

River Lavant Culvert

EXCAVATIONS IN MARKET ROAD (ST JOHN'S STREET) CAR PARK,
CHICHESTER, 1996

by Frances Raymond

with contributions by
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Excavation revealed two large ditches on the same alignment as the city wall. One of these may have been the Roman inner town ditch, re-cut at a later date. The other is likely to have been the medieval ditch constructed in 1378. Substantial post-medieval foundations had been laid immediately above the tertiary silts within this feature. These may have been associated with an episode of landscaping, involving an attempt to control the floodwaters of the River Lavant. Additional features included an early Roman hearth, a cellar of medieval or later date, a post-medieval property boundary, and a 19th- or early 20th-century well and outbuilding. A possible relict river channel was also located on the line of the 19th-century culvert.

INTRODUCTION

The investigation was carried out in advance of the realignment of the River Lavant culvert. The new route was 86 m long and involved the excavation of a trench 2.4 m deep and 4.8 m wide at the base. West Sussex County Council engaged Thames Valley Archaeological Services Ltd to conduct an evaluation, excavation and watching brief along the course of the replacement culvert. These phases of work were carried out according to a specification prepared by the archaeology section of West Sussex County Council. The site code is RLCC96/43. The finds and archive have been deposited with Chichester District Museum (accession no. 7311).

LOCATION, TOPOGRAPHY AND GEOLOGY

The site is located on the south-eastern side of Chichester immediately outside the city wall (Figs 1 & 2). The replacement culvert crosses the western side of Market Road from SU 86429 04657 and continues through the car park and across St John's Street to SU 86355 04605. The existing road and car park surfaces vary in height between 12.74 m and 13.30 m above Ordnance Datum. The modern ground level within the car park occupies a position 0.45 m to 0.60 m above a 19th- and 20th-century garden soil. The geology of the area comprises a cryoturbated stony brickearth above sorted flint gravel, overlying a calcareous head deposit.

ARCHAEOLOGICAL CONTEXT

The new culvert follows the alignment of the existing

(medieval) city wall, which in turn is thought approximately to retain the line of its Roman precursor. The location of the trench corresponded with the distance from the wall to two parallel ditches, which, together with an earthen rampart behind the wall, comprised the earliest defences of *Noviomagus*. Recent excavation on the west wall suggested that these various elements of the town defences were contemporary (Magilton 1993, 108) and unlikely to have been constructed before the late 3rd century AD. The realigned culvert also passes close to the putative site of a bastion at an angle in the city wall. This appears on maps predating 1769 when William Gardner's plan of Chichester was issued. The bastions were a later addition to the Roman town defences, possibly constructed around the mid-4th century AD (Magilton 1993, SE6, fig. 6H.1 & 129). Their foundations were built partly over the inner ditch, which was backfilled, while the outer ditch appears to have been re-modelled (Magilton 1993).

By the medieval period the walls had become ruinous and, in an attempt to rectify this, several grants of murage were awarded during the 13th and 14th centuries (Page & Peckham 1935, 72). In 1378 a programme of refortification was instituted, involving the repair of the masonry and the excavation of a ditch, 15.24 m wide (Page & Peckham 1935; Rae 1952, 180). Further renovation of the walls, this time confined to the south-east quadrant, followed another grant in 1443 (Page & Peckham 1935, 72). Finally, the masonry was again repaired in 1724.

Archaeological sections excavated through the

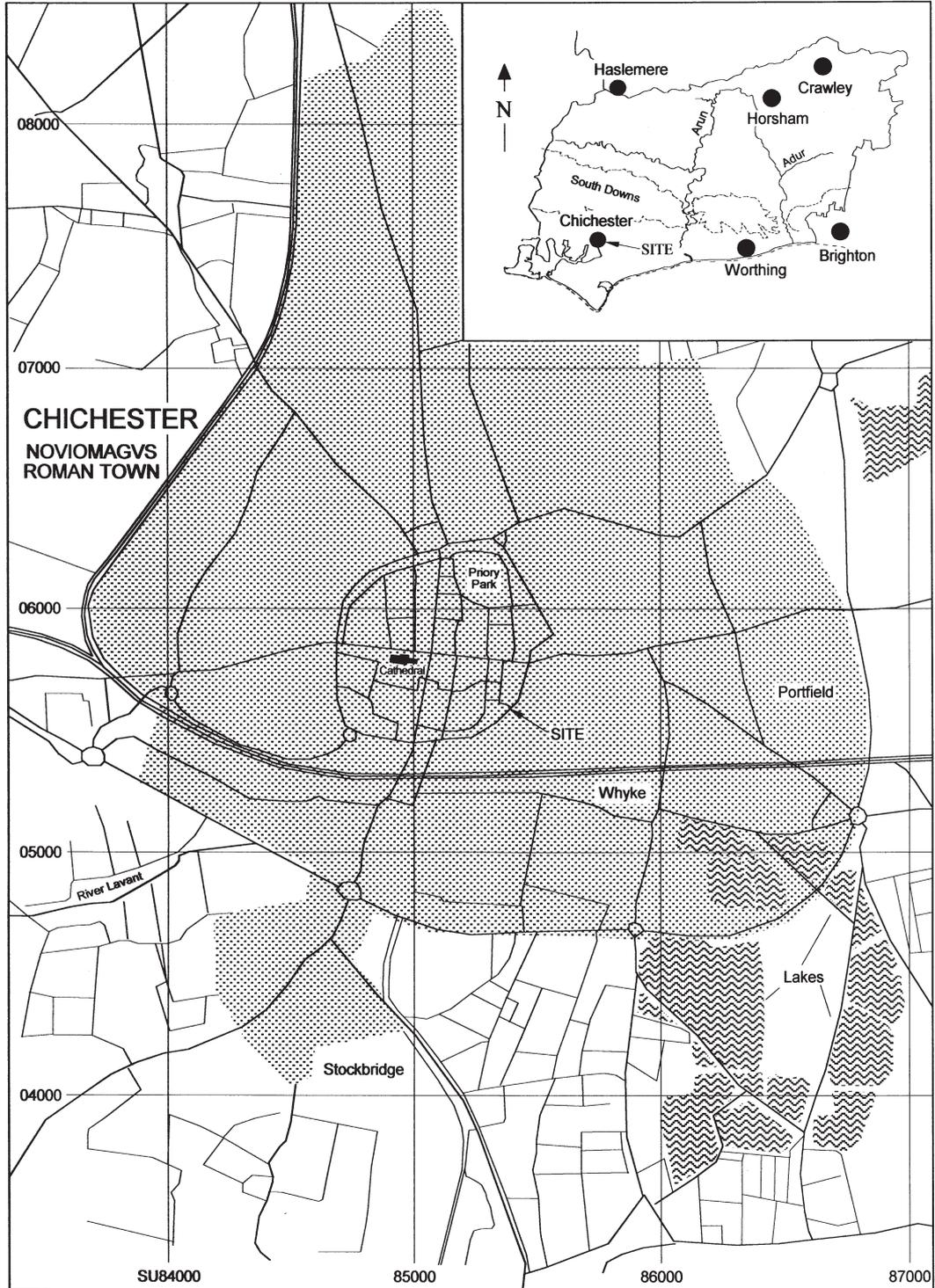


Fig. 1. Location of site within West Sussex and Chichester.

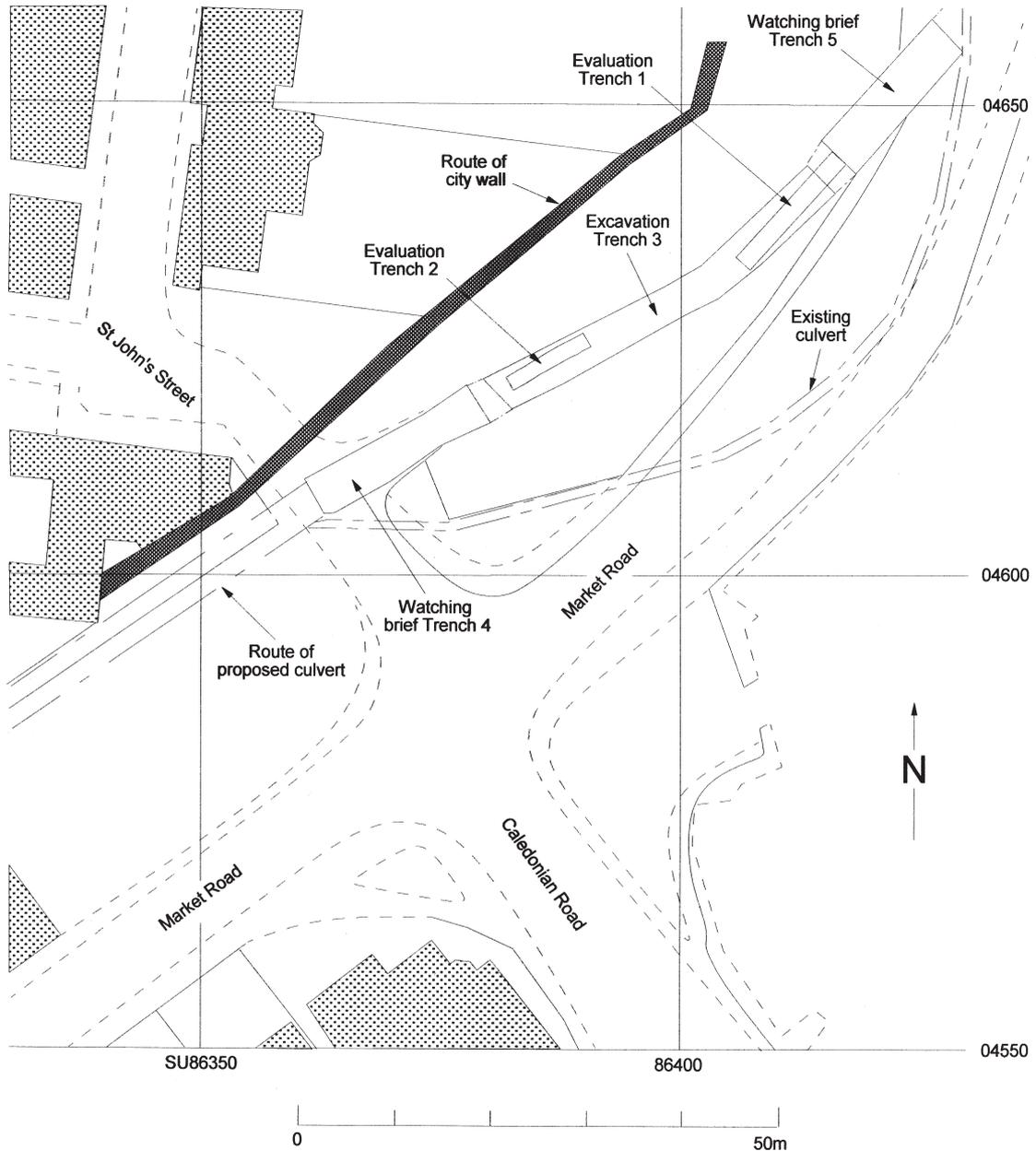


Fig. 2. Trench location plans.

medieval defences seem to indicate some contrast in the construction techniques employed. Against the east walls, both of the Roman town ditches appear to have been re-cut (Wilson 1957, 125), whereas in the south-west quadrant they were apparently replaced by a single, wide feature (Holmes 1962, 81). William

Stukeley's map depicts a ditch surrounding the city, indicating that it survived as an earthwork in 1723.

Apart from the town defences, the lines of at least two large ditches were believed likely to converge on the new culvert. The first, aligned on a NE-SW axis, has been excavated in several locations, including

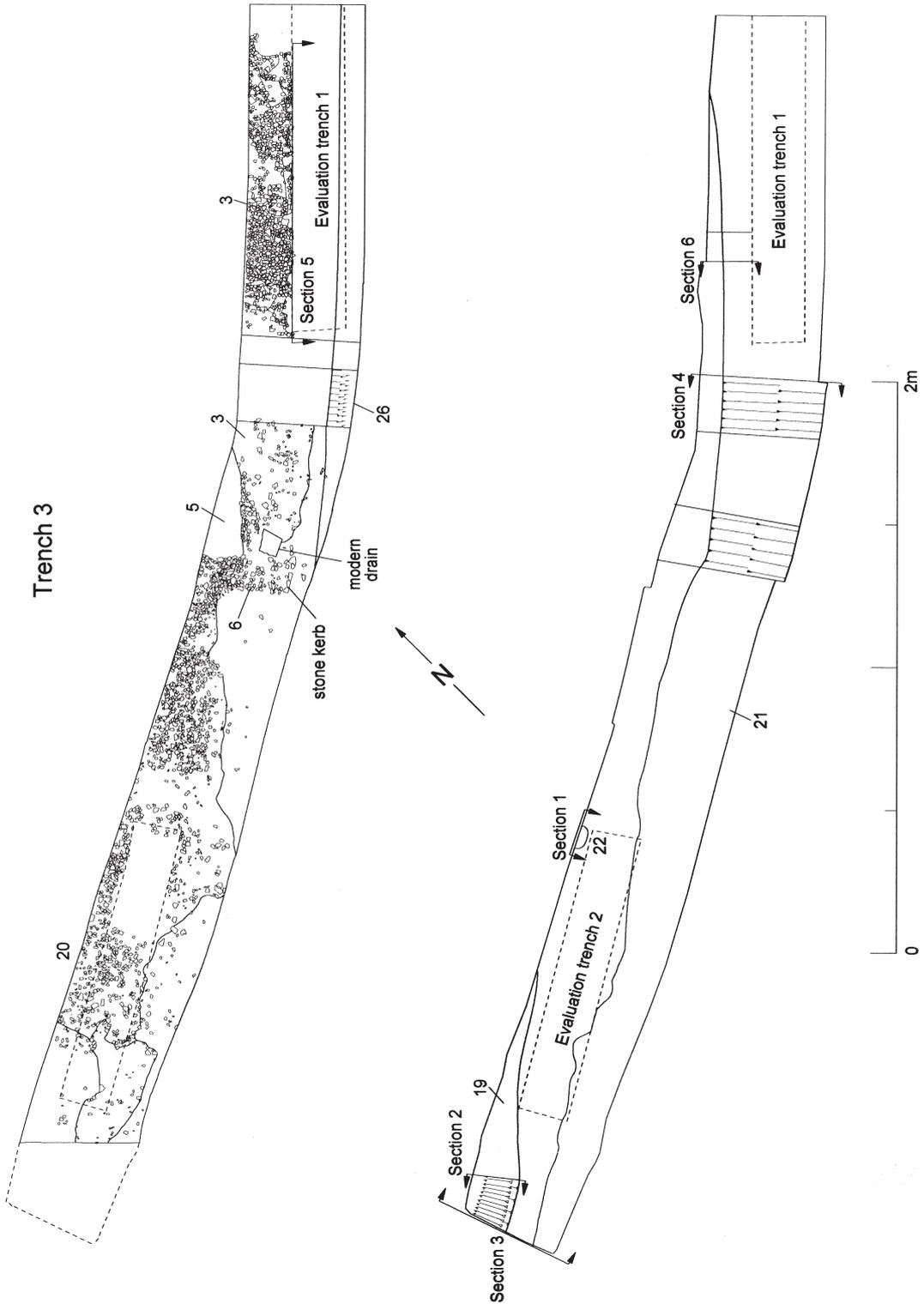


Fig. 3. Plan of excavation.

St Pancras (Down & Rule 1971), the Needlemakers (Down 1981, 80–81), the Cattle Market (Down 1989, 61) and the Hornet (Browse 1990). The date of the ditch is uncertain, but the few finds recovered suggest that the silting process was under way by the mid-1st century AD. The second ditch, aligned north–south, is thought to have been the same as that found at East Gate, which apparently underlay the city wall (Down 1989, 61). This feature has been sectioned twice in the Cattle Market, where it seems to have been backfilled c. AD 60 (Down 1989). The dating evidence from both ditches appears to be connected with late phases in their history when they were no longer maintained. A pre-Claudian origin seems quite likely and, indeed, this has been suggested for the site at the Hornet (Browse 1990), where the nature of the deposits recalls practices reminiscent of the Iron Age.

The site lay just west of the Roman ‘suburb’ found in the Cattle Market (Down 1989). Thus, in advance of the investigations, it seemed likely that occupation predating the Roman defences would be revealed. Certainly, areas of settlement were slighted elsewhere when the wall was constructed (Holmes 1962; Magilton 1993).

It also seemed probable that traces of medieval occupation would be encountered. By the 14th century the number of buildings outside the city walls warranted a separate section in the Lay Subsidy Rolls (Down 1974). Documentary evidence indicates that the mayor and bailiffs were granted authority to clear houses from the line of the new ditch in 1378 (Page & Peckham 1935, 72). Maps of Chichester from Norden (1595) onwards depict the site as either open or covered with trees, and by 1847 it had become a garden with outbuildings (St Pancras Tithe Map).

ARCHAEOLOGICAL STRATEGY

Following a desktop study, two evaluation trenches were dug by machine in the Market Road car park (Fig. 2). These revealed an extensive spread of building rubble composed mainly of flint nodules and greensand (20). The adhesion of *opus signinum* to some of the blocks indicated that they were originally Roman construction materials. A large ditch (21) was also revealed in Trench 1. These results, taken with the prior evidence summarized above, demonstrated a need for further investigation.

Accordingly, Trench 3, some 4 m wide and 44 m long, was excavated in advance of the culvert realignment (Fig. 2), incorporating most of evaluation Trench 1 and all of Trench 2. The make-up (1) below

the surface of the car park was removed by the contractors under archaeological supervision. The soil (2) below yielded modern china, and this too was excavated by a machine fitted with a toothless bucket. The lowest part of this context, immediately above the layer of building rubble, was removed by hand in order to preserve any *in-situ* walling. This horizon, together with associated structures, was recorded in detail and then removed by machine. Cross-sections were preserved to demonstrate the stratigraphic relationship with two ditches found during the course of the excavation. A 10% sample of both ditches was excavated by hand. Where excavation proved to be impractical, under St John’s Street and Market Road, provision was made for a watching brief during construction, when the sections under St John’s Street were recorded in detail. The evaluation was carried out under the supervision of M. John Saunders, the watching brief in Market Road by Alan Ford, and the rest of the fieldwork was directed by the author.

THE EXCAVATED FEATURES

PHASE 1: TRACES OF ROMAN SETTLEMENT

The only feature associated with Roman occupation was a bowl-shaped hearth (22) (Fig. 3). This had a diameter of 1.3 m, but its overall plan cannot be reconstructed, as it extended under the north-western trench edge. The post-abandonment soil filling the centre of this feature (Fig. 4, context 67) included five sherds of pottery dated only broadly to the 1st or 2nd centuries AD. The hearth had been cut into the natural to a depth of 300 mm and had been reused repeatedly. Three major episodes of use each involved the addition of a layer of flinty clay prior to further burning (Fig. 4, context 68 & contexts 76/77). The lower of these two horizons included a single sherd of 1st- or 2nd-century pottery, providing a *terminus post quem* for the subsequent use of the hearth.

The hearth was sealed below a buried soil consisting of an Ah horizon (Fig. 4, context 65) above a well-developed sorted horizon (Fig. 4, context 66). A relatively large assemblage of 1st-century pottery was recovered from the lower part of this stable soil profile.

The precise purpose of the hearth is uncertain. Although samples for charred botanical remains were taken, these only yielded a small quantity of comminuted charcoal. A few pieces of iron slag were also recovered, but these hardly amount to evidence for the use of the hearth as a furnace.

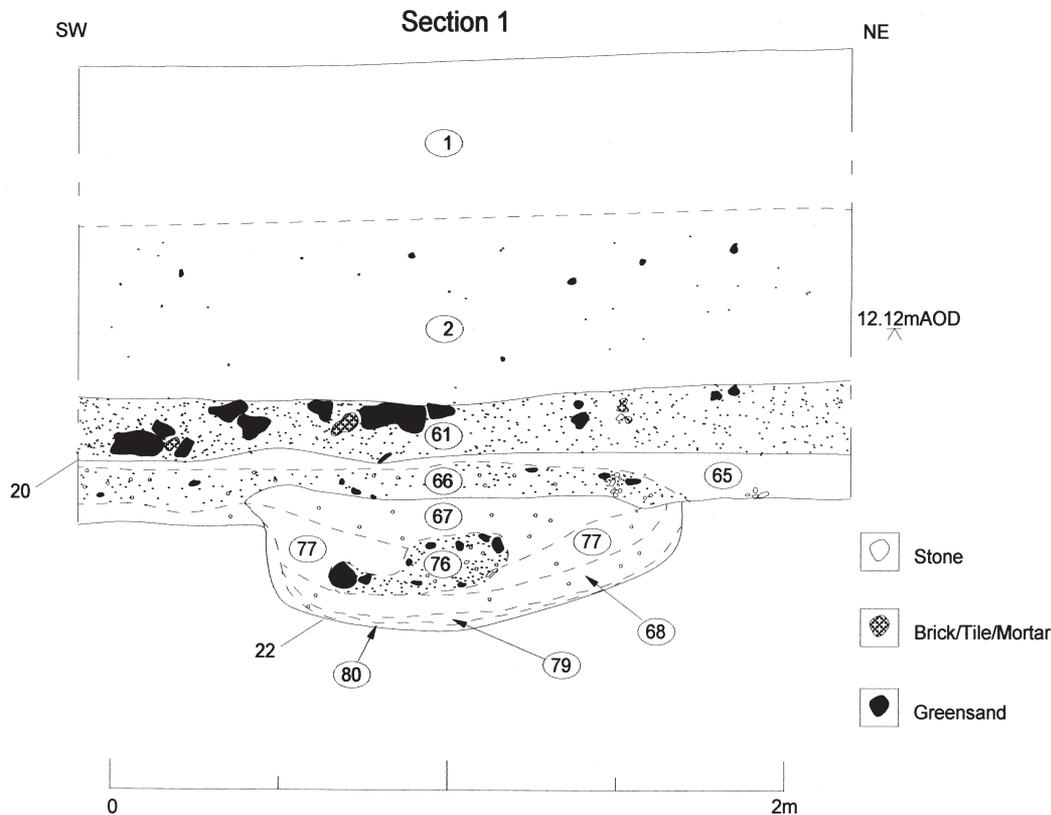


Fig. 4. Section 1.

PHASE 2: DITCH 19

The edge of a ditch (19) was found at the north-western end of Trench 3 and under St John's Street (Fig. 3). It followed the alignment of both the city wall and the realigned culvert. Ditch 19 was wider than the culvert trench and it was not, therefore, possible to obtain a complete cross-section.

The ditch was sealed below a layer of rubble, probably derived from the collapse of the town wall during the post-medieval period (Fig. 5, context 17). The tertiary silts comprised a calcareous stony silt loam, with a weakly developed sorted horizon at the base (Fig. 5, context 60). This seems likely to represent a period of stabilization after the silting process had ceased. A single medieval sherd and two nails of a similar or later period provided a *terminus post quem* for the formation of the tertiary deposits, which, in addition, included a residual pottery assemblage of mid-2nd-century date. The secondary silts (Fig. 5, context 64) also produced 2nd-century

pottery, again alongside medieval or later nails. The primary fill of the ditch (Fig. 5, context 78) yielded undiagnostic Roman wares (just 13 sherds) and a single copper-alloy/billon *folles* dated AD 309–317. A significant quantity of iron slag, comprising 89 pieces weighing 1598 g, was recovered from fills throughout the ditch, but concentrated in the tertiary silts (56 pieces, weighing 1138 g).

The edge of the ditch was located about 10 m beyond the present city wall. This corresponds approximately with the position of the inner Roman defensive ditch observed elsewhere (Magilton 1993). A comparison between the two features suggests a contrast in scale; the inner Roman ditch was about 2 m deep, whereas ditch 19 was only 1.1 m deep. However, this may be misleading, for its centre lay outside the trench and its depth here was measured from the surface of the natural subsoil rather than from the existing or likely Roman ground surface, which was not found here.

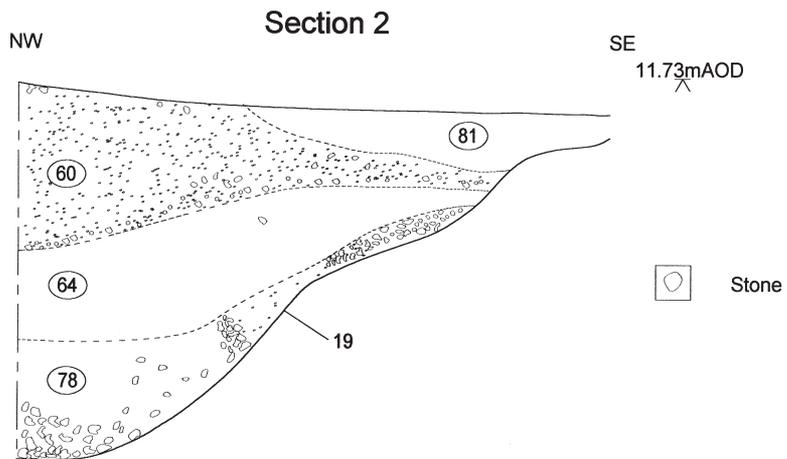
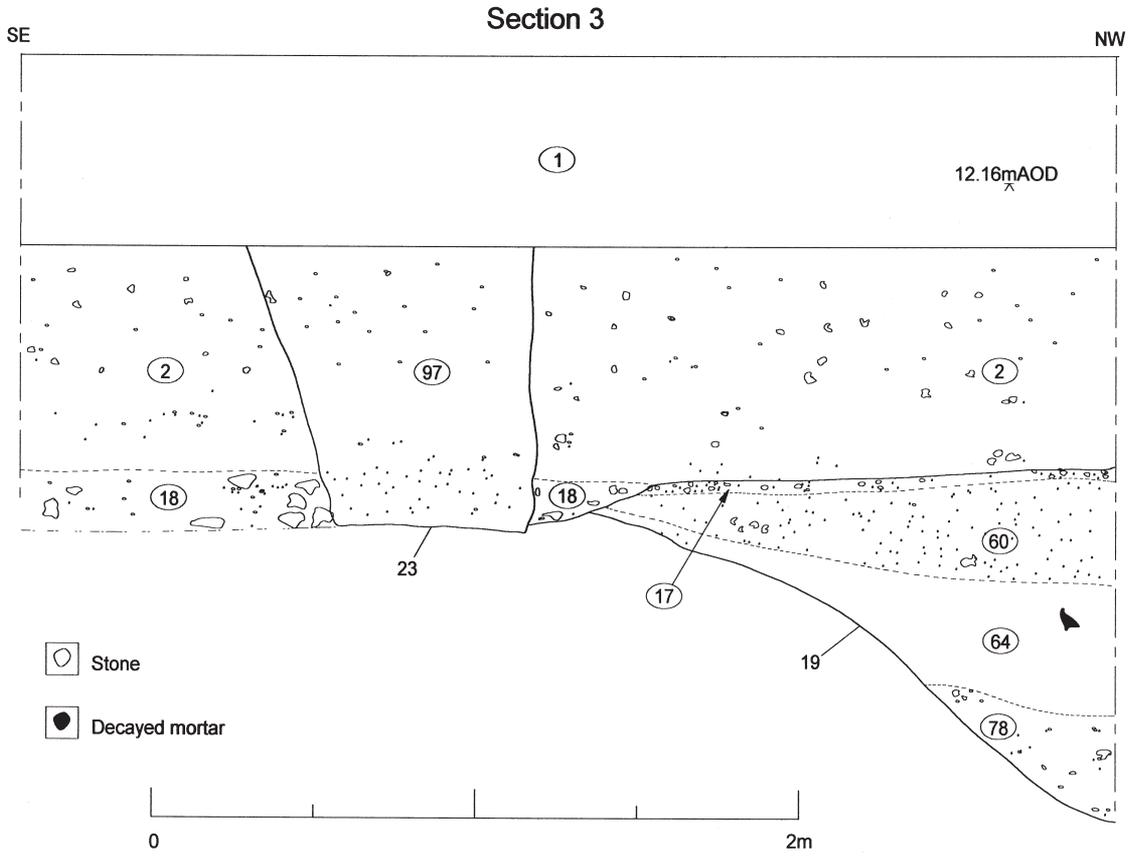


Fig. 5. Sections 2 and 3.

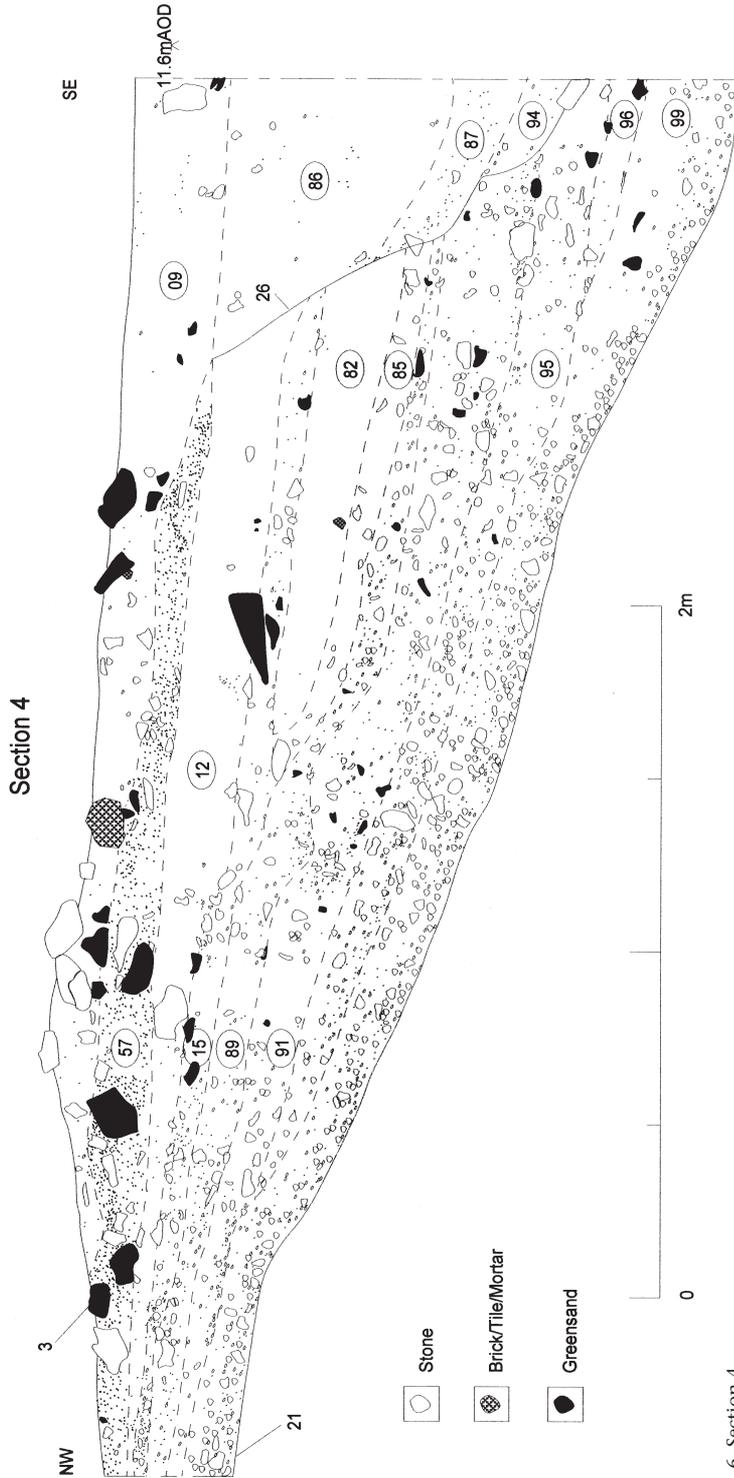


Fig. 6. Section 4.

There are, nevertheless, other problems with equating the two features. Sections through the inner ditch suggest that it was backfilled when the bastions were constructed, whereas ditch 19 appeared to have silted naturally, and much of this process must have taken place during the medieval period. This seems to support the results of the excavation against the East Walls, where medieval pottery was also recovered from the inner ditch (Wilson 1957). Clearly, in the case of ditch 19, a date based on so few post-Roman artefacts is very far from certain. It would be a mistake, however, to discount this material as intrusive and to rely instead on the larger assemblage of 2nd-century pottery as dating evidence. Quite apart from the fact that it was stratified above an early-4th-century coin, the condition of this pottery is commensurate with a residual assemblage. The sherds are small (8 g per sherd on average), abraded and reminiscent of sherds derived from cultivated soils. The ceramics could have been disturbed from within a 2nd-century land surface by later activity. The character of the tertiary silts would suggest that they accumulated in the ditch as a result of nearby cultivation providing just such an opportunity.

PHASE 3: THE CELLAR

A cellar (8) was found during the watching brief in Trench 4, under the St John's Street entrance to the car park. Only one corner of this building was located, projecting 1 m into the culvert trench. An oblique section was recorded in the north-western edge of the contractor's excavation. No artefacts were recovered, but the

cellar had been cut into the fill of ditch 19. This suggests that it was medieval or later in date. If it was medieval, then it is most likely to have predated the refortification of Chichester in AD 1378, which involved the removal of houses adjacent to the walls (Page & Peckham 1935, 72). The cellar was buried below the modern topsoil (1) and had been cut by the foundations of a wall (9) across the entrance to the car park (*see below*).

The floor of the cellar was composed of rammed chalk, containing numerous large flint nodules. Its surface lay 1.8 m below the modern road and it was at least 400 mm thick. The base of the floor was not found, as it was only partly removed by the excavation for the culvert. There were no surviving walls and the cellar had been deliberately backfilled with building rubble, which formed a series of steep tip lines coming in from the north-east. This material was composed of small to medium-sized pieces of chalk, fragments of greensand, medium to large flint nodules, and included a small quantity of re-deposited *opus signinum*.

PHASE 4: DITCH 21

Like ditch 19, the second ditch (21) was aligned on the same axis as the city walls (Fig. 3). It occupied the entire length of Trench 3 and continued under Market Road, where it was observed during the watching brief. Here it swung round to the north, still following the alignment of the city wall. Its total width is uncertain. The excavations within the car park demonstrated that it was at least 4 m across, and perhaps double this, as the trench did not appear to reach the middle of the ditch. The watching brief under Market Road revealed very similar ditch sediments. Assuming this was the same feature, a width in excess of 10 m is suggested.

Apart from a single undiagnostic Roman sherd from the primary silt (Fig. 6, context 99), the Roman pottery came from secondary and tertiary deposits. These horizons also included building rubble, probably incorporated in the ditch when the town walls had fallen into a state of disrepair. The pottery must, therefore, have been residual, leaving the date of ditch 21 uncertain. Eighteenth-century pottery was recovered from context 85, and an iron hammer postdating the Civil War was found in context 89. Clearly there are two possibilities: either this was originally cut as the outer Roman defensive ditch or its 4th-century replacement, but its middle silts were substantially early medieval; or it was dug during the 14th-century refortification

of Chichester. On balance, the evidence seems to support the second of these hypotheses. The primary and secondary silts appear to have formed as part of a continuous process, and it seems highly unlikely that they took over a millennium to accumulate. Thus a 14th-century origin for this feature seems the most plausible explanation.

Contexts 82 and 85 represented the first stable soil profile in the ditch (Fig. 6). It is likely that context 82 was a turf line above a well-developed sorted horizon (context 85). It was a stone-free silty clay loam and, although an alluvial origin cannot be ruled out, it did not resemble a flood silt. The contexts immediately below (contexts 85 & 89) produced a few molluscs that were terrestrial in origin (*see below*). However, they indicated that the ditch may have been wet or marshy at the time. The evidence is admittedly slender and the environmental reconstruction speculative, but it does seem to be supported by the character of the deposits. Context 89 (Fig. 6) was iron-stained in a manner consistent with the leaching of minerals under waterlogged conditions.

PHASE 5: DRAIN 26

By the time a second turf line had formed in ditch 21 (Fig. 6, context 12) there appear to have been problems with waterlogging. These were resolved by the construction of a drain (26) (Figs 3 & 6) cut into ditch 21. This itself filled with layers of silty clay alluvium. The two lower contexts included particles of very fine subangular chalk and flint, typical of water-laid deposits.

Although the site was under trees by the mid-18th century, there is little indication of the nature of earlier land-use. The character of the secondary silts suggests that cultivation was taking place in the vicinity of the ditch. This supports the evidence for medieval and post-medieval ploughing on the site of the later Cattle Market (Down 1989, 82). The formation of a stable soil profile associated with 18th-century pottery would also be consistent with the cartographic history of the site.

?PHASE 5: THE MASONRY FOUNDATIONS

A layer of building materials (3), interpreted as stone foundations for a structure aligned on an axis similar to that of the ditches, was found at the north-eastern end of Trench 3 (Figs 3 & 7). These foundations were approximately 10 m long and at least 1.5 m wide. The total proportions and plan of the structure are unknown since it extended outside the trench. The foundations had been laid directly above a buried

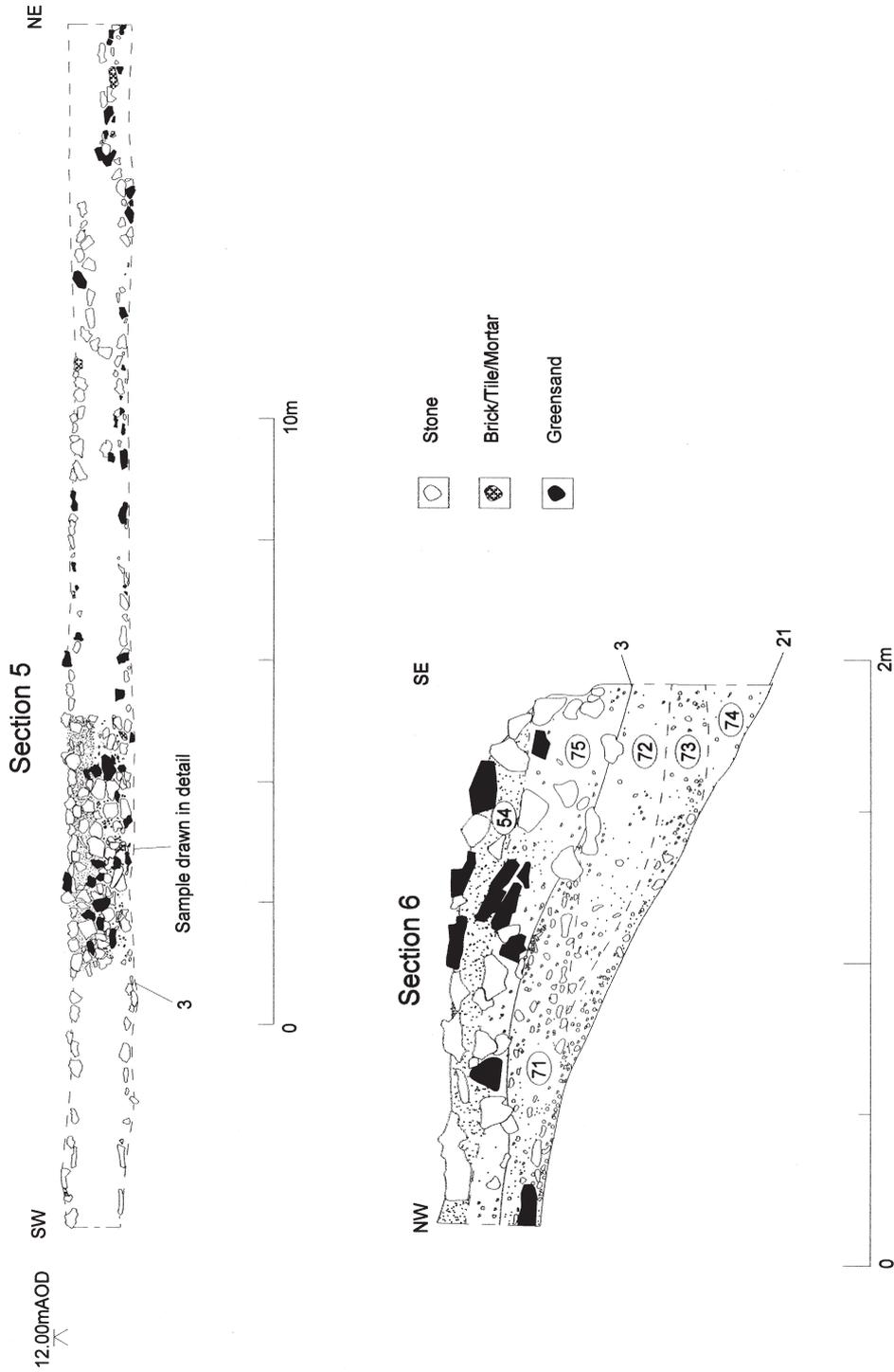


Fig. 7. Sections 5 and 6.

soil in the upper part of ditch 21 (Fig. 7, contexts 72 & 73, equivalent to the second turf line in the main ditch section; Fig. 6, contexts 12 & 15). This would seem to indicate that the structure dated to the 18th or 19th centuries. There is, however, no record of the existence of any standing structure here on contemporary maps.

A layer of gravel (Fig. 7, context 71), may have been laid deliberately above the former turf line (72) as preparation for this structure. The lower part of the foundations (75) was composed of closely packed, but unmortared, flint and greensand. Two courses of stone survived above this level, set in a matrix that may have been decayed mortar, although it was reminiscent of cob (Fig. 7, context 54). It was buff-coloured, calcareous, granular in texture and formed a relatively thick layer between the courses (c. 50 mm). It was not bonded together, nor did it adhere to any of the building stone, and it had been reduced by weathering to its constituent parts. The upper courses were composed mainly of chalk flint nodules and greensand, with occasional pieces of limestone and sandstone and a few broken fragments of Roman brick and tile. The flint nodules had been dressed and the greensand and other stone shaped into blocks, which were mostly broken and eroded. Rather than facing towards the outer edge of the structure, the dressed sides of the flint nodules were aligned haphazardly. The remains of *opus signinum* adhering to some of this material indicated a Roman origin. It seems likely that this material was derived from the town wall or the bastion. Samples of the mortar or cob and the building stone are available in the archive. The upper course was poorly preserved and was interrupted by several irregular hollows, probably caused by tree roots.

In the absence of a complete plan, interpretation of this structure must remain a matter of conjecture. If the 18th- or 19th-century date is accepted, it may have been a terrace associated with the creation of a garden on the site. It is tempting to suggest that the building stone derived from the ruined bastion, which was no longer depicted on late 18th- and 19th-century maps. There is no doubt that the structure was aligned on, and partly built above, the silted-up ditch (21), which at the time may have been just a grassy hollow, possibly subject to seasonal waterlogging. This horizon may have represented collapsed walling, or it is conceivable that it was merely a consolidation layer or the base of a pathway, creating a hard-standing adjacent to the drain. The material was laid above the same land surface cut

by the drain (26), and thus the two features may have been contemporary, although this cannot be demonstrated with certainty (see Fig. 6). If they were, the likeliest interpretation is that they formed a landscaping episode aimed at raising the area above floodwater from the river Lavant.

PHASES 5 TO 6: GARDEN FEATURES

A layer of building rubble (20) extended to the south-west of the foundations (Fig. 3), sealed below a cultivated soil containing 19th- and 20th-century pottery and porcelain (Figs 4 & 5, context 2). The rubble was found along the entire length of Trench 3 and continued under the St John's Street entrance to the car park. It was mainly confined to the weathering ramp of the medieval ditch (21), although it also spread above ditch 19.

The rubble was of a very similar composition to the foundations (3) but much less compactly laid. It, too, consisted of large dressed chalk flint nodules and eroded, broken blocks of greensand. Occasional fragments of shaped limestone, sandstone and Roman brick and tile were also present. As with the foundations (3), the stone was probably originally Roman building material. *Opus signinum* was found adhering to some of the blocks, while their size suggested that they were likely to have derived from the town defences. Post-medieval pottery was recovered from context 20, alongside residual medieval and Roman wares.

For the most part, the character of the horizon was typical of tumble from the town wall. Some elements, however, suggested the remains of dry stone structures *in situ*. There appeared to be part of a stone kerb, 1.5 m long, surviving in the centre of the trench, approximately 10 m to the south-west of the foundations (3) (Fig. 3). This followed the same alignment as the drain (26) and may have been the remains of a pathway. Alternative rectilinear alignments (5 and 6) within the spread also tentatively suggest themselves as structural (Fig. 3). The interpretation of these 'features' is uncertain. In most places only one, or at most two, irregular 'courses' of stone remained and any linearity may be fortuitous. There were no bedding trenches and the stone lay directly on a buried soil, or above the fill of the medieval ditch (21). Large cattle bones were found within the rubble alignments, which seems somewhat strange if they were, indeed, foundations.

The final phase of activity in the area of the realigned culvert was recorded at the western end

of Trench 3 and during the watching briefs. Two pits cut the post-medieval garden soil (2) in Trench 4 (e.g. Fig. 5, 23). These were entirely devoid of artefacts. In addition, the remains of a brick-lined well were found under Market Road. Its upper courses had evidently been truncated when the road was constructed. The foundations of a wall (9), composed of eroded greensand blocks and large flint nodules set in buff-coloured mortar, cut the backfilled cellar and the modern topsoil. It crossed the entrance and continued the alignment of the modern car-park wall. Its position corresponded with a property boundary recorded on the St Pancras Tithe map of 1847. Finally, the remains of a 19th- or early 20th-century brick outbuilding were found immediately below the surface of St John's Street. It had probably been demolished when the road was built.

THE RIVER LAVANT

A broad linear feature (11) was aligned approximately

east-west across Trench 4. The total width of this feature is unknown, but it was at least 6 m. There was no sign of the natural geology at the south-western end of the trench, indicating that feature 11 was in excess of 2.4 m deep. The relationship between ditch 19 and feature 11 had been obliterated by the cellar and the 19th-century culvert.

It is possible that this was the medieval ditch (21), but this seems unlikely since it would indicate an abrupt change in alignment at variance with the line of the city wall. This feature seems rather to have been an earlier river channel. Its alignment replicates the axis of the 19th-century culvert. This, in turn, followed the course of the river Lavant as plotted on the map produced by William Gardner in 1769. Certainly some of the deposits filling feature 11 consisted of very finely-textured silty clays, and may have been alluvial in origin. Similar deposits were noted below the 19th-century culvert in Market Road.

THE FINDS

POTTERY by Jane Timby

The excavations produced a small assemblage of some 610 sherds (6747 g) from Trench 3, dating to the Roman, medieval and post-medieval periods (Table 1). An additional 67 sherds were recovered from the evaluation and one from the watching brief

(Table 2). The majority could be dated to the Roman period, although the sherds were generally in poor condition with abraded edges and an average sherd size of 11 g, suggesting a history of disturbance. There were surprisingly few featured sherds. A significant proportion of the assemblage came from context 2 (30% by count and 34% by weight), and from ditch 21 (34% by count and 40% by weight). The remaining 36% of the

Table 1. Summary of ceramic dating evidence from Trench 3.

Feature	Context	Sherds	Weight (g)	Roman	Medieval	Post-medieval	Date
	2	180	2264	163	11	6	2nd to 4th century/medieval/post-medieval/modern
	9	28	161	28			1st to 2nd century
3	57	12	117	12			3rd to 4th century
6	52	3	58	3			1st century
19	60	39	374	38	1		Early to mid-2nd century/medieval
19	64	23	180	23			2nd century
19	78	13	50	13			Roman
20	17	58	442	55	1	2	Late 3rd to 4th century/medieval/post-medieval
21	12	6	113	6			1st century
21	15	4	93	1			1st to 4th century
21	82	21	101	21			2nd century
21	85	54	1312	36		18	2nd century/18th to 19th century
21	89	76	644	76			1st century
21	91	43	363	43			Late 3rd to 4th century
21	95	3	28	3			?2nd century
21	99	1	8	1			Roman
22	67	5	40	5			1st to 2nd century
22	68	1	5	1			1st to 2nd century
26	94	1	3	1			Roman
	65	1	3	1			Roman
	66	38	388	38			1st century
Total		678	6747	571	13	26	

assemblage came from features 3, 6, 19, 20, 22 and 26 and from context 9. Several contexts produced only single sherds, which could only be dated broadly to the Roman period.

The assemblage was dominated by non-distinctive local grey sandy wares, accounting for 78% by count of the Roman pottery. Featured sherds were largely restricted to short everted rim jars, beaded rim jars/bowls, lids and straight-sided dishes. The remaining wares included a significant number of samian sherds (47 in total), Dressel 20 *amphorae*, Oxfordshire colour-coated *mortaria*, New Forest and Oxford colour-coated wares, Dorset black burnished ware (BB1), a small number of miscellaneous oxidized and whitewares, and an even smaller number of grog-tempered and flint-tempered sherds. Overall the group showed a date range extending from the 1st to the 4th century. The samian included one pre-Flavian South Gaulish cup (Drag 24/5) from ditch 21 (context 66), accompanied by a base fragment with part of a potter's stamp [TO]; the remaining sherds are more typical of the later 1st and 2nd century with forms Curle 11, Drag. 27, 30, 31, 33 and 35/6 present.

The hearth (22) produced six sherds broadly datable to the 1st to 2nd century. With the exception of one medieval sherd from the tertiary silts (context 60), the pottery from ditch 19 is of 2nd-century date. A single samian sherd (Drag 31) recovered from this feature during the watching brief was produced during the early 2nd century.

The largest group of pottery came from ditch 21, some 208 sherds in total, of which 18 were glazed red earthenwares of post-medieval date. The latter all derive from context 85. This indicates that the earlier pottery from overlying contexts is all re-deposited. Below this horizon, context 91 contained a sherd from an Oxfordshire colour-coated *mortarium* and later Roman grey wares, dated to the later 3rd or 4th centuries.

Feature 3 produced pottery (from fill 57) of late 3rd- to 4th-century date, with Oxfordshire colour-coated ware and a late BB1

Table 2. Pottery from watching brief and evaluation.

Feature	Context	Sherds	Roman	Medieval	Date
Trench 1	unstratified	4	4		1st to 3rd century
Trench 2	unstratified	1	1		Roman
5	51	3	3		?2nd century
11	76	12	12		?2nd to 3rd century
19	64	1	1		1st to 2nd century
20	17	41	40	1	2nd century/medieval
21	surface	6	6		?2nd century
Total		68	67	1	

jar rim. Medieval and post-medieval wares were found within the rubble (20) alongside pottery of late 3rd- to 4th-century date. Feature 6, within the same spread of building material, produced only three sherds, probably of 1st-century origin, two of which came from a grog-tempered bowl (or jar) with a grooved rim, joining sherds which were present in context 2. The equivalent horizon in the evaluation trench included a sherd from a North Gaulish rough-cast beaker, various other 2nd-century types and flint-gritted medieval cooking pot.

The large collection of pottery from context 2 included a diverse range of material, comprising Roman wares of 1st- to 4th-century date, medieval flint-gritted glazed wares and green-glazed sandy wares, probably dating to the 13th to 14th century, post-medieval glazed red earthenware and modern china and glazed earthenware.

ANIMAL BONES by Sheila Hamilton-Dyer

A small collection of animal bone was recovered. Few of the bones can be regarded as reliably dated and a high level of residuality appears to be indicated. Species identifications were made using the author's modern comparative collections. Some fragments could be identified only to the level of cattle/horse-sized and sheep/pig-sized. Other small, indeterminate fragments were recorded as mammalian only. Several bones showing recent breakage have been counted as single bones where joins are possible. Archive material includes further

Table 3. Animal bone species distribution by context.

Feature	Context	Horse	Cattle	Sheep/goat	Pig	Roe	Fallow	Cattle size	Sheep size	Mammal	Dog	Cat	Fowl	Goose	Duck	Am- phib.	Total
	2	5	24	12	5	1		33	12	2	7			3	1		105
	9		2		2			9	2			1					16
	65								1								1
	66	1	3						1								5
3	57	3	12	6	4		1	25	3		7		1	1	1	2	66
11	4	1	2					2	1			1					7
19	60		1		1			5	2								9
19	64	1						3									4
20	17		7	5	4			6	3	3	2						30
21	12		1	1					1								3
21	15		2						1								3
21	82		1					2		1							4
21	85	3	11	4				16	2		1						37
21	89		2	2	1			3	6								14
21	91		1	2				4	1		1						9
21	95							2									2
21	99		1														1
22	67		1						1								2
26	86							1									1
Total		14	71	32	17	1	1	111	37	6	18	2	1	4	2	2	319
%		4.4	22.3	10.0	5.3	0.3	0.3	35.1	11.3	1.9	5.6	0.6	0.3	1.3	0.6	0.6	100

Table 4. Mollusc species distribution by sample (all from ditch 19).

Depth (cm)	0–15	15–25	25–40	42–50	50–60	60–73	75–85	85–107
Context	60	60	60	64	64	64	78	78
<i>D. rotundatus</i>	1			1				
Clausiliidae		1			1			
<i>O. cellarius</i>			1					
<i>C. tridentatum</i>	3				2			
<i>N. hammonis</i>				1				
<i>C. lubrica</i>		2		1		1	2	
<i>C. lubricella</i>	1	1						
Limacidae		2						
<i>H. aspersa</i>			1					
<i>Cepaea/Arianta</i> sp.				1		1		1
<i>T. hispida</i>	3		1			5		
<i>P. muscorum</i>					1			
<i>V. costata</i>	3	4			2	5	2	
<i>V. excentrica</i>	3	1				2		
<i>H. itala</i>		4			2			
<i>C. acicula</i>	14	38	19	6	15	5	+	1
*No. shells	14	14	4	4	8	15	4	1
*No. taxa	6	6	4	4	5	6	2	1

*excluding *C. acicula*

+present as non-apical fragment only

metrical, anatomical and butchery details not described in the text. A detailed breakdown of species distribution by context is given in Table 3.

A total of 319 individual bones were recorded. Most fragments are well preserved, with slight to moderate erosion. As might be expected in a garden soil, the condition of the bone from context 2 is more variable.

Just over half the bones were identified to species. Bones of the domestic ungulates are dominant at 42% of the overall fragment total. Cattle form 46% of the identified bones and most of the cattle/horse size fragments are also likely to be of cattle. The next most frequently identified species is sheep/goat, at 21% of the identified bones. Horse, pig and dog are roughly equal, at 9–12% each. Bones of other species are few and include roe and fallow deer, cat, fowl, goose, duck and amphibians.

Bones of the domestic ungulates include waste bones of the head and feet, as well as those of the best meat-bearing bones. Loose teeth are frequent, often an indicator of poor preservation or disturbance.

Butchery marks are rare, being on 17 bones only. Most are chop marks, particularly from disarticulation by chopping through the joints. These are observed commonly on Roman material. A fragment of cattle femur from the wall base (3, context 57) exhibits a shave mark of the type associated mainly with urban and military sites (Maltby 1989, 81–3).

The dog remains are mainly from the wall base (3) and are of three different sizes. One of these dogs would have been quite small, similar in size to a Jack Russell. Indirect evidence of dog, in the form of gnawed bones, was also noted in several contexts.

The fallow metatarsus from the wall base (3) is of note. This is not of the size or conformation of red deer and too large for roe. Fallow is usually regarded as a post-Conquest introduction. Like many from the site, this bone is slightly abraded and may be re-deposited.

Context 85 in ditch 21 contains 18th-century pottery and, therefore, the bones are likely to be of this date, although residual

material could also be present. There is nothing of the large size that might be expected of cattle and sheep from this period, but the sample is very small. It is interesting to note the presence of a hornless sheep skull, as they are usually horned in prehistoric and early historic material. Hornless skulls were, however, recovered from the late Roman deposits at Owslebury (Maltby n.d.).

The data from context 2 are unreliable owing to their mixed origin, but most bones would not be out of place in a Roman assemblage. Some of the horse bones from this layer are, however, larger than would be expected during this period. The dog bones are from at least three individuals of different sizes.

This very small assemblage is typical of material in southern England, with bones of domestic ungulates dominant and few of other taxa. As expected, cattle accounted for the bulk of the bone identified to species. It is difficult to analyse the

small and variable samples, but in general, the bone appears to be from mixed sources including slaughter, butchery and disposal of culls or natural mortalities.

MOLLUSC SAMPLES by Roy Entwistle

Columns of contiguous samples were taken from the sections of the two ditches 19 and 21 (Figs 4 & 6). Eight samples were taken from ditch 19, and 11 from ditch 21. However, the four topmost samples from ditch 21 were not processed since the upper stratigraphy seemed likely to have been disturbed by 19th- or 20th-century horticulture. Moreover, a considerable quantity of building rubble from collapsed walling was present in the upper ditch stratigraphy and the surrounding area. Since these conditions represented a localized and unusual range of habitats, it was anticipated that they would distort the ensuing environmental reconstruction; only samples from ditch 19 have been considered here. The species distribution by sample is tabulated in Table 4.

Despite the moist and calcareous nature of the ditch silts, surprisingly few shells were found in the samples. Indeed, only three apical fragments were present in the group of samples taken from ditch 21. Two apices were of the family *Succineidae*, a group which favours damp or marshy habitats, while the third was of *Cepaea/Arianta* species. The latter are catholic species, which are difficult to distinguish as apical fragments, but both show a preference for moist habitats.

Rather more shells were recovered from ditch 19 (Fig. 5), but again the number was small (64 shells, excluding *C. acicula*; Table 4) and precludes any extended interpretation of the environmental setting for either ditch. The most numerous species throughout the sequence is *Ceciloides acicula*. This is a subterranean snail which can burrow to great depths in soft substrates, and for that reason it is usually excluded from the analytical results.

Although little can be said of the limited data, except that the taxa are exclusively terrestrial, a tentative distinction can

Table 5. Catalogue of ferrous metalwork (All items are fe).

Feature	Context	Description	Date
	2	4 nails with T-heads	Medieval/post-medieval
	2	1 nail with chisel head	Medieval/post-medieval
	2	1 nail	Roman
	2	1 metal loop, possibly a skewer	
3	57	1 nail	Medieval/post-medieval
11	76	1 hobnail or stud	
19	60	2 nails	Medieval/post-medieval
19	64	2 nails with T-heads	Medieval/post-medieval
19	64	1 nail or hobnail	
20	17	3 nails with T-heads	Medieval
20	17	1 strap fragment	Medieval/post-medieval
20	17	1 unidentified object	
21	82	1 nail with T-head	Medieval/post-medieval
21	85	1 probable horseshoe nail	Medieval/post-medieval
21	85	1 strap fragment	Medieval/post-medieval
21	85	1 knife blade fragment	Medieval/post-medieval
21	85	1 knife/strap fragment	Medieval/post-medieval
21	85	1 unidentified object	
21	89	1 hammerhead/adze	Early modern
21	89	1 nail	
21	91	1 nail with T-head	Medieval/post-medieval
21	91	3 nails	
21	91	1 unidentified object	

be made between the two ditch faunae. Those from ditch 21 suggest a wet or marshy environment during the upper ditch silting, and during the period of stability marked by the lower turf line (context 82). In contrast, the faunae from ditch 19 show an overall bias towards species that show a preference for more open and drier habitats. However, there is a small but discernible presence of shade-loving species in some of the samples from ditch 19. *Discus rotundatus* and the *Clausiliidae* are both common in hedgerows and scrub, and their presence in the upper part of the sequence could be indicative of more shaded conditions around the ditch during the final stages of silting. A tendency towards more densely vegetated conditions at that time might be indicated by the occurrence of *Carychium tridentatum* and *Oxychilus cellarius*, both of which appear in small numbers in samples from the upper levels.

Even these general conclusions are highly speculative, since a number of shells show signs of abrasion, possibly indicating that material of an earlier date had been incorporated into the ditch silts through erosion of the adjacent soil profile. Moreover, the rubble from collapsed walling in the vicinity of ditch 19 could have provided suitable habitats for shade-loving taxa such as the *Clausiliidae*, which are essentially rupestral species.

CONCLUSIONS

The results of the excavations contribute primarily towards our knowledge of medieval and post-medieval Chichester. There were none of the expected traces of the Iron Age or early Roman ditches found in the Cattle Market. If these had indeed crossed the site, the evidence must have been removed when the later town defences were constructed. The two ditches found in the car park were apparently of much later

Table 6. Catalogue of iron-smithing slag (all undiagnostic).

Feature	Context	No.	Weight (g)
	2	12	600
	9	9	162
3	57	3	68
19	60	56	1138
19	64	16	148
19	78	17	32
20	17	9	248
21	Surface	1	20
21	12	2	28
21	15	10	88
21	82	1	12
21	85	2	370
21	89	6	278
21	91	5	140
21	99	1	124
22	67	2	28
22	68	4	90
	66	1	110
Total		157	3964

Although somewhat wetter conditions are suggested by the few shells from the upper stratigraphy of ditch 21, this could reflect the very localized environment of the ditch itself. Unfortunately, a more detailed environmental reconstruction is not possible because of the shell numbers, which are insufficient to permit further interpretation.

COINS by Paul Cannon

The site produced two Roman coins. The first was unstratified from Trench 2. This was a late 3rd-century AE antoninianus, probably of Victorianus (AD 268–270) with the reverse inscription SPES PUBLICA. The other came from the primary silt (78) of ditch 19, in Trench 3. This was an AE/billon follis, badly bent and corroded. The reverse bore the inscription [.....] COMI [.....]. ‘Soli Invicto Comiti’ or ‘Comiti Avgg NN’, etc. This can be dated to the period AD 309–317.

OTHER FINDS

A catalogue by David Richards of all the metal finds other than the coins (almost all iron nails) can be found in Table 5 and catalogues of the slag and ceramic building materials are given in Tables 6 and 7.

date. The one closest to the city wall (Fig. 3; 19) may have been the late Roman inner ditch, but if so, it was re-cut during the medieval period. The dating of this episode is extremely tentative, which means that any correlation with the construction of the second ditch (Fig. 3; 21) remains ambiguous. It is perhaps unfortunate, but also entirely typical, that this investigation has only added to the confusion surrounding these defences, so eloquently lamented by Wachter (1995, 265–6). We can do no more than

Table 7. Catalogue of ceramic building material.

Feature	Context	No	Weight (g)	Date	Description
	2	1	442	Medieval	Decorated floor tile
	2	3	798	Roman	Tegulae
	2	2	292	Roman	Imbrices
	2	65	11,158		Brick/tile
	9	20	1830		Brick/tile
3	57	1	646	Roman	Tegula
3	57	27	8654		Brick/tile
5	51	4	630		Brick/tile
19	60	2	74		Brick/tile
19	64	4	104		Brick/tile
20	17	2	432	Roman	Tegulae
20	17	1	54	Roman	Imbrex
20	17	16	4416		Brick/tile
21	12	5	400		Brick/tile
21	15	11	2324		Brick/tile
21	82	1	114	Roman	Imbrex
21	82	4	398		Brick/tile
21	85	2	238	Roman	Tegulae
21	85	1	60	Roman	Imbrex
21	85	20	5564		Brick/tile
21	89	1	64		Brick/tile
21	91	1	300	Roman	Tegula
21	91	1	244	Roman	Imbrex
21	91	49	6444		Brick/tile
21	95	16	890		Brick/tile
21	99	3	22		Brick/tile
21	67	1	70	Roman	Imbrex
21	67	8	446		Brick/tile
22	68	2	262		Brick/tile
22	65	4	132		Brick/tile
22	66	15	720		Brick/tile
Total		293	48,222		

repeat his exhortation to suspend a more general judgement pending a more substantial examination of greater lengths of the fortification.

If the cellar cutting ditch 19 was indeed backfilled when Chichester was refortified in 1378, then the re-cutting of ditch 19 should be placed during the early medieval period. Since it seems likely that ditch 21 was the Great Medieval ditch, the two features were probably successive rather than contemporary. This sequence is tentatively supported by the stratigraphy recorded at the western end of Trench 3, where the ditches converged, although the relationship was confined to the tertiary silts in the weathering ramps, where it cannot be regarded as particularly reliable (Fig. 5).

Three posited dates for the diversion of the river Lavant have been debated: Roman, Saxon or c. 1378 (Down 1981). If indeed feature 11 was an early course of the canalized Lavant, which remains unproven, no new light can be shed on the date of its canalization

and diversion from these results, except to note that the projected line of ditches 19 and 21, assuming these continued to follow the line of the walls, would seem to take them across it. This might suggest the river's diversion predated the ditches and that this particular channel had already passed out of use before they were dug; whether this points to a Roman date or a Saxon one remains moot. There were twelve sherds of 2nd- to 3rd-century pottery from feature 11, but these need not be any more reliable as guides to dating the feature than the Roman pottery in the other (medieval) features. If feature 11 also passed under the line of the walls here, this would raise substantial questions about the precise equation of the medieval walls with the Roman town defences in this area, throwing open once again the reinterpretation of the Burghal Hidage figures for the length of the burh's defences (cf. Magilton 1997). Alternatively, the diversion postdates the filling of the ditches, throwing a fourth option into the ring. Nor can we completely rule out the possibility that the river was diverted more than once.

The apparent absence of Roman occupation should be viewed with some caution. The nature of the site means that

it does not necessarily provide a reliable indication of the original extent of the Cattle Market settlement. The culvert trench was narrow and the excavated area was mostly occupied by the ditches, which would have removed any traces of earlier occupation. The presence of a hearth and considerable (albeit residual) pottery attests Roman activity in the area, if of uncertain character. Much of the animal bone might also originally have derived from Roman activity.

The foundations flanking and overlying the Great Medieval ditch remain enigmatic. The evidence suggests that they most likely date to the 18th or 19th century but maps for this period do not record a building in the location. This may have been a terrace associated with an episode of landscaping.

Acknowledgements

The author is indebted to John Magilton and James Kenny for their comments during the course of the fieldwork and to John Mills for his enthusiastic support. Thanks are also due to Rupert Baderman, Adam Cronney and Steve Webb for working so diligently

during the excavation and to Nicola Powell for post-excavation work. Leigh Torrance produced the figures. Steve Preston and

Steve Ford commented on draft versions of the text and Melanie Hall-Torrance edited the text and figures for publication.

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