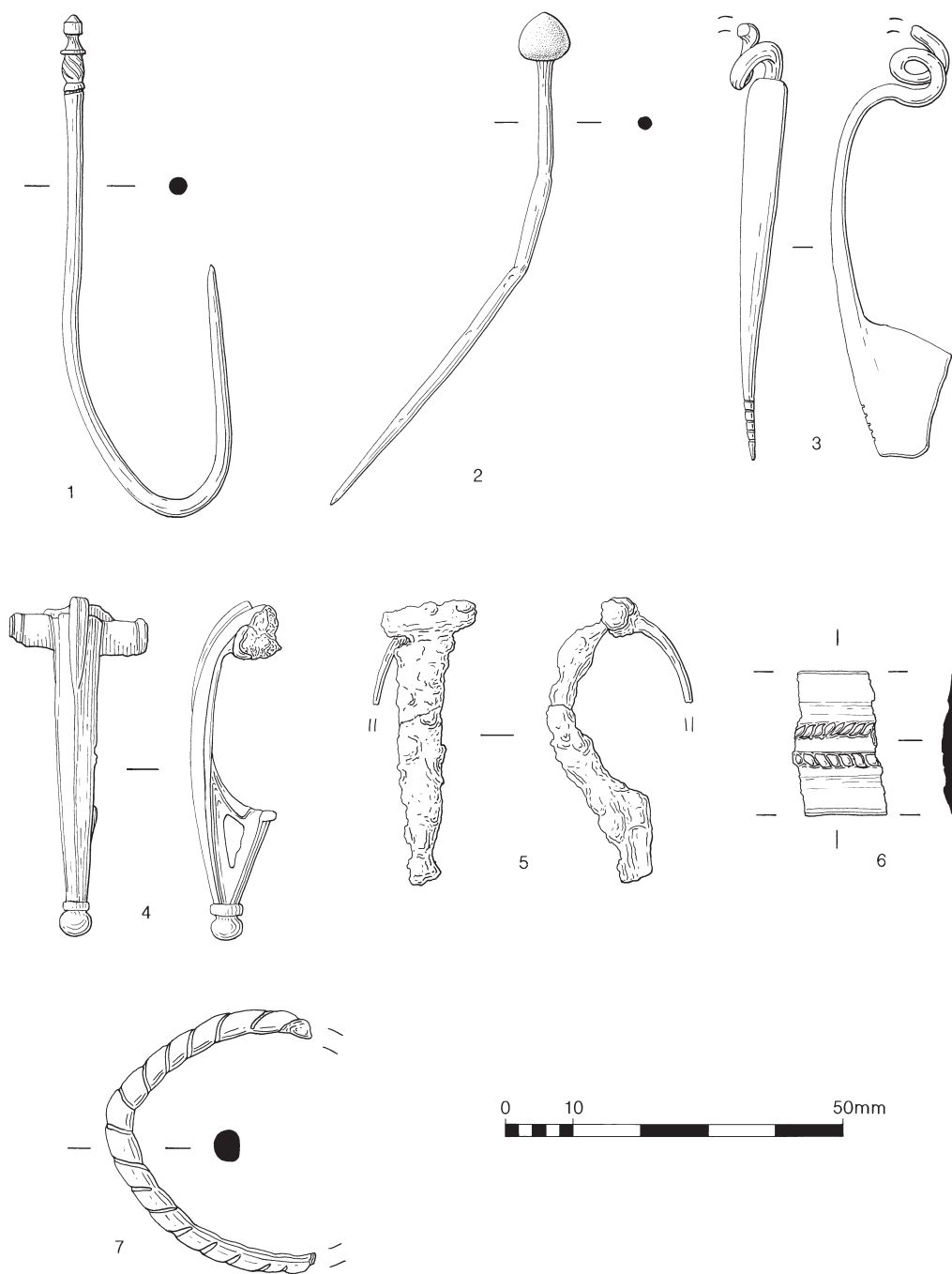


Fig 15 Staines: Copper-alloy objects. 1: pin; ON 328; Area 2, LRB, context 2091. 2: pin with polished stone head; ON 543; Area 3, RB Phase III context 3235. 3: bow brooch, La Tène III type; ON 359; Area 2, RB Phase II context 2295. 4: bow brooch, Colchester type; ON 285; Area 2, RB Phase I context 1554. 5: bow brooch, T-shape; ON 278; Area 2, RB Phase I context 1441. 6: armlet fragment; ON 264; Area 2, RB Phase I context 1488. 7: armlet fragment; ON 103; Area 2, RB Phase III context 719.

majority of the copper-alloy items fall within the early Romano-British date range, with one of the brooches having a potentially pre-conquest origin (fig 15, no 3) though recovered from a 2nd century AD context. One armlet (fig 15, no 6), from a Phase I pit at the south end of Area 2, matches a 1st century AD example from Colchester (*ibid*, no 1586). Other items were recovered from deposits across the Romano-British range but it is not possible to ascertain whether this reflects the 'antique' or 'hereditary' value attached to the pieces or if it is simply the product of redeposition.

The remains of several dogs of various sizes were recovered including tall, slender greyhound-sized animals possibly used for recreational hunting – there being little evidence to suggest this was seriously undertaken to supplement the diet – and small, stocky, terrier-size beasts which may have been used to control vermin – a necessary function in an area with limited space for refuse disposal – though most are likely to have represented, or at least doubled, as pets. Dogs were also in evidence from the high degree of canid gnawing noted on much of the animal bone, which they were either being fed from the table or butchers' door, or scavenging from the debris pits and compost heaps. This presents a somewhat unpleasant scenario of half-chewed bones lying around the town since dogs have the habit of dragging such things around; however, dogs are also very efficient at waste disposal of small bones, with those comprising mostly trabecular bone (eg vertebrae) being entirely consumed. The single canid coprolite, containing among other bone fragments a pig phalanx (fig 16), was undoubtedly not the only one in *Pontibus*, but no others had found their way into the rubbish pits and survived. No bones of that other controller of vermin, the cat, were found; several paw prints impressed in fragments of ceramic building material advertised their presence at least in the place of manufacture. The few pony-sized horses identified were generally older animals. Some of the bones from one of the Phase I deposits showed knife marks indicative of skinning, possibly prior to feeding the remains to the dogs. There was a higher frequency of horse remains in ditch rather than pit fills – large carcasses generally being



Fig 16 Staines. Canid coprolite containing pig phalanx.

placed away from the household waste disposal areas because of the highly unpleasant smell.

Five *in-situ* neonate burials were found within a confined area of Area 5 (fig 8). There was relatively little Phase I activity in this area with none of the dense refuse pits seen further east, possibly owing to the presence of the burials. The earliest date of deposition for these individuals is unclear, but the practice is likely to stem from the latter part of the phase as the burials appear to extend into Phase II. All the graves were respected – by accident or design – by Phase II and subsequent features, with the exception of later graves. This suggests the graves (particularly the early ones) were not always individually marked, though the implication of so many in such a restricted area is that it was specifically set aside for the purpose of burial.

This small group cannot be representative of those from the settlement as a whole and it may have formed a ‘family plot’ used over an extended number of years. One neonatal burial and parts of a minimum of four other neonates redeposited in later features were recovered from all parts of the main island. The burial of neonates outside the confines of cemeteries is well recorded in the Romano-British period when infants of <40 days old were not considered ‘human’ and could legally be subject to infanticide (Scott 1997). Their burial within settlements appears to place them within the confines of the living rather than among the dead. The practice was not exclusive however, neonate burials having been found in several inhumation cemeteries including Poundbury, Dorset (Molleson 1993) and Cirencester, Gloucestershire (Wells 1982).

2nd century AD; Phase II (AD120–200)

The land use, economy and implied prosperity of the early Romano-British settlement generally continued into Phase II with some additional facets pertaining to habitat and economy which, rather than being absent, may simply not have been visible among the remains from Phase I. The one major departure involved the construction of a substantial building in the northern part of Area 4 (figs 9, 17 and 18), the choice of location possibly reflecting a lack of occupiable land elsewhere in the town. There is evidence to suggest extensive remodelling and/or rebuilding within the town during the 2nd century, which may have been a factor in the change of use in this once marginal part of the settlement. The implied pressure for space may also be reflected in the increased density and northward drift of features indicative of marginal activity, away from the focus of domestic and commercial properties closer to the road. The portable goods recovered from this phase illustrate the continued general affluence of the town, while the growing homogeneity and stability within the wider province may be reflected in the coin evidence from the site which, at variance with the earlier phase, falls within the normal range for the country as a whole (Reece 1991; 1995).

It is somewhat ironic that one of the most densely pitted areas and that in which the only positive identification of a cesspit was made (see below, this section) – with all its attendant implications for less than salubrious conditions – should have been chosen for the construction of the only building identified within the site. Set c 40m back from the road, the outlook and conditions to the north were probably pleasant enough, with an open view across the meadows, but that to the south cannot have been very inspiring and the area was clearly used for rubbish disposal – both in pits and as surface deposits – up to the time of construction (fig 9). The date of the building is uncertain; it cannot pertain to the earliest part of the phase and most of the debris immediately overlying the floor is late Romano-British, so given its apparent relatively short life (see below, this section), a date in the latter half of the 2nd century AD is most likely for its construction.

The surviving parts of the building included the north and west walls – foundations and footings – together with the return for the south wall, describing a 12.5 x 11.7m structure comprising a single room (11.5 x 5.2m) with a 1m-wide corridor running along its north side

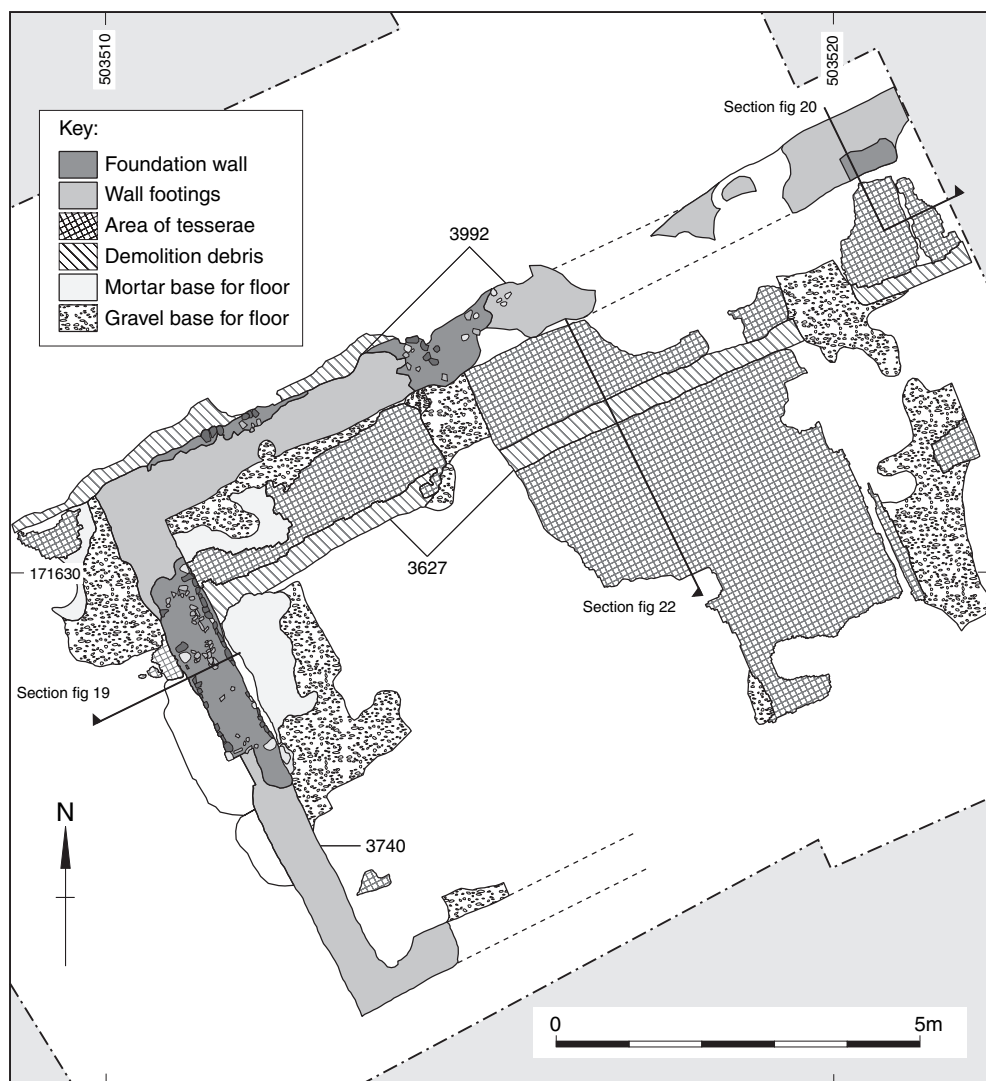


Fig 17 Staines. Area 4; north trench; Romano-British Phase II building.

(fig 17). The two components were separated by a wooden partition wall with two entrances along its length. Both the room and the corridor had tessellated floors, with further flooring extending $\approx 2.25\text{m}$ to the west of the west wall, its northern limits aligned with the outer face of the north wall. It has been observed that such red floors were common in the villas of Surrey (Bird 1987, 178). There was also evidence to suggest that a small area of polychrome mosaic had existed in the west half of the main room and at least some of the walls had supported painted plaster. There were no further internal features or deposits to indicate the type or function of the building, but its size, shape and position indicate that it is unlikely to have been a civic building. It probably formed a private dwelling in the form of a corridor house (Hingley 1989, 46): a rectangular, multi-roomed structure with a linking corridor of timber or masonry along one long side. Although the size of the entire building is unknown, the limits suggested by the available evidence would make it compatible with those from Langton



Fig 18 Staines. Romano-British Phase II building, Area 4 (from north).

(Yorkshire), Lockleys (Hertfordshire) and Marshfield (Gloucestershire; *ibid*, fig 19), perhaps being closest in size and form to that at Broad Street Common (Surrey; Bird 1987, fig 7.2.7). The building materials – imported stone, including marble, and ceramic building material – and the presence of a well-executed tessellated floor and painted wall plaster (a relatively expensive commodity which would have been seen as a symbol of high status: Davey & Ling 1982), suggests the owner was at least a member of the prosperous middle class, perhaps a successful trader, within or aspiring to the upper echelons of the local society. The quality of the wall painting was not particularly high, however, and the polychrome floor was limited to one end of the main room, which, together with the location of the building, may imply its owner was a ‘late arrival’, all the more desirable land having been taken up.

The full extent of the building is unknown; there were no traces of it in the 1998 evaluation trench (Tr 31, fig 2), nor in the east-facing section of the construction trench *c* 4m to the east, suggesting the return wall lay somewhere within the intervening baulk where it had doubtless been damaged by the dense array of 19th century service pipes which ran along Tilly’s Lane. There was no evidence to suggest that the building extended to the south, though there had been substantial post-medieval damage on all sides which could have obliterated remains. Although the western wall footings provide a definite limit to the main room the presence of *in-situ* tessellated flooring butting against the western face of the wall indicates that the building did not end here (fig 17). Some prior attempt at the construction of a building in the area, possibly a direct precursor to that which survived, is indicated by the presence of several short lengths of gravel wall footings in the eastern part of the trench (fig 9). The most substantial of these footings (4025) – 0.68m wide, *c* 0.66m deep – was of similar size and form to the later wall foundations (fig 19). A small segment of foundation *c* 4m to the north of 4025 and on the same alignment probably represented part of the same wall line, while that observed *c* 2m further north (3905, fig 17) was slightly offset to the west, its connection being implied by the similarities in size, form and depth. The possible link with the later structure is further implied by the correspondence in position between the early foundations and a

north–south ridge of gravel within the main building leading through the eastern entrance in the partition wall (3627, fig 17); however, a similar gravel ridge leading through the western entrance had no corresponding underlying footings, so the apparent association could be purely fortuitous. The base level of 4025 was, at 13.85m OD, 0.42–0.64m lower than that of the main building foundations (figs 19 and 20) and cut through a 0.67m depth of levelling material associated with use of the area for refuse disposal (see below, this section).

The gravel wall foundations varied slightly in shape (figs 19 and 20) and size (*c.* 0.6–0.8m wide, 0.28–0.6m deep), even along the same length of wall (west wall, fig 17). This may simply

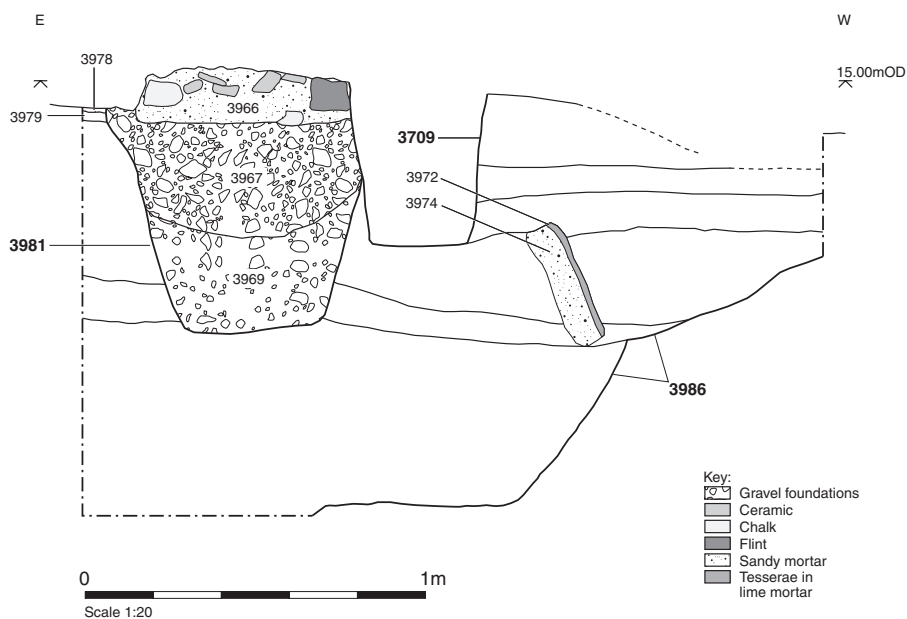


Fig 19 Staines. Area 4: section through foundations of west wall of Romano-British Phase II building.

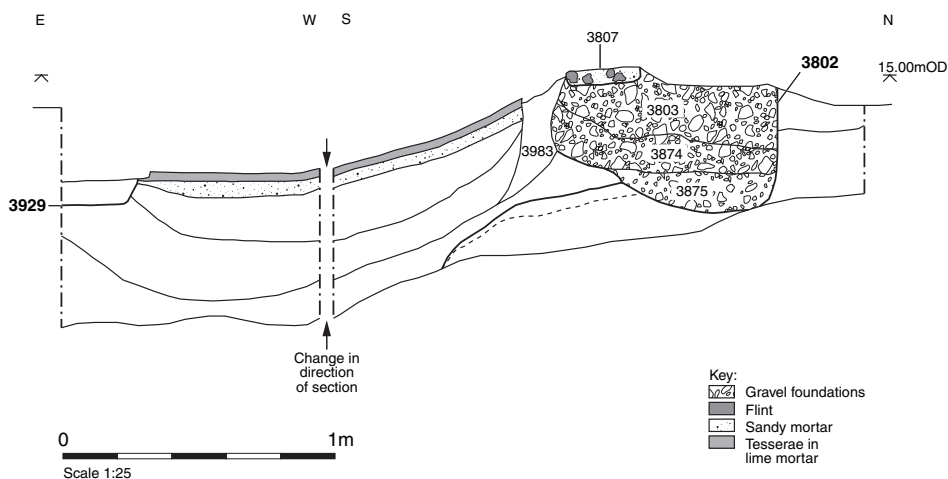


Fig 20 Staines. Area 4: section through north wall of Romano-British Phase II building.

reflect variations between individual workmen and perhaps the absence of a site foreman to ensure consistency in the workmanship, alternatively it may represent a series of rebuilds due to subsidence or structural alterations, or be indicative of different wall heights. The foundation layers comprised between one (mid-south end of west wall) and three (east end of north wall, fig 20) layers of coarse angular gravel of graded density. Several segments of the foundation or base wall survived, all showing the same structural components of flint nodule ‘facings’ with occasional blocks of chalk set in a coarse mortar, and fragments of ceramic building material and pottery incorporated into the rubble core fill (figs 17, 19–21). The segments of wall base survive to a maximum height of $\approx 0.16\text{m}$ and it is not known whether the same construction technique was used to the full height of the building. The flint was probably largely extracted locally during small-scale quarrying of the gravels. The fragments of non-local stone recovered, including chalk and limestone (much of which was not obviously worked), may have been brought in as building material or demolition rubble. Two small pieces of Purbeck Marble were found redeposited directly over the structure suggesting that they may have formed part of the fabric and several fragments of architectural stone were recovered from the site, including two possibly shaped blocks (Area 2), demonstrating the use of these materials in buildings somewhere in the town. Much of the relatively large amounts of ceramic building material from this phase was concentrated in Area 4 (tables 5 and 6) indicating that this and other buildings must have included elements of brick construction.

The partition wall of oak timbers, set in a $\approx 0.3\text{m}$ -wide trench (3627, figs 17, 22–23), was interrupted by two $\approx 1\text{m}$ -wide entrances leading through into the main room and had supported facings of painted plaster. The majority ($\approx 86\%$) of the painted wall plaster from the site was found in association with the building (table 1), either in the robbing trenches to the north of the north wall (fig 17), in demolition layers (including the fill of the cut for the partition wall) or features cutting through the main floor. Most of the plaster is plain, predominantly ox-blood red with some white, but a variety of other colours and forms of



Fig 21 Staines. Phase II building foundations and sill wall (west wall, from east).

decoration suggest parts from the three zones of dado, middle and frieze commonly seen in wall paintings, are represented (Davey & Ling 1982, 30). Several of the monochrome fragments have simple lines (black on the white, white on the red) presumably forming frames or horizontal divisions, and several fragments show the standard ox-blood red below the line with black above (colour plate 2a). Such striped fragments derived from panel borders within the main or middle section of the wall, panel schemes being the simplest and most common form of wall painting throughout the Romano-British period (*ibid*, 31). The fragments from north of wall 3992 may be divided into three sub-groups: one the plain ox-blood red, a second showing a crude linear tendril pattern in orange across the red background, while the third group forms a more elaborate pattern on a black background with orange lines and larger 'motifs' in green and ox-blood red (colour plate 2a). The polychrome 'splattered' design, representing a rough attempt at the imitation marble typical within the dado (*ibid*), was seen on two large, thick (*c* 60mm) fragments, which had clearly been refaced. Bold splashes of black and red paint had been made on a pink background by splattering rather than the more usual flicking of the bristles of the paint brush (colour plate 2b). The 'marbled' design was also noted among the fragments from the partition wall debris, with a deeper red and black on the ox-blood background, together with lined and plain fragments. The different colours would have been produced from a variety of naturally occurring materials including haematite and red ochre (red) and *terre verte* (green; *ibid*, 62), the more unusual pink pigment probably comprising a mix of haematite, calcium carbonate and quartz (Biek 1982).

In-situ flooring survived across *c* 41% of the interior of the building with a further 4% covered by an *in-situ* concrete base from which the tesserae had been deliberately (and carefully) removed; *c* 20% of the floor appeared have been robbed in antiquity (fig 17). Floor construction consisted of a base of coarse mortared gravel, overlain by a fine lime-concrete base in which the tesserae were set, giving a total thickness of *c* 0.1m (figs 19–20 and 22). The floors abutted the main walls and the internal partition wall, which had clearly been inserted before the floor was laid as illustrated by the tesserae to the north and south of it clearly having been laid in different directions (fig 23). It may be significant that the two small areas of floor to the west of the west wall (3740) maintained these diverse directions despite the apparent absence of the partition wall in this area. Over 30,350 ceramic tesserae (613.82kg) were recovered from the *in-situ* segments of the floor, a further 534 being collected from other contexts in the immediate area. Roughly pyramidal-shaped fragments of ceramic building material representing offcuts from the production of tesserae were recovered from contexts directly underlying the floor, demonstrating that they were probably cut *in situ* from the *tegulae* used in their production. Although the main room appeared to form a single unit, there may have been a distinction in use reflected by a change in floor design in the western portion – rather as a modern house may have a 'through lounge' one end of which forms the dining area. Several hundred small stone tesserae were collected from deposits directly over or within features cutting the floor in the largely robbed-out area to the west of the western entrance through the partition wall, suggesting this was the location of a section of polychrome mosaic flooring. The stone tesserae fall into three colour groups and two distinct size ranges: orange and dark grey tesserae (stone unidentified) were found only in the smaller, *c* 10mm square group, while the white limestone tesserae occur in both the small and the larger, *c* 15–20mm, group. It is also plausible that some temporary internal divisions in the form of a curtain or movable screen could have formed a more physical division between the different parts of the room.

There was no *in-situ* evidence of collapsed roofing; however, the frequency of roof tiles supports the probability of the roof being of this form, which would also be in keeping with the apparent grandiose style suggested by other elements of the building. It is likely, however, that at least some structures within the town made use of the locally available reed to construct thatched roofs (Hingley 1989, 31).

Although the building was clearly in use for a sufficient length of time to allow for replastering and painting of some of the walls, and possibly some internal structural additions



Colour plate 2a Staines. Painted wall plaster: fragments from various zones of dado.



Colour plate 2b Staines. Painted wall plaster: imitation marble design.

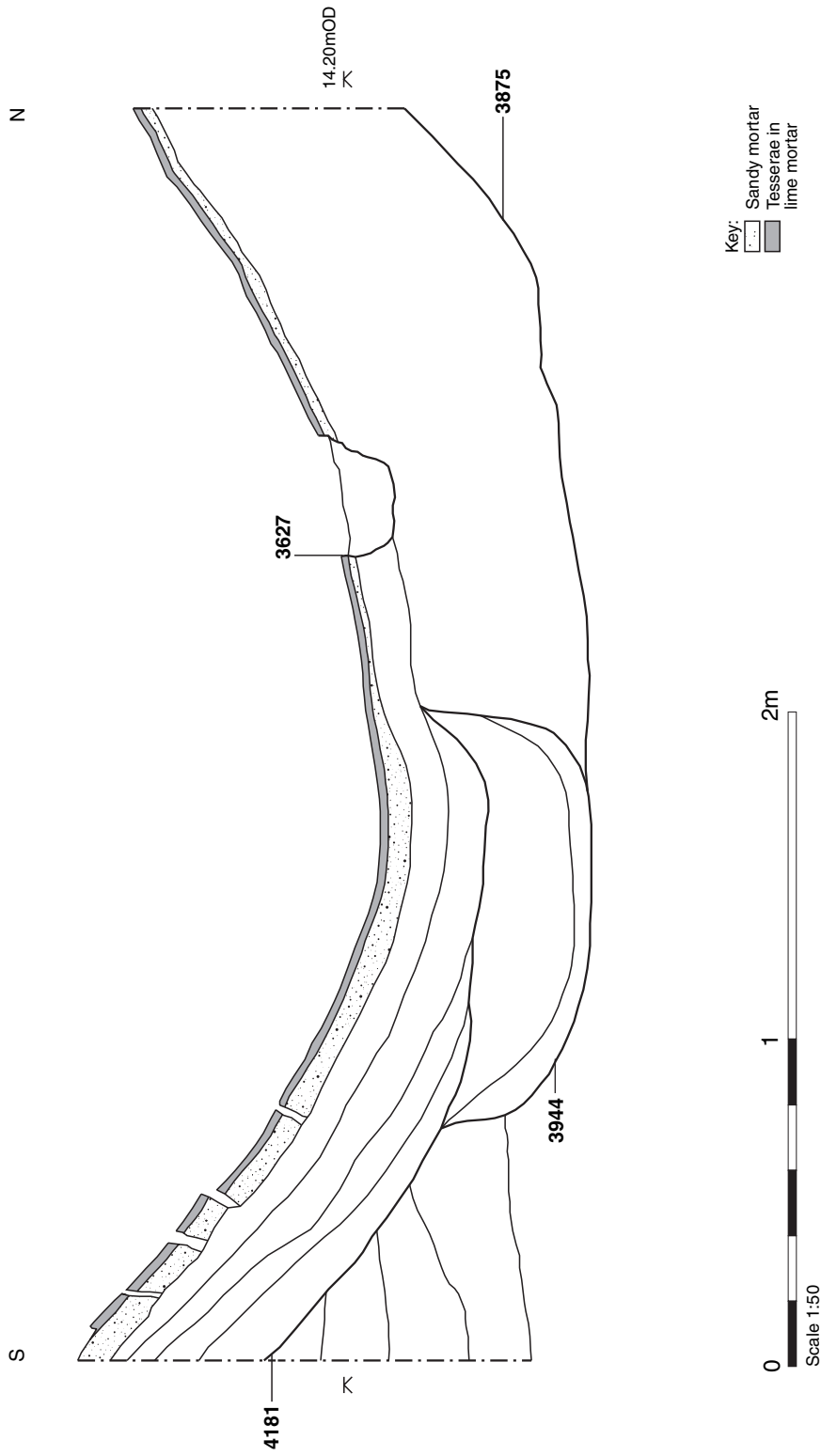


Fig 22 Staines. Area 4: section through tessellated floor of Romano-British Phase II building.



Fig 23 Staines. Tessellated floor and partition wall (from south-east).

and rebuilding, it does not appear to have survived long enough to have passed down the generations. Several major areas of subsidence were evident in the floor surface including a c 4m-diameter segment which had slumped by up to a metre in depth (figs 22–24), and several segments of floor had sheared away from walls and from other parts of the floor (fig 20). The reason for the subsidence is clear – underlying rubbish pits which had not fully composted down before the floor was laid and which subsequently continued to do so taking the floor with them as they went (fig 24). After abandonment of the building the most reclaimable building materials – including the relatively expensive stone tesserae – were removed for use elsewhere as indicated by the robbed sections of the floor and relative lack of building debris. There is some evidence to suggest that the abandonment may have been precipitated by a fire; the oak timbers and some of the painted wall plaster from the partition wall had been burnt or smoke damaged, and the debris from the north side of the north wall included burnt material. The presence of large quantities of charred cereal and other plant remains from a Phase II layer immediately above the floor (tables 9 and 10) suggest the fire may have occurred after the building ceased to be used as a dwelling and while it was being used as a grain store.

The main use of the land to the north of the road for marginal activities seems to have continued, with the majority of features again comprising ditches and clusters of pits, both along similar alignments and within similar locations to their predecessors (figs 7–9, 25–26). There was an increase in the spread (Area 3, fig 26) and density (Areas 2, 4, and 5: figs 7–9 and 25) of domestic refuse pits. For example, the 10 x 6m area at the south end of Area 2 contained a minimum of 25 intercutting pits (fig 27), the unspecified Romano-British ones of which could relate to this phase as much as to the other two. The pits were of variable size, one of the largest (1517, Area 2, fig 25) being 2.8m in diameter, and 1.4m deep, and containing eight distinct fills.

Some pits may originally have been used for storage (see *Phase I*, above) with a change in use to rubbish pits occurring when an area generally gravitated towards one used for the disposal of refuse. It is also possible that some of the pits which were found to contain relatively little



Fig 24 Staines. Excavated segment in tessellated floor showing subsidence and underlying pits (from south-east).

artefactual or environmental evidence, for example, the Phase I groups at the south end of Area 2 and along the western margin of Area 4 (figs 9–10), and the Phase II groups in the south-east of Areas 3 and Area 5 (figs 8 and 26), may have contained cess and that the decomposition process was so efficient that no identifiable material survived. Only one cesspit – 4068, Area 4 – was positively identified, the fill of which, in addition to human faeces, also contained mineralized fly puparia and eggs (table 12). The group of Phase I pits in Area 2 held noticeably fewer discernible fills than others in the area and had the distinctive greenish-yellow tinge suggestive of cess.

The digging of pits and dumping of domestic and other refuse at the north end of Area 4 commenced in Phase I, resulting in a minimum of seventeen pits across a 14 x 10m area (fig 9). There was also evidence for intermittent levelling, both sealing Phase I and II pits and cut by others, later in the stratigraphic sequence. The number and thickness of the individual levelling deposits varied slightly across the area from up to six layers at between 0.15 and 0.4m in depth in the south-east of the area, to three or four layers in the west (fig 19).

There were some indications that animals such as pigs and chickens kept in the town may have been given freer range than previously and the small-scale production of horticultural crops suggested for Phase I may have become less important with the expansion of the town and increased pressure for land. Very few ditches were dated to this phase (Areas 2, 4 and 5: figs 8, 9 and 25) and while it is possible that some designated to Phase III may have had their origins in this earlier phase (see introduction to *Romano-British occupation*, above), the apparent dearth of what have mostly been interpreted as land boundaries may be genuine.

The recovery of material derived from the stabling of animals – horses and cattle being used as draught animals – from Areas 4 and 5 suggests that the provision of such facilities may have been concentrated in the western half of the town (closer to the river crossing), serving both the local inhabitants and travellers resting in the town overnight or even for a few hours to refresh themselves before pressing on towards London or the west. Mineralized remains recovered from feature fills and surface deposits in both areas (table 12) included

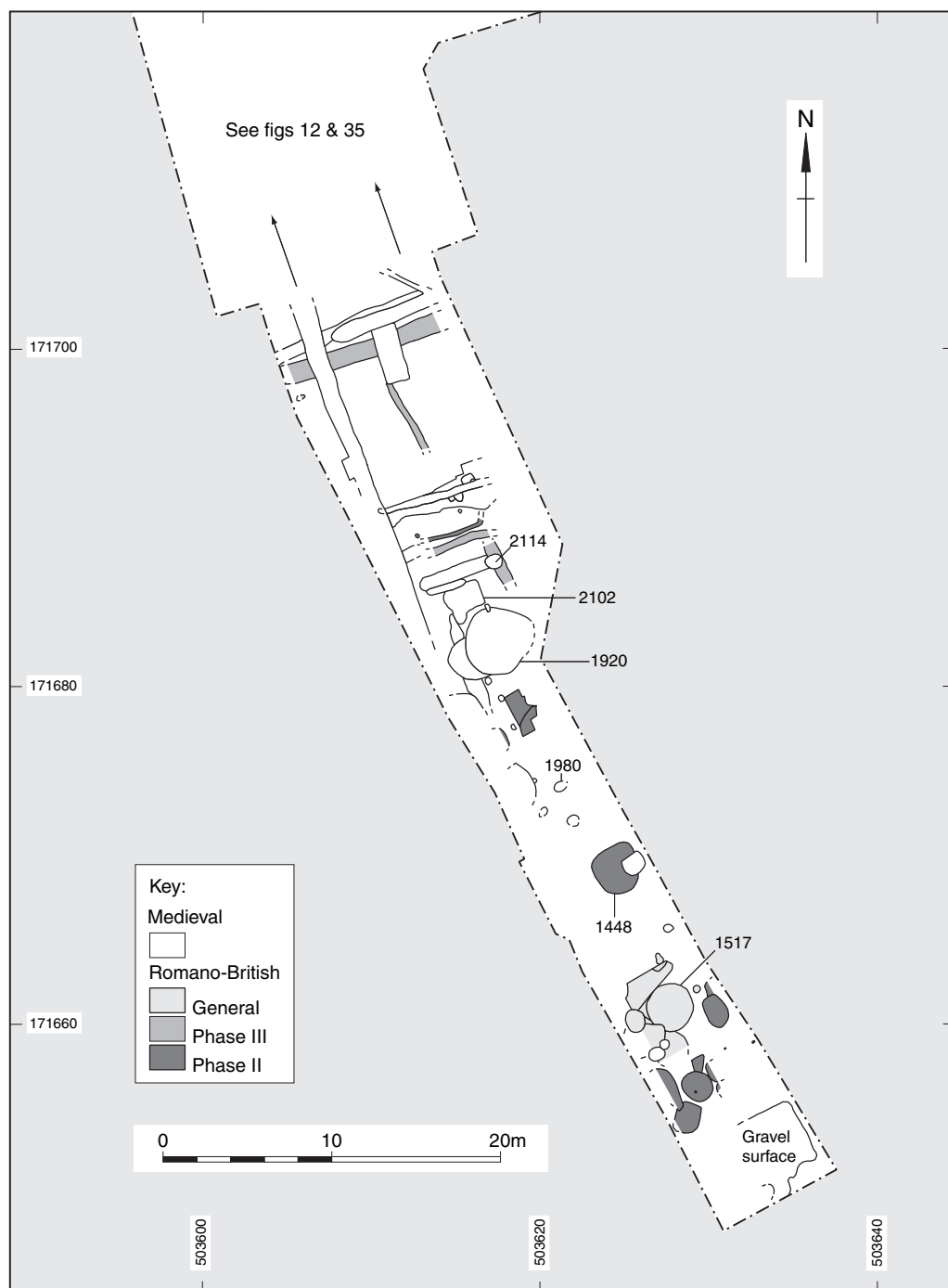


Fig 25 Staines. Area 2: south half; Romano-British Phases II, III and unspecified, and medieval.

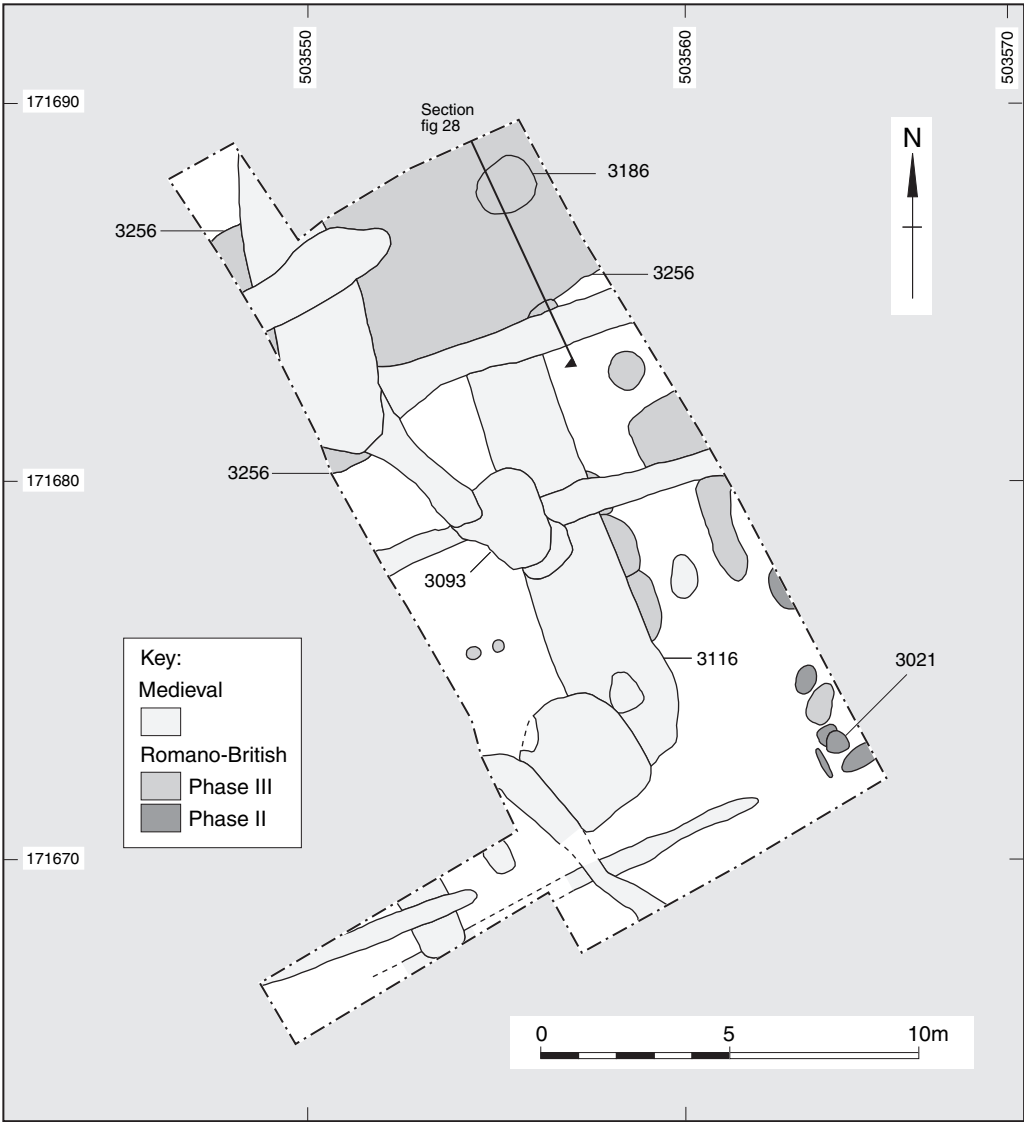


Fig 26 Staines. Area 3: all phases.

taxa indicative of fodder and bedding (eg sedge fruit originating in hay), elder which could represent traces of faecal waste, and a high proportion of those inhabitants of compost, millipedes, suggesting material derived from stable waste.

There was no evidence to indicate any attempt at manipulation of the off-island area, which probably continued to function as summer pasture and a potential source of fodder and reeds for roofing. Evidence for alluvial inundations such as those seen in the preceding phase was limited to Area 3, close to the northern margins of the island, where $\approx 0.25\text{m}$ of sediments containing Phase II material were observed overlying similar deposits ($\approx 0.15\text{m}$ deep) including Phase I finds, with the former apparently confined to the western half of the area. The apparent decrease in on-island alluvial deposits suggests a general reduction in the extent



Fig 27 Staines. Romano-British pits at south end in Area 2 (from north).

and duration of the winter flooding, though there is still likely to have been some seasonal increase in water levels within the off-island zone where alluviation is likely to have resulted in a slight rise in the ground level (probably at *c* 14m OD; see *Alluviation*, above). Although assigned to Phase III on the basis of the material recovered from its fills, the east–west channel – *c* 7m wide and 1.02m deep, with a broad (*c* 2.5m), flat base and shelving sides (3256, figs 26 and 28) – at the north end of Area 3 was probably functioning within at least part of the 2nd century. Its size and form suggest it represents a natural channel, formed on the margins of the gravel island (fig 3) and subject to subsequent human modification, reflecting enhancement of a natural feature to aid drainage.

The continued presence (see previous section) of a small metalworking industry within the central area of the town, is indicated by the recovery of a narrow range of taxa largely comprising coppiced oak stem – giving a high ratio of surface area to atmospheric oxygen and producing an intensely hot fire (Hodges 1964) – (table 8) from charcoal samples in Area 4 in association with a small quantity of ironworking slag (pit 3726, fig 7). A blacksmith would be looking to catch both passing trade – of which there was undoubtedly a considerable amount – as well as serving the local inhabitants and would require a roadside position from which to do so. Such activities may have been preferentially located on the north side of the road where there may have been less risk to domestic and/or commercial properties.

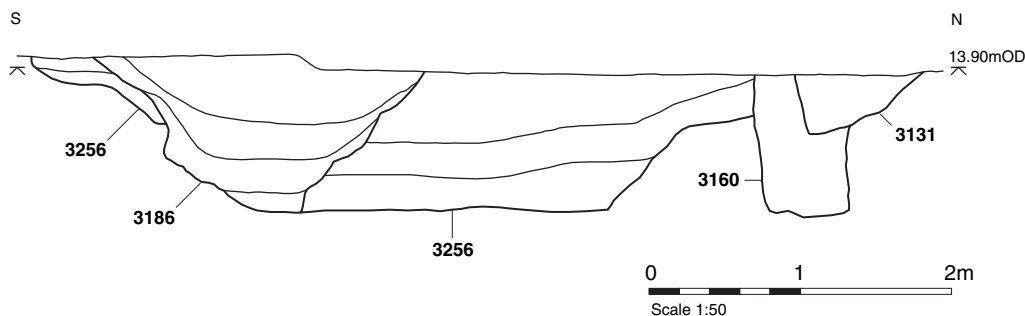


Fig 28 Staines. Area 3: north-south section through channel 3256, and wells 3160 and 3186.

Material suggestive of the proximity of a tannery and/or town butcher was found in Area 5 on the north-west margins of the gravel island, tanning in particular being likely to have been relegated to a marginal position within the settlement. Relatively large proportions of butchered animal bones were recovered from some Phase II and III deposits, with cattle horn cores being particularly common (table 14).

The meat protein consumed in Phase II was derived from the same animal species and in the same proportions as in Phase I, with some slight evidence for hunting (eg roe deer). Evidence from the plant remains also indicated the use of similarly derived bread and spelt wheats, barley, rye and oats, with peas probably being grown within the confines of the settlement as previously. At least some of the town's inhabitants took advantage of seasonally available local produce as illustrated by the seeds from strawberries, elderberries and *Prunus* sp. (sloes, cherries, plums, etc), together with fig seeds (probably imported) found in mineralized human faecal waste (containing the characteristic cereal bran) from the cesspit in Area 4 (4068, fig 9; table 12).

In addition to the glass and copper-alloy objects discussed above (*Phase I*), a number of worked bone objects (fig 29) were recovered from Phase II and III features in the eastern half of the site. The earlier peak in the quantity of pottery continued, though there were no particularly distinguishing characteristics among the assemblage. The oxidized wares were from relatively local sources. A complete honey-pot found in a pre-building pit (4008, fig 9) in Area 4 is morphologically similar to face-pots made in the *Verulamium* region (Davies *et al* 1994, fig 37, 183 and fig 47, 266 and 267; colour plate 1, rear second right) but the fabric lacks the characteristic coarse granular sandy texture and its source remains uncertain, although a similar 2nd century AD date seems likely. More 'romanized' forms became predominant among the coarsewares, such as the 'London Ware' beakers (Marsh 1978, fig 6.9, types 17 and 18, fig 6.10, type 22) and poppy-head types (colour plate 1, rear right, beaker manufactured in the London area). The Wareham/Poole Harbour black burnished wares were common, together with some local copies (colour plate 1, centre front, plain rimmed dish).

Despite the somewhat sunny picture that may emerge of life in a relatively affluent Roman town such as *Pontibus*, there would have been considerable assaults on an individual's health. The insanitary conditions prevailing across much of the northern side of the town with, for example, the possibility for cross-contamination of drinking water, must have been fairly considerable and the likelihood of infections certainly as high as in most Roman towns, with the added danger of considerable quantities of passing trade leaving more than goods or currency. It is no surprise, therefore, that some of the mineralized plant remains recovered suggest that locally available or grown produce may have been used to fulfil medicinal requirements rather than purely dietary ones, and it has been suggested that Staines was the base for a healer who served 'a large but widely-scattered populace' (Jackson 1996, 184). Wild carrot contains essential oils (de Rougemont 1989) which may have been used in

flavourings, but which are also effective against roundworms (Lust 1974), as diuretics and for the relief of flatulence. Hemlock seeds have often been recovered from monastic gardens (Dickson 1996) where they were grown as a physic, and they were also found in Roman Alcester (Moffett 1996). Although highly poisonous if ingested, used externally the seeds can reduce inflammation, ulcers etc (Culpeper 1826; Moffat 1987).

There is little evidence reflecting the religious life of the inhabitants of *Pontibus*. Part of a fine, white pipe-clay *dea nutrix* figurine (fig 30), showing an infant supported on the left arm

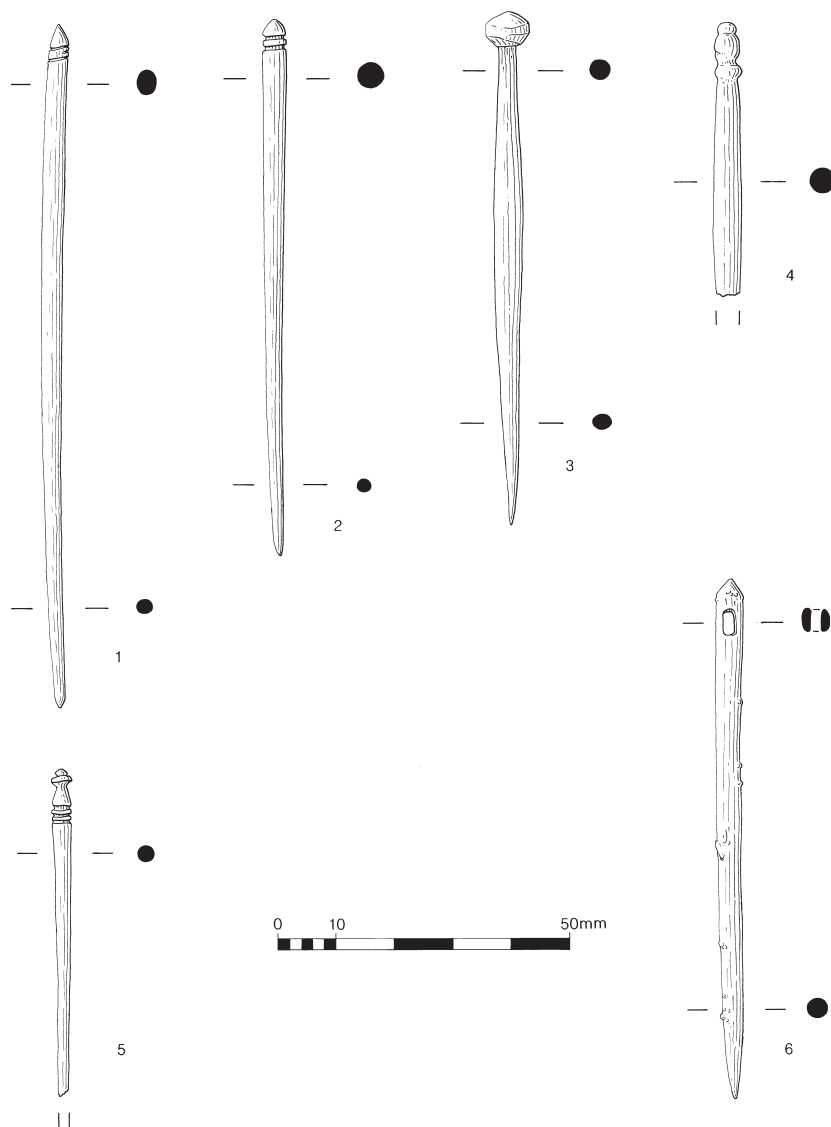


Fig 29 Staines. Worked bone objects. 1: pin (Crummy type 2); ON 610; Area 4, RB Phase II context 3863. 2: pin (Crummy type 2); ON 613; Area 4, RB Phase II context 3863. 3: pin (Crummy type 3); ON 340; Area 2, medieval context 1887. 4: pin (Crummy type 6); ON 539; Area 3, RB Phase III context 3235. 5: pin (Crummy type 6); ON 337; Area 2, RB context 1973. 6: needle (Crummy type 1); ON 578; Area 5, RB Phase III context 3407.

of the goddess and suckling at the left breast, was recovered from a post-medieval layer in Area 4. Other examples of this type are known from Staines (Jenkins 1984), including one closely comparable to that described here (*ibid*, fig 40, 1). This type of statuette, probably manufactured in central Gaul, appears to have been exported to Britain between *c* AD125 and *c* AD200. Corvid (raven and crow) bones were recovered from several Romano-British Phase II and III deposits, and in later features. Corvids have frequently been identified from Romano-British sites where their presence may be due to entirely natural causes, the raven once being a common scavenger however, they were also highly regarded as a talking pet and bird of omen (Toynbee 1973; Green 1992).

The early part of the 3rd century appears, from the ceramic and coin evidence, to represent a hiatus in activity within the settlement. However, this date range coincides with a 'problem' period in pottery dating in Roman Britain which could reflect a phase of conservatism in ceramics (perhaps linked to political unrest or economic downturn) or the need to refine ceramic dating, there being few fabrics and form types distinctly characteristic of this period. Samian continued to be available in the later 2nd to early 3rd centuries, but only in small quantities, and certain fabrics and forms characteristic of this phase in London are not represented here. It is improbable that the area within the site ceased to be used during this time, it being more likely that following the abandonment of the building – perhaps linked with a general slump in the town's prosperity as well as the more apparent problems with subsidence – the north part of the town reverted to its marginal function, with areas of occupation shrinking back to the roadside 'core' of the settlement. This apparent gap in activity coincides with a decline identified at the Friends' Burial Ground site and others in the town (Crouch & Shanks 1984, 127), strongly suggesting that it represents a 'real' hiatus affecting the whole settlement.

Late Romano-British; Phase III (late 3rd–4th centuries AD)

It seems that *Pontibus* never fully regained its early vibrancy and while not exactly becoming a backwater, it appears to have settled into a quiet old age with occasional flares of extra vitality. The land use within the confines of the site reverted to moderate levels of low-key activity mainly reflective of smallholdings for limited crop production, and animal corralling and grazing. Manufacturing/industrial activity was extremely minimal and limited to the

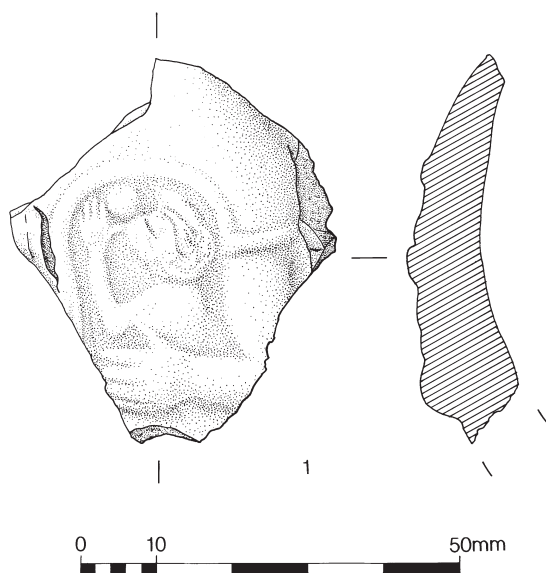


Fig 30 Staines. Fragment of *dea nutrix* clay figurine.

early part of the phase. Even the deposition of debris appears to have declined, possibly reflecting a general decrease in the permanent and/or transient population. The western half of the main island, at least within the confines of the site, appears to have been largely abandoned by the late 3rd century (perhaps as early as *c.* AD270), with a progressive concentration of activity in the east, away from the bridging point. Here, the establishment of a series of major drainage ditches just beyond the northern margins of the island indicates an attempt to control the local hydrology and perhaps greater management of the meadowlands to the north. There appears to have been some increase in the duration of seasonal flooding in the early part of the phase, with subsequent progressive drying-out of the surrounding meadowland throughout the 4th century AD, and eventual abandonment and deliberate backfilling of the drainage channels and ditches. Towards the end of the phase there are indications of a general breakdown in what may be termed ‘municipal control’ reflected in the apparent shift to use of surface middens rather than refuse pits, the deposition of a dead pony in a well less than 30m from the central street front and the burial of adult humans within the confines of the town. In a town such as *Pontibus*, its prosperity derived from its location on a major route from London to the west of the province; erratic levels of passing trade and the Roman ‘withdrawal’ are likely to have had a major effect in a relatively short space of time.

The winter flooding continued, with evidence to suggest increased severity in extent and duration in some years in the early part of the phase, at least at the east end of the main island. The associated alluvial deposits in Area 2 appeared to form two sequences distinguished by their extent and inclusions. The limits of the earlier sequence (0.3m deep) matched those of earlier alluvium (fig 3) and incorporated substantial quantities of late Romano-British material, while the later sequence (maximum 0.35m deep) was devoid of artefacts and had apparently not extended as far across the island, ceasing within *c.* 50m of the road. The continued use of much of this eastern half of the island for smallholdings is indicated by the presence of small east–west and north–south ditches, apparently acting as land boundaries and the working of at least the upper levels of both alluvial sequences either by deliberate horticultural activity or incidental trampling by animals. Similar land use – agricultural plots for small-scale crop production – on the north-west margins of the main gravel island is suggested by the presence of a north–south boundary ditch ‘containing’ a series of midden-rich linear features (Area 5, fig 8). Activity in Area 5 appears to have ceased some years before the end of the 3rd century AD, with Area 4 also apparently being almost completely abandoned by this stage and the western half of the island may subsequently have been used for animal corralling or grazing. That the northern part of Area 4 was used for some purpose is suggested by the deliberate levelling, using a mix of alluvial sediments and domestic debris, of the major slump in the floor of the Phase II building. It is possible, however, given the shallow (0.1m) depth of mixed material – including late Romano-British pottery – between the floor and the post-medieval levels that some truncation of deposits or shallow features may have occurred.

The position, form and fills of a complex of about eleven east–west ditches (including several recuts) situated within a narrow (16m), off-island strip towards the north end of Area 2 (fig 12) implies that their primary role was control of the local hydrology including drainage of the meadowlands to the north. The primary cut (752) of the most substantial east–west ditch sequence (752, 793 and 790: figs 12 and 31) had been made through the later of the Phase III alluvial deposits. The lower fill (753), within the ‘ankle-break’ (fig 31), indicated a slow accumulation and some waterlogging, while the later fills (794 and 795), comprising a fine-grained matrix partly derived from alluviation and partly redeposited alluvium, weathered in from the sides of the feature. The recut 793 shows a similar sequence of deposits (751, 791 and 792) reflecting the same formation processes, the lower fill of the final cut (790) following suit except that the upper fill (719), comprising angled layers, is indicative of deliberate backfilling. The sequences suggest that the ditch was persistently wet or boggy and not always well maintained, being left to become overgrown, with rushes dominating within

the ditch and grasses growing along the top (table 11). The periodic recuts may have been precipitated by slight increases in seasonal flooding in some years spurring the re-establishment of the drainage ditch, or simply overdue maintenance. The eventual deliberate backfilling of the ditch implies the land either no longer required drainage or that the job thereafter fell to other more northerly ditches. Similar sequences of recut east–west ditches were situated *c* 4m (cuts 956, 955 and 1021: fig 32) and *c* 8m (1188, 1186 and 1187: fig 33) to the north, but there was insufficient distinction between the sequences to detect whether they represent contemporaneous features working in tandem or if one ditch line progressively replaced another, though some did persist into the mid–late 4th century. The large channel (3256, figs 26 and 28) in Area 3 probably served the same drainage function, being similarly located on the northern margins of the main island (see *Phase I*, above), but it held very clear, albeit slow-running water, up to 1m-deep in places, and a dense vegetation of floating-leaved and submerged aquatics (tables 11 and 13), possibly indicating a manipulated natural channel rather than an entirely man-made one. As happened further east, the channel was eventually deliberately backfilled, probably in the first half of the 4th century, supporting the hypothesis of the general area becoming increasingly drier with a northward expansion of activity requiring infilling of the ditches rather than abandonment of the area.

Attempts to extend certain types of land use previously seen only on the higher on-island areas northwards into the wetter meadowlands were apparently limited and met with dubious success. A wattle-lined storage pit 1295 (figs 12 and 34) constructed in the northern half of Area 2 may have been deliberately placed here so as to keep the contents wet or at least damp – the lower fills indicating it was waterlogged – but subsequent flooding resulted in the majority of the pit being filled with alluvium.

The evidence for continued refuse disposal in pits is slight, but there are indications from material incorporated in other features in the west of the island that debris – including crop waste from ditch 793 (fig 31) – was being deposited in surface middens and manure heaps (tables 9–11).

A number of wells in Area 3 (3186 and 3160, fig 28) were probably cut at some stage in the 4th century AD, most likely in the second half since they must have post-dated the backfilling of the channel (3256) which is known to have been functioning in the early stages of Phase III. This part of the site may have been considered the most suitable from which

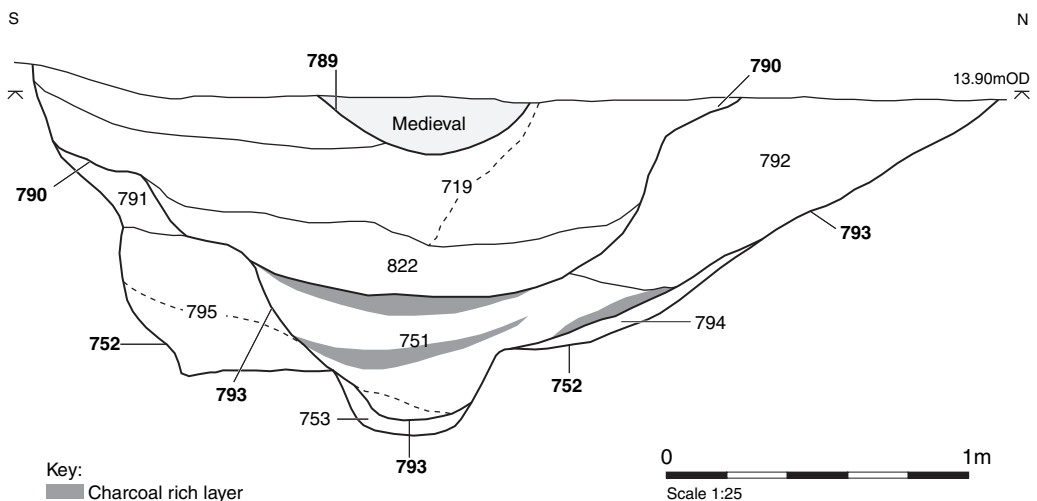


Fig 31 Staines. Area 2: section through main, Romano-British Phase III, east–west ditch sequence 752, 793, 790 and medieval ditch 789.

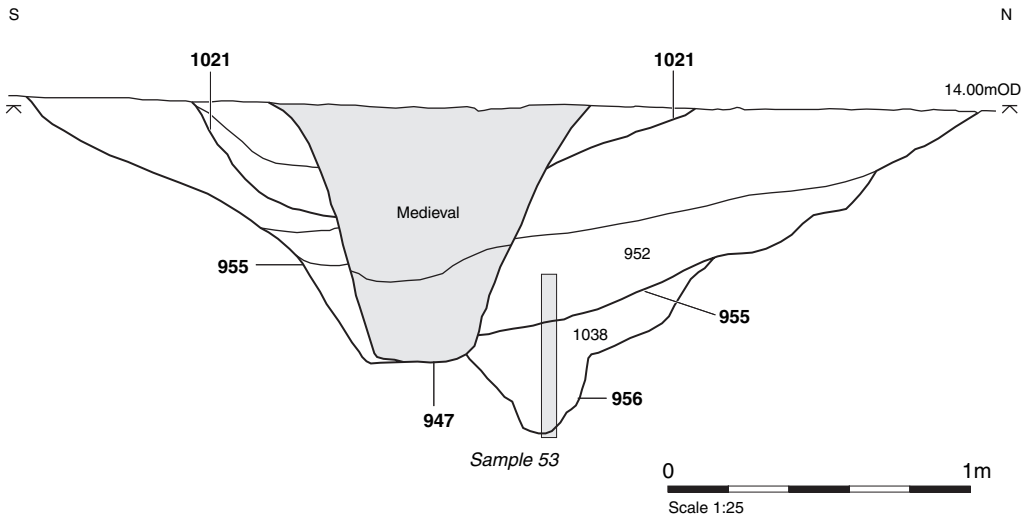


Fig 32 Staines: Area 2: section through Romano-British Phase III east-west ditch sequence 956, 955 and 1021, and medieval ditch 947.

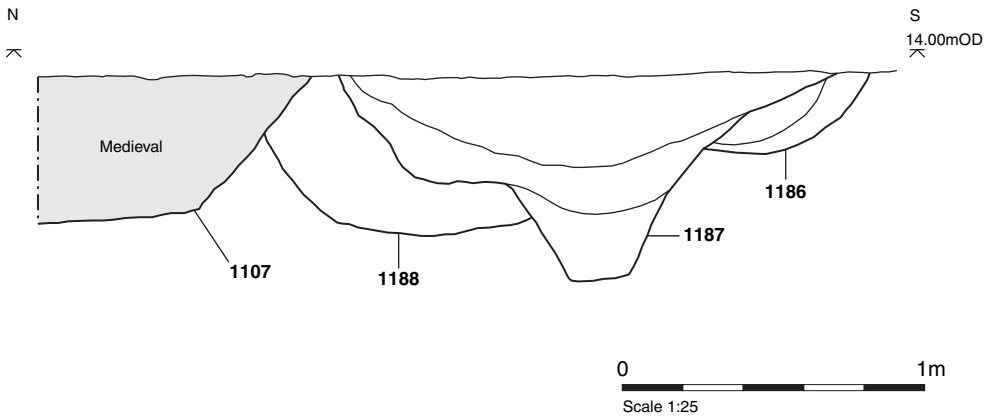


Fig 33 Staines. Area 2: section through Romano-British Phase III east-west ditch sequence 1186, 1187, 1188, and medieval ditch 1107.

to gather water for human consumption because of its relative freedom from surrounding refuse pits and other potentially noxious pollutants. All three wells were largely backfilled by the beginning of the 5th century. One other well (3605; current water level at 13.06m OD) situated *c* 20m back from the road front represents the only possible feature of this date in Area 4 (fig 7). It had, however, obviously ceased to function by the time a small, rather elderly, pony was dumped in it some time in the second half of the 3rd century and it may date to the late 2nd or early 3rd century AD subsequent to the use of the area for debris deposition.

The species-rich meadowland, with its few shrubs and rare trees, was probably still used as summer grazing for cattle and reed growth. Further grazing would be available on the shrubby wasteland and grassland apparently encroaching on at least the western half of the main island, as suggested by environmental evidence from well 3186 and channel 3256 (figs 26 and 28; tables 11 and 13). Before being backfilled, the banks of the latter supported a



Fig 34 Staines. Romano-British Phase III wattle-lined pit, north end Area 2.

luxuriant vegetation of emergent species dominated by rushes and yellow iris, with shrubs, hazel and alder, and brambles in the immediate vicinity. Exceptionally hot summers and occasional drought conditions are suggested by the presence of mature fruits and seeds of the aquatic rigid hornwort (*Ceratophyllum demersum*), frogbit (*Hydrocharis morsus-ranae*) and duckweed (*Lemna* sp.) among the vegetation within the channel, all of which appear to require specific conditions to produce mature seed (Preston & Croft 1997).

The Phase II use of Area 5 for tanning and/or the deposition of butchery waste may have continued slightly into the late Romano-British period, but is likely to have been short lived. The charred remains of coppiced wood from the same deposit (in ditch 3446, fig 8; table 8) is likely to relate to some specific process being undertaken in the vicinity in the early parts of the phase, but there is no supporting evidence as to what that was. The only other indication for manufacturing of any sort is in the shape of wood shavings recovered from the channel fill in Area 3, though the implied woodworking was most probably very small scale.

The general economy within the late Roman period seems to have followed along the same lines as within previous phases, the largely imported cereal crops and meat protein being supplemented by locally available wild foods, including those derived from wildfowling (eg wigeon) and hunting (eg woodcock – a tasty gamebird commonly recorded from Romano-British sites: Parker 1988; Hamilton-Dyer 1997; Serjeantson 2000). Large quantities of deliberately cut black mustard were recovered from the waterlogged fill of the wattle-lined

pit 1295 in Area 2 (fig 12; table 11); this would have been growing in the immediate vicinity and may have been cultivated as a spice. Some slight increase in the still limited local rearing of animals is suggested by the remains of the piglet recovered from Area 3, representing the only occurrence of such a young animal among the assemblage (table 14).

The quantity and diversity within the pottery assemblage increased from AD230/250 and thereafter until the mid/late 4th century, and contained what would be expected at this time (Crouch 1976, 98–101; Crouch & Shanks 1984, 68). The assemblage is dominated by coarsewares, most commonly from the Alice Holt/Farnham production centres (eg colour plate 1, large grey cordoned-neck jar at rear left), which may have been taken to *Pontibus* along an as yet unidentified direct road or by river to Weybridge and then along the Thames, or, as was probable with the late black burnished wares, London may have been the main redistribution centre. The coarsewares also included a few calcareous wares, while the Oxfordshire wares predominated among the finewares, the latter probably transported directly down the Thames. Of the most characteristic late Roman fabrics (the Oxfordshire wares, Hadham ware and Overwey/Tilford wares), 70% (156 out of 208 sherds) were found in Area 2 and 28% in Area 3, suggesting that activity in these areas extended into the second half of the 4th century. Conversely, only five sherds of these wares were found in Area 4, although two sherds of Central Gaulish black slipped ware (c AD150–early 3rd century), one of Moselkeramik black slipped ware (AD240–300) and one Oxfordshire mortarium type dated c AD240–300, were also present. Similarly, no examples of the characteristically late fabrics were found in Area 5; only seven of the sherds from the Phase III deposits were of late Romano-British date, the rest being 1st or 2nd century AD and presumably residual. An unexpected inclusion in one Area 5 ditch was a few sherds from a South-Western greyware storage jar (Holbrook & Bidwell 1991, 175; Seager Smith 1999, 310, fabric Q103). These vessels were made by a series of inter-related industries producing coarsewares for local markets in Somerset and east Devon between the 2nd and 4th centuries AD. The distinctive soft, flaky silver or pink speckled inclusions present in these sherds may indicate that this vessel was made at Norton Fitzwarren, near Taunton (Timby 1989, 54). That such vessels travelled the considerable distance from Somerset to *Pontibus* is somewhat surprising, given the size and utilitarian nature of storage jars, but their presence highlights the position of the town on the still major trade route west out of London.

The coin evidence suggests that the hiatus in activity indicated for the early 3rd century AD continued into the later part of the century, followed by periodic fluctuations above and below the national averages throughout the 4th century, possibly reflective of erratic levels in the passing trade. Late 3rd century coin numbers are well below the national average (Reece 1991; 1995). There was an upsurge in the 4th century, but with fluctuations, the figures being 'normal' until AD364–388 when they fall below the national average, only to rise above it in the latter part of the century (AD388–402). The latest coins to be recovered included a Æ4 *nummus* of Eugenius (AD392–394) from Area 2, a Theodosius I Æ4 *nummus* issued AD378–402 in Area 3, and from Area 4 a mid–late 4th century *nummus*. The only other non-ceramic artefacts the use of which appears contemporaneous with this phase are the armlets (fig 15) many of which date to the 3rd/4th century AD.

The *in-situ* remains of an adult female (2070; table 7) were found in the upper fill of the east–west ditch 2071 in Area 2 (fig 12) and redeposited bone from this female and at least one other adult (male) were also recovered from deposits within the immediate vicinity (Area 2 pile caps). The burial of adults in such locations is generally seen as associated with the abandonment of areas and probably reflects the shrinkage of occupation within the town towards the end of the Roman period.

MEDIEVAL OCCUPATION

The area within the confines of the site appears to have been largely abandoned throughout the Saxon and early part of the medieval period, though it may have been used as grazing

land. The 11th century seems to have heralded the commencement of the visible spread of activity but even this seems to have been peripheral to the central core of the settlement since the observation that 'large amounts of pottery discarded on the town island during the later 11th to early 13th century have been found in excavations' (Jones 1982, 211) certainly does not apply in this case (tables 1, 3 and 4). The majority of the evidence pertains to the 12th–14th centuries AD and illustrates similarities of land use with the Romano-British period – smallholdings (including burgage plots), storage and refuse disposal – the surviving remains showing a shift northwards into the alluvial areas off the north-east of the main gravel island. There are broad similarities between the Romano-British and the medieval crop assemblages and animal remains suggesting relatively little – discernible – change over time in the way the landscape and natural resources were exploited.

There was no *in-situ* evidence of Saxon or early medieval activity, the few (fifteen sherds, 200g) small, featureless body sherds from among the organic tempered wares which are probably Saxon (*c* 5th–8th centuries AD) being residual in later deposits in the eastern part of the main island. There is similar material from other areas of Staines (Jones 1982, 197, fabric MA 1) but the small quantities found here have nothing to add to our understanding of the 5th–8th centuries in the town.

The north-west gravel island (Area 1, fig 6) appears to have retained its role as farmland; a series of shallow, roughly east–west linear features implying it may have been put to agricultural/horticultural use as well as grazing. Much of the evidence from across the northern part of the main gravel island is also indicative of small-scale horticultural production or stock-keeping (Areas 2 and 3: figs 25–26 and 35), with activity concentrated off-island to the north-east. Most of the on-island features comprise domestic refuse pits concentrated in the central part of Area 2 (fig 25) – the largest of which (1920, fig 25) was 4m in diameter and 1.49m deep, containing a series of seven distinct layers – and a few in Areas 3 (fig 26) and 5. One pit in Area 5 (3429, fig 8) was timber lined and may have functioned as a cesspit (fig 36). The meadowland to the north and possibly much of the apparently unoccupied central area of the main island would still have been exploited as grassland, with hay gathered from these areas being used as domestic flooring, animal bedding or fodder, remnants from which were recovered from pit 3482 in Area 5 (table 12).

The dominant features in Area 2 were a series of four large north–south boundary ditches (with recuts) delineating burgage plots and probably also serving as drainage ditches, together with various other north–south and east–west land divisions (fig 35). One other burgage ditch may have existed in Area 3 (3116, fig 26). The burgage plots were set at right-angles to the line of the current High Street which presumably comprised the main route through the town. None of the ditches in Area 2 were completely straight and there was some variation in width (*c* 1.36–3.3m) both between ditches and along individual ditch lines (depths *c* 0.7–1.2m). The primary cuts were narrow, deep and steep (eg 947, fig 32) while the recuts were broader and shallower. The timing of the recuts did not coincide, hence the east–west linear feature 1007 (fig 35) cut one burgage ditch but was cut by two others, though this may indicate the amalgamation of two plots (see below, this section). In the later medieval period the burgage ditches were deliberately backfilled, though judging from the distribution of the internal features the distinction between the plots was maintained. Replacement of the ditches with a less intrusive boundary marker would have allowed the owners to reclaim up to a 2m width of land, but may also reflect changes in the local hydrology negating the need for drainage within the area. The extensive activity within this off-island alluvial zone suggests that there had been a reduction in the degree to which seasonal flooding affected the area since the 4th century AD; successive alluvial deposits had presumably resulted in a slight increase in the height of the land and the burgage ditches would have formed an effective drainage system minimizing any disruptive influence. There was no evidence to suggest alluviation was still occurring in this later medieval period, but the still relatively high level of the water table is illustrated by the minimum 0.15m waterlogging at the base of a large, on-island domestic rubbish pit (1920, base at 12.72m OD: fig 25). The burgage plots varied in width from *c* 4.2

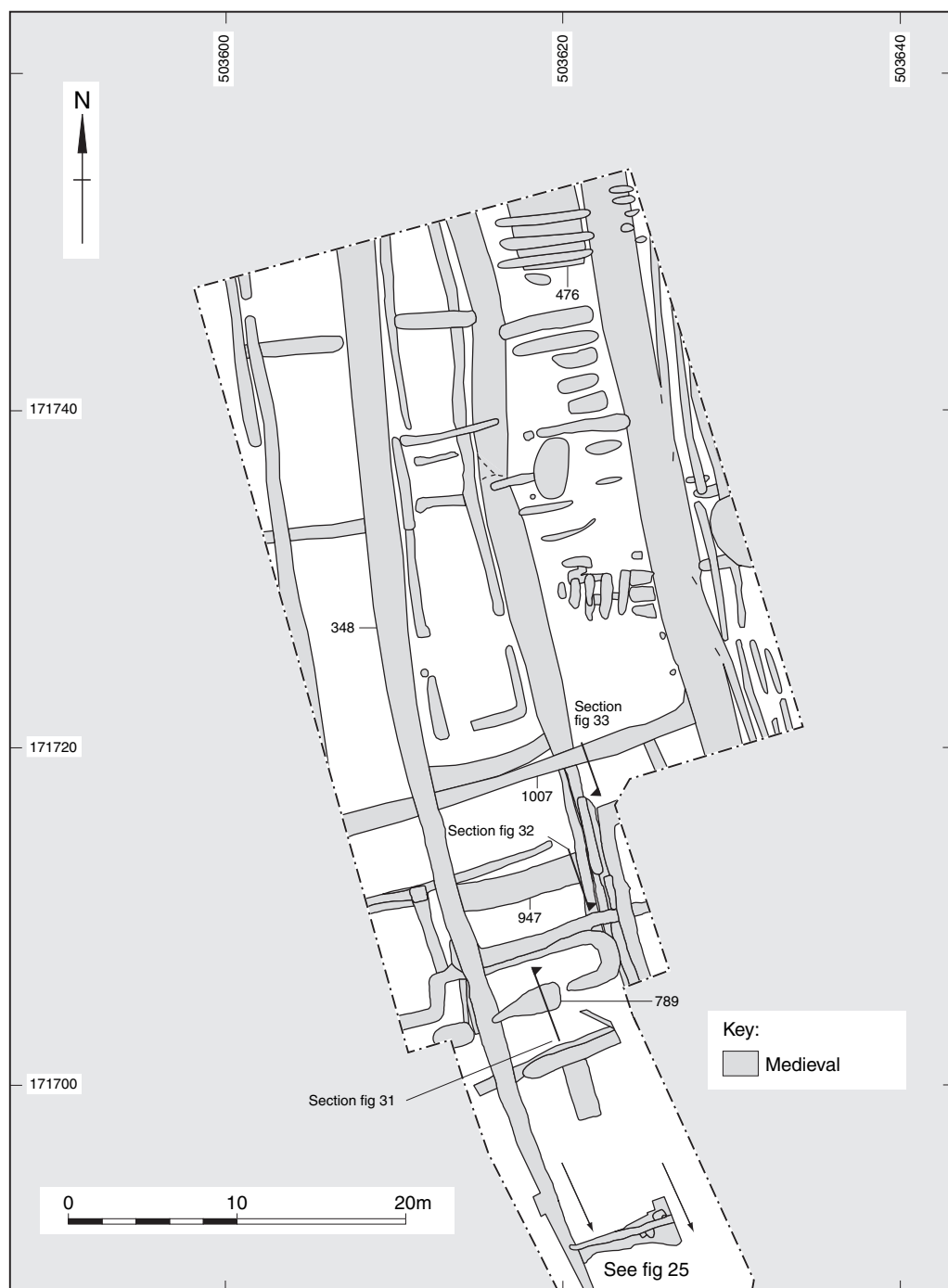


Fig 35 Staines. Area 2: north half; medieval.

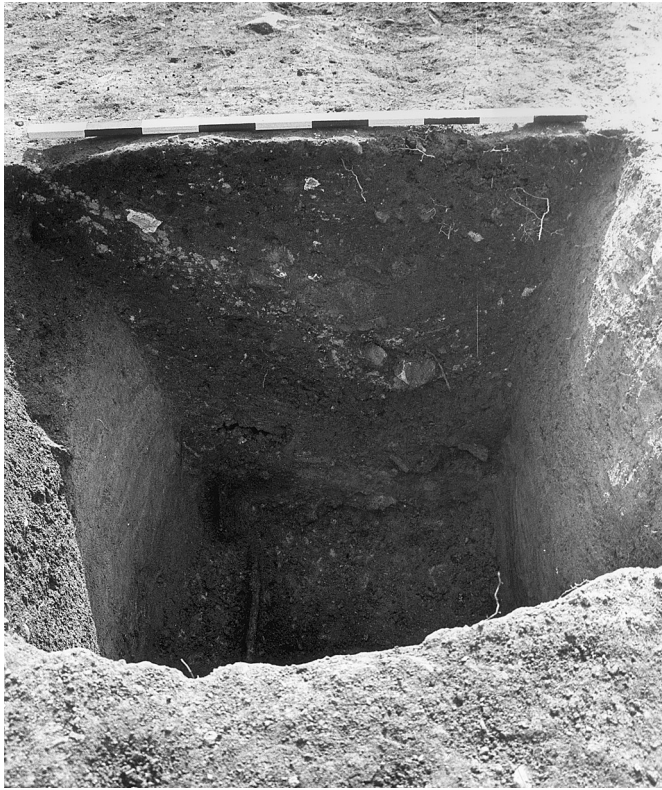


Fig 36 Staines. Medieval timber-lined cesspit, Area 5.

to 7m, with an average of *c* 6m. The longest traceable ditch (348) and, by implication, plot extended to within *c* 40m of the High Street and this may represent their southern limit as suggested by the absence of any trace of a ditch further south, despite the fact that the projected line of that to the east of 348 would have crossed the trench (figs 25 and 35). The plots generally represent a continuation of the property boundaries from the street frontage and the absence of any division within this part of the site, which contained (admittedly sparse) medieval features, may be indicative of an amalgamation of plots at this southerly point.

There was very limited evidence for buildings in the immediate vicinity of the site, and that which did survive was all from Area 2 and appears to relate to non-domestic structures. The central burgrave plot held traces (shallow slots) of a timber-framed structure, *c* 17 x 5.5m, with opposing openings at the south end of the long walls and possible internal divisions (fig 35), which most likely comprised a barn and/or stabling. There were traces of a gravel surface, apparently of medieval date, in the south-east corner of the site, which probably represented the remnants of a yard rather than an internal floor (fig 25). The presence of a possible oven (2102, fig 25), the purpose of which is unclear, containing a charcoal-rich fill largely comprising beech and what appears to have been spoiled cereal being used as fuel, suggests this central part of Area 2 may have formed yards or even a covered area prior to being used for refuse disposal (table 8). The proviso must again be added (see *Romano-British occupation*, above) that traces of timber buildings with shallow foundations may easily have been eradicated in subsequent disturbance of the area.

Several of the burgrave plots were used for horticultural purposes, indicated by the frequent short, shallow linear features – running east–west in one and north–south in the adjacent

plot – giving the appearance of 'lazy-bed' type cultivation (fig 35). Internal divisions within other plots may reflect the separation of different types of livestock or different ownership. An early feature at the north end of one burgage plot was a large, square well (476, fig 35), the lower fills of which comprised the fine-grained deposits typical of those formed under water with little disturbance.

Bread wheat and rye were the dominant cereals, with indications that they were being grown locally on a variety of soil types, and brought in to the town and stored unprocessed with some processing carried out on site (tables 8–10). Some barley and cultivated oats were also present and the wild foods locally available were being collected. Peas and beans were being produced, possibly within the burgage plots together with beet (*Beta vulgaris*), which was well established as a cultivated vegetable by the medieval period (Greig 1991; Vaughan & Geissler 1997).

The relative proportions of the main animal taxa in the Romano-British and medieval assemblages are remarkably similar (table 14; detailed analysis was carried out on 806 bones from the most secure medieval deposits – see *Methods: post-excavation analyses*, above), with cattle predominant, sheep secondary and pig in third position. Bird bones are mainly of fowl – that from pit 1920 (Area 2) being very short compared to the others and providing evidence for a bantam-type – and one or two others of goose, duck and woodcock. Fish remains are not usually common at inland Romano-British sites but the large numbers of fish found at some medieval sites are not here either. Of the seventeen fish bones only two could be identified: flatfish, probably plaice – a common species in medieval assemblages – and just two eel bones recovered from the sieved samples. No rabbit bones were found but there was some hare. There are no discernible differences in the measurements between the Romano-British and medieval assemblages. In contrast to the Romano-British deposits, most of the cattle jaws in the small medieval group are from old animals and the medieval cattle horn cores seemed to be less flattened than those from the Roman deposits. The few sheep skulls recovered are of both horned (a ram and a female or perhaps castrate) and hornless (two) animals from the medieval phase but all the Romano-British examples (eight) are horned. A pair of horn cores of a male is the only positive evidence for goat. One of the few consistently noticeable differences between the Roman and medieval periods is the much lower general level of butchery in the latter. Butchery marks are mainly of heavy chopping, but knife marks are more frequent on the medieval bones with less evidence for the bulk processing of cattle carcasses seen in the Romano-British period. Examples of scapulae with blade perforations were found in medieval pits in Area 2. Most of the group of horn cores from ditch 348 (fig 35) have chop marks showing where they had been removed from the rest of the skull; the style of removal differed from that employed in the Roman period, with chopping more likely to have been done from the side rather than from the rear and there are fewer instances of basal removal. Butchery at the Friends' Burial Ground site was thought to be the same for both Roman and medieval assemblages, in particular the heavy butchering of scapulae including blade perforations. At face value this is the same situation with the current assemblages but recent research elsewhere in Britain and Europe indicates that this is a Roman phenomenon (Dobney *et al* 1996) and it is likely that the authors were not aware of the potential degree of residuality in the medieval assemblage.

Most, if not all, the pottery within the later medieval assemblage dates from the 12th–14th centuries AD. The majority (847 sherds, 86%) was recovered from Area 2, with *c* 50% of the assemblage from the northern half where the greatest density of *in-situ* medieval features was observed (fig 35). The sherds from Area 2 are among the smallest (mean weight 11g), though with the exception of Area 5 (mean weight 28g), those from all areas are very small, the overall mean being 14g, less than average for the assemblage of all periods. The material is also slightly more abraded than the Roman sherds, which, together with the small fragment size, is likely to be a measure of its highly residual nature, perhaps by this stage having reached the end of a line of deposition episodes. Shelly wares and coarser sandy wares represent the beginning of the range, augmented and superseded by the Surrey and Hertfordshire wares in the 13th century. It is possible that some of the shelly wares are of earlier, Saxo-Norman

date comparable with those found in other areas of the town (Jones 1982, 199–209), but there are few of the simple or squared everted rims characteristic of this period. Dominated by the products of the Surrey/Hampshire border industry, the assemblage includes both grey and white wares; the whitewares are closest to Kingston types but there may be a source, as yet unidentified, closer to Staines, while other greywares are likely to derive from the Hertfordshire greyware tradition and from the Camley Gardens kilns in Maidenhead. Local sources may be represented by a few sherds containing crushed ironstone. Vessel forms are dominated by handmade jars. Glazed wares are relatively scarce and largely restricted to Surrey ware jugs. Other recognizable forms include a skillet and a spouted pitcher. A handful (eight sherds, 95g) of possible London-type wares were identified, including one small sherd probably from a Rouen jug copy. A few handmade jars in shelly fabrics were also noted and one possible imported Aardenburg sherd was found in Area 3. None of this material would be out of place in a domestic ‘backlands’ assemblage and it finds many parallels among the published material from other areas of Staines (Jones & Shanks 1976, 101–14; Jones 1982; 1984, 74–9).

Non-ceramic artefacts from this period were very rare, but included an annular brooch and a Henry III shortcross penny (AD1210–17). The dearth of material is likely to be a reflection of the marginal nature of activity within the site.

The remains of several other domestic animals – all of which will have had a utilitarian function in addition to the possible role of some as ‘pets’ – were recovered including three adult cats, variously sized dogs and several horses. The dogs included several elderly animals, one with a short, sturdy, slightly bent tibia as seen in several small modern breeds including the Corgi and Jack Russell. One of the horses was a stallion of over 20 years, while another was a neonatal foal.

The land use within the site is likely to have continued along the same vein throughout the later medieval period and into the earlier part of the post-medieval. Although the dating evidence is limited to a single piece of Tudor Green ware – a late medieval product of the Surrey Whiteware industry – from Area 3, the paucity of ceramic material is likely to reflect a general decline in pottery production in this late phase as the manufacture of vessels in other materials – particularly metals – increased, rather than a decrease in land use.

POST-MEDIEVAL

A substantial number of intrusive features left their mark across the site between the 16th and 20th centuries (fig 2) and all areas were covered by some depth of worked soil horizons bearing testament to the continued use of the land for the growing of produce or as gardens.

The most extensive intrusive features were towards the High Street frontage in Areas 2 and 4 (fig 2). A series of four cellars, presumably related to street-front properties, had been cut through large parts of the southern *c* 25m of Area 2, at least the earliest two of which appear to have followed the projected line of one of the medieval burgrave plots. The first in the series was set *c* 3.2m from the frontage and comprised a 3 x 3m brick-lined construction with a German *Bartmann* jug (early/mid-17th century) sealed into the foundations. This was superseded by a 7.5 x 4m structure which had a 17th century glass flask sealed within its foundations and a minimum of three floor levels. The other two cellars were 19th century in date and were set to the south and north of the earlier ones. Area 4 had been extensively occupied in the 19th and 20th centuries, the northern part of the area alone being cut by five wells/soakaways and a minimum of six large refuse pits, at least some of which were probably related to the recently demolished no 4 Tilly’s Lane. The south end of the area had been similarly utilized, the presence of very large, deep rubbish pits suggesting that buildings were not constructed until relatively late. The 1896 OS (2 edn) map does show a few plots of ‘undeveloped’ land extending up to the north side of the High Street. A set of wheel-ruts running north–south across Area 2 indicate the one-time presence of a routeway, perhaps leading along what was later Norris Road, from the High Street to the fields behind. Most

of the other intrusions in the northern part of Area 2 and across Area 1 are later 19th and 20th century in date – comprising postholes, foundation trenches, concrete stanchions and foundations – and relate to the industrial use of the area.

The depth of 16th–18th century worked soils was generally *c.* 0.15–0.2m but varied from as little as 0.1m at the north end of Area 4 to a maximum *c.* 0.7m in Area 5. These were sealed by 19th–20th century soils and make-up layers, generally up to 1m deep. Relatively substantial quantities of Romano-British and later pottery (tables 1 and 2) were recovered from most of these levels, though the singular dearth of such material in Area 4 suggests that the 'make-up' may have been imported from outside the area. The presence of thick layers of redeposited material containing substantial amounts of medieval and post-medieval pottery overlying medieval levels in the southern half of evaluation Tr 30 (figs 2 and 3) may reflect an attempt to increase the height of the land on the northern margins of the main gravel island. The junction between the island gravel and the alluvium to the north was delineated in Tr 30 by the line of a recut post-medieval ditch, known as Sweep's Ditch, representing the last in a line of such features aimed at controlling drainage in the area, but dry at the time of the archaeological investigations.

The post-medieval pottery was mostly recovered from Area 2, incorporating glazed and unglazed coarse earthenwares (including Border ware), English tin-glazed earthenware, stonewares, later industrial wares and porcelain, with a potential date range from the 16th to 19th centuries. Only the red earthenwares were relatively common. Other earlier post-medieval finds include a Henry VIII half groat (AD1544–47) from a post-medieval pit at the south end of Area 4 and a St Patrick's coinage farthing (AD1674–80) from one of the post-medieval levels at the south end of Area 2.

Discussion

It has long been recognized that the topographic position and alluvial history of Staines have been major factors in the development and function of the settlement throughout prehistory and much of the historic period. The main gravel island extended *c.* 325m east–west and *c.* 190m north–south (fig 3), being bounded by the surrounding low-lying land and the rivers Thames, Colne and Wraybury to the south and west. The permanently occupiable area of the island would, however, have been smaller owing to the effects of winter flooding, the local hydrology potentially being influenced by a variety of factors including climatic fluctuations and human riverside activity up- or downstream affecting the rivers and their channels. The extent of the flooding on the north side of the road was previously unclear, but as shown on figure 3, the approximate limits of the associated alluviation extend across parts of the island and the shallow flood waters would have extended further. It has been suggested (Crouch 1976; Crouch & Shanks 1984) that to the south of the High Street the margin of alluviation coincided with the edge of the gravel island throughout much of the Romano-British period (perhaps associated with the margins of a palaeochannel), only extending northwards across the island in the 3rd century AD (fig 3). It was assumed that the extent of alluviation (which was up to 1m deep at the Friends' Burial Ground site; fig 3, site 8) also marked the limit of the seasonal floodwaters, but, as happened to the north, the latter would have extended to a shallow depth further across the island leaving no alluvial deposits. The seasonal flooding, of fluctuating extent and duration throughout much of the Romano-British period, could have restricted the area of land suitable for permanent settlement. There were probably points in the 3rd century AD where all the island except a *c.* 140m-wide strip centred on the road was subject to some seasonal flooding, the water possibly even reaching the road itself in bad years.

The basic landscape around Staines probably remained more or less the same from the Neolithic/Early Bronze Age onwards. Minor changes will have included a gradual increase in the ground levels in low-lying areas as a result of alluvial depositions reducing the already low relief. These changes were probably accompanied by the periodic formation, cessation and re-routing of palaeochannels across the inter-island areas, such as those observed at the

Friends' Burial Ground site in the Bronze Age and the channel which appears to have persisted on the southern margins of the main island until the medieval period (Crouch 1976). The low-lying land to the north appears to have comprised rich grassland and reed beds with scant tree cover interspersed with shrubs including those bearing edible fruits, and is likely to have formed an important resource throughout the temporal range. The seasonal flooding fluctuated in occurrence, duration and extent. The suggestion (Lamb 1959) that the climate became drier and warmer in the Romano-British period may be reflected in the evidence from the late Romano-British period for extremely hot summers and the abandonment of what had been major drainage ditches.

The Bronze Age pottery from the Friends' Burial Ground site, though all redeposited in Romano-British features, was interpreted as representing 'debris from substantial earlier settlement in the immediate vicinity' (Barrett 1984, 33). The rapid fall off in the frequency of prehistoric sherds found in Areas 2–5 (50 compared with 325 from the Friends' Burial Ground site) suggests that any such settlement was not located on the northern half of the island. However, the presence of the substantial riverside settlement at Runnymede only 1.6km upstream and within what must have comprised a very similar contemporaneous landscape (Needham 1991) suggests it may have been situated somewhere on the neighbouring Thames riverbank. There is a general paucity of evidence for Iron Age activity on the main island suggesting negligible, if any, actual occupation. It is questionable whether a crossing point over the Thames existed in the immediate vicinity in the pre-Roman period. The area was perhaps made more attractive by the presence of mid-channel islands rendering crossing easier, but the depth of the river would presumably have limited what could be transported to that which could be carried by boat; swimming livestock across carried the potential danger of loss.

The date of the town's establishment is debatable, though the construction of the road and bridge(s) is likely to have followed shortly after the 'conquest' of the territory to the west to give the army there a secure channel of communication with the capital. This was probably soon after the establishment of *Calleva* (Silchester) around AD43 (Wacher 1995, 272). The implied existence of more than one bridge has elicited some discussion (Crouch 1976). The apparent contemporary use of the plural (though it has been noted that errors in the form of some names and distances may have worked their way in to the Antonine Itinerary; Rivet 1970, 39) suggests that both – though there may have been more than two – were in existence at the same time rather than one, or more, replacing the other. Since there are at least three rivers associated with the town and numerous other channels, it may have been necessary to construct several bridges to gain access across the various watercourses (*ibid.*). The actual line of the main road and the bridging point is still unclear (see *Archaeological background*, above) and although assumed to be in the region of the later medieval bridge there is currently no supporting evidence. River islands still exist in the Thames at Staines, such topographic features being known to have formed in the Early Holocene (Sidell *et al* 2000). The use of such riverine features to shorten the length of a bridge span would have resulted in the construction of two bridges, though to use the current islands in this way would have led to a rather large divergence from the projected line of the road.

The origins of *Pontibus* were inextricably linked with the major road between *Londinium* and the western part of the province. There is no evidence to suggest the former presence of an Iron Age settlement and that for a military origin is tenuous, though it is reasonable to suppose at least a small, temporary military presence during construction of the bridge(s) and in the early years of occupation. The juxtaposition of strategic road, river crossing and the distance from London (21 Roman miles) render it a classic location based on the criteria outlined by Frere (1975, 4–5). There are also suggestions that it may originally have formed a posting station (Bird 1987, 169; Perring 2000). Again, given the position and distance of the town from the major centres of London and Silchester, it is highly likely that it will have functioned at least as a changing station (*mutatio*) providing stabling, fresh horses and draft animals; its inclusion in the Antonine Itinerary reinforces this likelihood, though there is continued debate

as to the nature and date of the Itinerary (Rivet 1970, 65–7). Using the Bordeaux Itinerary as a guide, Rivet (1975, 112–13) has suggested such facilities could be anticipated at between 8 and 18 mile intervals; and there is at least some evidence for stabling and grazing areas from the north side of the road. There is currently no convincing evidence for the existence of a formal *mansio* (Bird 1996, 222), which would have comprised substantial masonry buildings with accommodation for authorized persons in addition to the facilities offered by the *mutatio* (Smith 1987, 11–19). While the various building materials recovered from the town are of the type which would be expected within such a complex there is currently nothing of the anticipated size and form suggested by the *mansiones* excavated at Chelmsford, Essex (Drury 1975, fig 3), Godmanchester, Cambridgeshire (Green 1875, figs 10–11) and Wanborough, Wiltshire (Smith 1987, 11–19). Rivet (1975, 112) has also suggested that such complexes may be expected ‘at intervals of not more than 40–45 Roman miles’ which implies that Staines may have been too close to either London or Silchester to be a likely candidate for a *mansio*.

The river, as a form of transport and communication, was probably of relatively limited importance to the town’s prosperity. The Thames presented navigation difficulties for those travelling upstream because of the frequent rapids and shoals (Marsden 1994, 105) and road transport would have been much easier (Bird 1996; 2000). While goods were undoubtedly transported down the river to London, which functioned as a major redistribution centre as well as consumer – as, for example, with the products of the late Roman Oxfordshire and Alice Holt/Farnham pottery industries – there is no reason to suppose that such materials would have been off-loaded in Staines for transference to the road rather than being allowed to continue along the river to the port of London. Such traffic is likely to have used barges similar to those found at Southwark (Marsden 1994, 161) – small crafts with a shallow draught and able to carry very heavy loads (Lyne & Jefferies 1979) but requiring no sail, or having one that could be lowered to allow passage below the bridges. The vessels would have had to make a return journey, but may have been deliberately kept light to assist the difficult passage back up river which may have required the barge to be towed in places (Marsden 1994, 105). Most goods arriving in *Pontibus* from the east probably did so via the easier road route. The ceramic evidence does not suggest the large proportions of Oxfordshire wares among the assemblage which one may expect were large amounts arriving in the town by river, and it is probable that most such traffic just passed through. However, some other small-scale, local traffic undoubtedly will have used the river to transfer goods to and from the town. Judging from the environmental evidence, the use of the river as a food resource also appears to have been relatively minimal.

In the main, the Thames was a barrier to be crossed and the small town of *Pontibus* existed because of the road, the bridge and the human traffic that went with it. The town lay roughly half-way between *Londinium* and *Calleva*, and a large volume of traffic, both military and civilian, is likely to have used the bridging point; produce from the west of the province being brought into the capital to feed its populace and be redistributed, and imported goods and those for redistribution travelling out to the provinces. *Pontibus* would have provided a convenient resting point on the journey in either direction. The stop may at times have been enforced by the volume of traffic backing up as it went over the bridge – particularly with the movement of livestock – providing enterprising townsfolk with a ‘captive’ audience for their goods be they innkeeper, food vendor, blacksmith or shopkeeper. The flow of traffic, and all it potentially brought with it, will have acted as a magnet to both settlers and the rural populace looking to sell produce, perhaps purchase some exotic item or simply to see what the rest of the world looked like. Similarly placed settlements, for example Old Ford on the Colchester road, were also believed to act as centres for cattle being driven into London and it has been suggested that Staines, together with Enfield, may have served a similar purpose (Bird 1996, 222; Bird 2000; Perring 2000). Certainly the ready availability of open land and extensive meadowland on the north side of the road would have lent itself to such a purpose. The survival of the town was dependent on political stability either side of the

Thames requiring and allowing this vital flow of people and goods: if peaceful it would flourish, if stressful it would decline (Burnham & Wachter 1990).

The overall impression one forms of *Pontibus* is of a prosperous small town, but one which was not particularly high status nor very wealthy. Although the populace obviously included some wealthy enough to construct relatively high-status dwellings there is also evidence for a much poorer underclass. The area of the main island suitable for permanent occupation falls well within the range of the small town fortifications presented in Burnham & Wachter (1990, fig 8). There is also likely to have been a relatively high proportion of transient occupants, substantially boosting the number of people in the town at any one time. There are clearly gaps in the archaeological evidence pertaining to the town, primarily in where the dead were placed, and the entry and exit points to the town – all factors of importance to our further understanding of the settlement.

The apparent predominant use of the north side of the road for waste disposal, small-holdings, animal grazing, stabling and possible corralling, and occasional small-scale industrial purposes is apparently contrasted to the south of the road by a virtual absence of refuse pits (Crouch 1976; Crouch & Shanks 1984) and frequent evidence for structures and associated features. The size and form of these structures is unclear from the data currently available since only small parts of the buildings fell within the confines of the excavations (*ibid*), dimensions of 9 x 6.5m being suggested for only one Severan structure (Crouch & Shanks 1984). This apparent distinction in land use lends credence to the possibility that the north side was used by those living to the south of it for dumping their rubbish, growing occasional crops and keeping a few animals; potentially also leaving land free for transit traffic to stop off without blocking the road.

The presence of at least two 1st century AD roundhouses at the west end of the settlement (Burnham & Wachter 1990) suggests that at least some of the town's early occupants comprised the indigenous population; but irrespective of whether the population at large included mostly locals or 'foreigners', 'romanized' building forms were rapidly adopted. In common with most early buildings in the small towns of Roman Britain (*ibid*) almost all the early buildings were timber framed, with an almost uniform transition to masonry in the second half of the 2nd to early 3rd centuries. The relatively grandiose building in Area 4 on the north side of the road currently appears to have been slightly larger than any of those to the south but, size apart, they shared many constructional features with evidence for painted wall plaster, tessellated floors and the use of non-local stone. No evidence for *in-situ* hypocausts has yet been found, though the recovery of flue tiles are testament to their presence, and the bath-house allegedly located near the Angel Inn (fig 3, site 18) constitutes at least one likely candidate.

The early prosperity and expansion of the settlement, followed by the late 2nd–early 3rd century hiatus and apparent contraction, and finally its slight resurgence in the 4th century reflects a general trend in Romano-British small towns (Burnham & Wachter 1990; Bird 2000, 165; Perring 2000, 150–1). The apparent increase in duration and extent of flooding in some years of the late 3rd century, for which there is only localized evidence to the north of the road but which apparently had more effect to the south (that was generally less affected than the former), is likely to have been only coincidental with the apparent decline of the town. Although seen as a general trend, no reasons for the fluctuation have been ascertained and it may be that the province had simply 'over-reached' itself, attaining a natural 'plateau' which can occur following periods of relatively great prosperity as in the 'boom-and-bust' of the later 20th century. In the rural settlement at Harlington to the north-east (Wessex Archaeology 1998b; Bird 2000) the middle Romano-British period brought a change in the landscape and its use, but no 'decline' and no break in occupation; the same appears to have happened within the town, perhaps with slightly less dependence on the road and a greater focus on farming activity within the settlement and its immediate environs.

The results from the current investigations add little to our knowledge of the Saxon and early medieval activity in the area, other than to show it was relatively sparse on the north

side of the island. Of the later medieval period, it demonstrates that contrary to the evidence suggested by previous investigations, land boundaries were being set with reference to the route of the current High Street, perhaps illustrating a different approach to land division within the settlement dependent on when particular areas of land came into certain types of use.

Endnote

The tables listed below are available on the Archaeology Data Service website (<http://ads.ahds.ac.uk/catalogue/library/surreyac/v91.cfm>). Copies of this material will also be deposited with: the Society’s library, Guildford; Surrey History Centre, Woking, and the Surrey Sites and Monuments Record, Kingston. Photocopies can also be supplied by post – enquiries should be addressed to the Hon Editors, Surrey Archaeological Society, Castle Arch, Guildford GU1 3SX.

TABLES

- 1 Finds totals by material type
- 2 Total number and weight (g) of sherds by period and Area
- 3 Fabric groups by period
- 4 Fabric groups by Area
- 5 Ceramic building material: dated forms by period
- 6 Ceramic building material: dated forms by Area
- 7 Summary of results from human bone analysis
- 8 Waterlogged wood and charcoal: number of fragments identified.
- 9 Charred plant remains: crops
- 10 Charred plant remains: weeds
- 11 Species identifications from waterlogged samples
- 12 Mineralized plant remains
- 13 Mollusc data
- 14 Summary of animal bone species by period and Area

ACKNOWLEDGEMENTS

The archaeological investigations were commissioned and funded throughout by MEPC UK Ltd through their agents CgMs Consulting. Thanks are due to Nick Pakes and Hugo Buchannan of MEPC UK Ltd, and Paul Chadwick of CgMs Consulting for their assistance and support throughout the project. The fieldwork was monitored on behalf of Surrey County Council by Dinah Saich and Gary Jackson, Assistant Archaeological Officers.

Jonathan Nowell of Wessex Archaeology managed the project throughout. Several Project Officers were involved in the on-site direction, prominently Jacqueline I McKinley, with Michael J Heaton (evaluation stage I), Janice Grove (central section Area 2 and pile caps) and Kevin Ritchie (1998 Tilly’s Lane evaluation). The site Project Supervisors included Isca Howell (Areas 1 and 2) and Robert Davies (Areas 4 and 5). Over the years, a variable team of *c* 25 personnel assisted with the excavations, who are to be recognized for their hard work and enthusiasm in sometimes less than favourable conditions, including the machine operators whose skill renders the work of those who follow after so much easier. Grateful thanks are also due to the enthusiastic volunteers from the Spelthorne Archaeological Field Group and the Spelthorne University of the Third Age Archaeology Group who came along to assist with finds washing and whose efforts were much appreciated.

This report was prepared by Jacqueline I McKinley incorporating the contributions of a number of specialists: Michael J Allen (snails and sedimentary studies); Wendy J Carruthers

(mineralized plant remains); A J Clapham (charred and waterlogged plant remains); S Hamilton-Dyer (animal bone); Rowena Gale (waterlogged wood and charcoal), Emma Loader (CBM), Lorraine Mephram (glass, worked bone and stone, copper alloy); Rachael Seager Smith (pottery, CBM), and Nicholas A Wells (coins). The illustrations were prepared by Rob Goller and the plates produced by Elaine Wakefield who also took the photographs of artefacts, others being taken by members of the site staff.

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