24 Thompson's Lane, Cambridge

An Archaeological Investigation

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Summary

An archaeological investigation consisting of two trenches covering a combined area of 30m^2 was undertaken in advance of redevelopment on a 610m^2 area of land at 24 Thompson's Lane, Cambridge, a little to the north of the historic core of the city. A number of features relating to five distinct phases of activity were encountered. The earliest elements in this sequence comprised a series of alluvial deposits that formed from Prehistoric times up until the 14th century, and which included a distinctly drier episode during the Roman period. Then, from the 14th to the 16th centuries, the area was gradually 'reclaimed' by the introduction of numerous dump deposits before becoming incorporated into an area of widespread riverside development undertaken in the early 17th century. The route of the King's Ditch, the Medieval boundary to the city, appears to have been moved at least twice over the course of this period; having run at first adjacent to the southern perimeter of the site, it was apparently recut in the late 13th century along a new alignment parallel to the northern boundary of the area. Then, at some time between 1607 and 1609 (during a period in which St John's College owned the land to either side of the ditch), this recut was backfilled and the original route of the boundary re-established. Following this final reorganisation, any pre-existing structures on the site were demolished and a new series of buildings constructed. Although rebuilt, extended and modified several times – most notably when a series of brewers occupied the site between 1788 and 1902 – the layout of these buildings remained relatively unaltered until the early 20th century.

Contents

Introduction

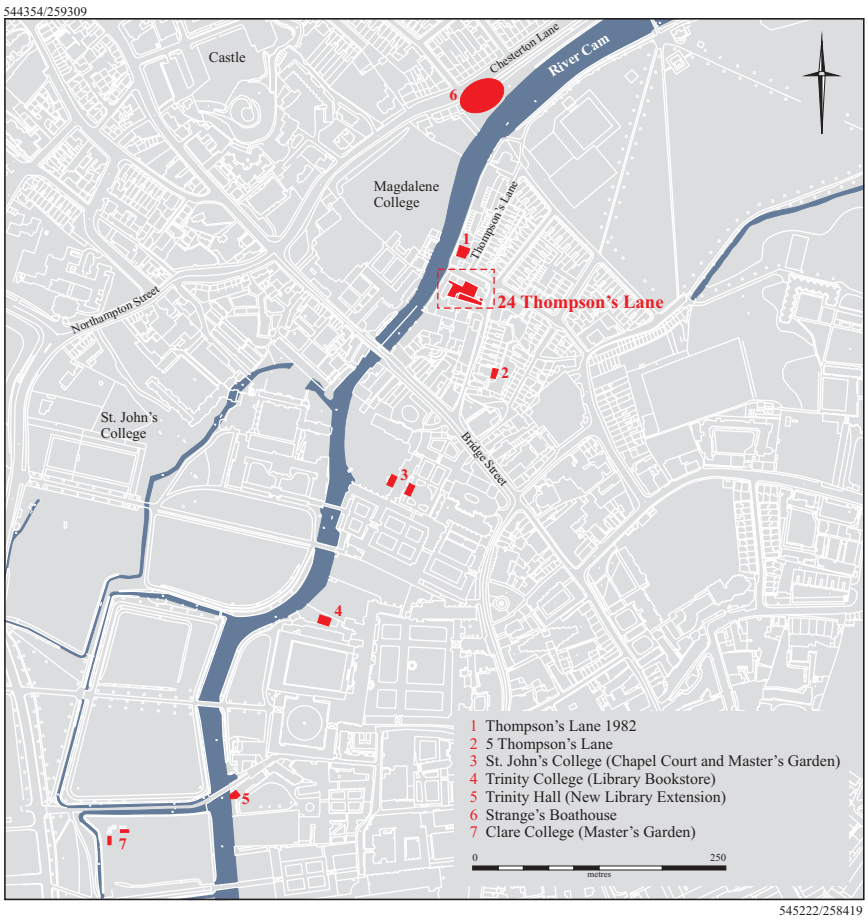
The Cambridge Archaeological Unit (CAU) undertook a trench-based investigation on a 610m^2 area of land in the centre of Cambridge, just outside the historic core of the city, between the 29th of July and the 12th of August 2007. The development area is centred on TL 4480 5901 and is located on the riverward side of Thompson's Lane, approximately 95m northeast of Magdalene Bridge and some 10m to the east of the river Cam (see Figure 1). Due to the spatial limitations imposed by the nature of works contemporaneously being undertaken at the western end of the site, which included the construction of a new electricity sub-station and the insertion of related cabling, only a small portion of the area was available for detailed investigation. For this reason only two trenches, covering a combined total of 30m^2, were excavated. Much of the remaining portion of the site was instead monitored by archaeological watching brief (see Figure 2), the results of which are summarised below; a more detailed report of this work will be issued separately (Davenport *in prep*). The project followed the specification issued by the CAU (Dickens 2007) and approved by Kasia Gdaniec, Development Control Archaeologist at Cambridgeshire Archaeology Planning and Countryside Advice (CAPCA). The work was commissioned by The Glassworks fitness studio in advance of expansion and redevelopment.

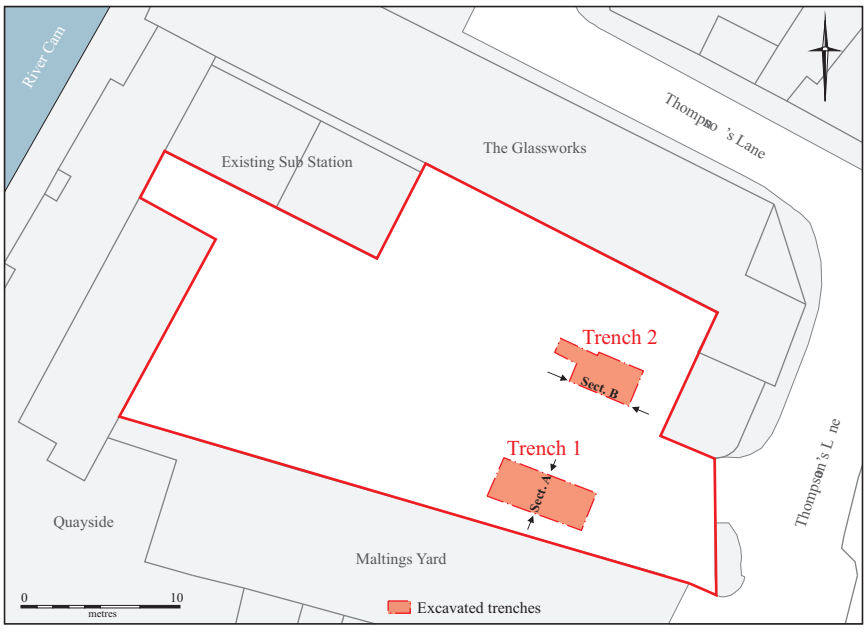
Methodology

Modern deposits, including layers of concrete and tarmac, were broken out and removed by a 360° mechanical excavator with a 1.5m toothless bucket. All archaeological features were then excavated by hand and recorded using the CAU modified version of the MoLAS system (Spence 1994); base plans were drawn at a scale of 1:20, whilst sections were drawn at a scale of 1:10. Once an appropriate depth had been reached, shoring was installed by the principal contractor. For reasons of safety the lower alluvial deposits were excavated in test pits measuring 1.2m by 1.2m in extent; unfortunately, these became highly unstable once the water table had been punctured and the very base of the sequence was therefore determined by auguring. Context numbers are indicated within the text by square brackets (e.g. **[001]**), and feature numbers are denoted by the prefix F. (e.g. **F.03**), and a full discussion of each phase has been incorporated within the section relating to the appropriate period. Assessment reports of the finds assemblages, along with those of the bulk environmental and pollen sample data, are presented in the appendix. The photographic archive for this site consists of a series of digital images.

Landscape and geology

The site is located within the eastern floodplain of the river Cam, at the northern end of a gentle slope that leads down from the ridge occupied by the main Bridge Street thoroughfare. It is underlain by 1st terrace river gravels (British Geological Survey, sheet 188) and its present surface height ranges between 6.9m to 6.4m OD, though this variation appears to be primarily the result of modern building activity and disturbance. The excavated trenches were both located 35m to the east of the present course of the river.





Based on the Ordnance Survey 1:2500 map
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Figure 1: Location of development area, also highlighting other sites discussed in the text.

Figure 2: Site plan also showing areas of watching brief.

Historical and archaeological background

The historical and archaeological background of the development area is covered in depth in the recent desktop assessment (Dickens 2003) and the wider background of Cambridge itself is reviewed in several published sources (Cam 1934; Lobel 1975; Bryan 1999; Taylor 1999). Neither is therefore reproduced here in full. Nevertheless it is necessary to briefly outline the background of the city in order to place the site securely within its wider context; further details on specific sites directly related to its development are also discussed in the relevant sections of the excavation results.

Little is known of the earliest inhabitants of the area. Although there is diffuse evidence of Prehistoric occupation and activity, most notably of Iron Age date, scattered across much of the extent of the lower town no definite or intensive large-scale settlement has yet been identified (Taylor 1999). Occupation appears instead to have begun in earnest shortly after the Roman invasion in AD43, with the accepted picture of Cambridge during this period being one of a settlement centred almost exclusively upon the Castle Hill area (e.g. Alexander & Pullinger 2000). Recent fieldwork, however, is demonstrating that this interpretation is somewhat limited, with significant settlement having been detected to the southwest of the presumed centre (Evans 1996). Finds from this period have also been made to the east and there is certainly evidence of Roman activity on the riverfront (Dickens 1996) and the Park Street/Jesus Lane area (Alexander *et al* 2004), as well as extending out along Bridge Street (Newman *in prep.*) and to the south of the town (Dickens 1999). It is therefore clear that the extent of Roman settlement on the southern and eastern bank of the Cam was greater than has generally been supposed and that the southern hinterland, within which the current site lies, was extensive though it remains poorly understood. Perhaps most pertinent to the present site, located as it is so close to the river, is that the location and extent of Roman waterfront, along with the precise position of the river crossing at this time, also remain somewhat unclear.

Following the withdrawal of the Roman legions in 410 the level of occupation in the area appears to have temporarily decreased; the evidence for Early Saxon (c.410-700) activity in and around Cambridge primarily comprises material recovered during the 19th century from pagan cemeteries on the outskirts of the city (c.f. Dodwell *et al* 2004; Cessford with Dickens 2004). Whilst it is notable that one of these cemeteries, that discovered at Strange's Boathouse on the western bank of the Cam (Fox 1923, 244; see also Figure 1), is located only 180m to the north of the present site, very little direct settlement evidence from this period has yet been recovered (though it is likely that any structures employed at this time would have been relatively ephemeral in nature and therefore highly susceptible to later truncation). Middle Saxon (c.700-900) activity also appears to have been centred on the western side of the river around Castle Hill, where an 8th century execution cemetery has recently been excavated (Cessford with Dickens 2004; Cessford *et al* forthcoming). It has been suggested that the main focus of settlement then transferred to the eastern side of the Cam during the early 10th century, following the conquest of the area by the kingdom of Wessex (Haslam 1984), though there is scant archaeological evidence to support this interpretation. Nevertheless at whatever date the eastern transition occurred (and it may potentially have begun at least a century earlier) the town certainly remained only an "economically viable backwater" up until the mid 10th century (Hines 1999, 136). Following this date, however, it emerged as a significant urban centre. In the

12th century *Liber Eliensis*, for example, late 10th century Cambridge was linked to a group of important trading centres including Norwich, Thetford and Ipswich (Fairweather 2005), thereby emphasising the central role played by river trade in its rapid economic growth. Indeed by the beginning of the 13th century the city acted as the leading inland port in the county, through which goods and services were disseminated to many of the surrounding regional towns (Cam 1934, 43).

By this time the city was fully established on the eastern side of the river, and is likely to have already been at least partially enclosed by an extensive boundary work that later became known as the King's Ditch. The 'king' in question is usually interpreted as being either John (1167-1216), who repaid the bailiffs of Cambridge the costs of enclosing of the city in 1215, or Henry III (1207-72), who paid for its refortification in 1267 (Cooper 1842-53). However, both monarchs were in all probability simply financing the consolidation (and potentially also the combination) of elements of pre-existing ditches that may well have originated from the Late Saxon period onwards. Thus the resultant boundary was potentially of greater symbolic than military importance (Cessford 2007, 72), but is of particular relevance to the site at 24 Thompson's Lane as it is projected to have lain in close proximity to the development area (thereby raising the question of whether or not the site lay within the bounds of the enclosed city). By the early 17th century the King's Ditch had largely silted up beyond practical use (Atkinson 1907), despite numerous edicts having been passed for its cleaning and maintenance, and Cambridge's role as a dominant seaport was long since over (Bryan 1999, 97). The economic wealth of the city was by now largely centred on the University, which had been founded in 1209; the expansion of this institution had greatly benefited from royal investment, especially from the 15th century onwards (*ibid*, 94-6). Its growth was also given significant impetus by the Dissolution of the Monasteries in 1536-40, as many of the disbanded religious houses were subsequently converted into Colleges (c.f. Willis & Clark 1886). The influence of these Colleges has been one of the primary factors in shaping the landscape of Cambridge ever since, with the central riverside area (the Medieval heartland of river trade activity) having been increasingly encroached upon since the 15th century (Bryan 1999, 95).

The most significant modern developments in Cambridge have comprised the arrival of the railway in 1845 and the city's rapid suburban expansion, largely begun in the 19th century and continuing to this day, into what had once been its surrounding rural hinterland; much of the area to the north of the site forms part of this belt of later suburban development (*ibid*, 103-7).

Summary of watching brief results

An area of 216m^2 within the 24 Thompson's Lane compound was observed by archaeological watching brief on an intermittent basis between April 2007 and January 2008 as a separate project undertaken on behalf of EDF Ltd (see Figure 2). This work, which monitored excavations undertaken in advance of cable laying and the construction of a new electricity sub-station, was largely restricted to recording the sections of pre-excavated trenches (Davenport *in prep*); for this reason, very little dating evidence could be recovered from many of the deposits observed. The trenches were also limited in terms of their depth, which ranged between 1.2m to 2.4m (averaging around 1.7m in most areas). This meant that the extent to which the early

alluvial sequence at the site could be examined was also severely restricted. Despite these limitations, however, a number of important observations were recorded; where relevant, this information has been included in the discussions of the following section.

Excavation results

Five phases of activity have been identified within the excavated sequence at 24 Thompson's Lane. These comprise:

1. The accumulation of alluvial layers from Prehistoric times to the 14th century.
2. The creation of 'made-ground' in the 14th to 16th centuries.
3. The redevelopment of the area in the early 17th century.
4. The establishment of a brewery in 1788.
5. Modern activity spanning the mid 20th century to the present.

Because each of these phases represents events that occurred on a site-wide as opposed to trench-specific scale, the relevant information from each trench has been amalgamated into a general phase by phase discussion.

Phase 1: the alluvial sequence

A series of seven alluvial layers, which potentially accrued over a period of several millennia, have been identified as the earliest surviving deposits at the Thompson's Lane site. With the exception of the earliest deposit, coarse sand material **[2057]** that was observed at the base of Trench 2, these layers were found to be present in both trenches (see Figure 3, and Table 1 below). Their sequence continued as follows; waterlogged dark greyish brown sandy silt deposit **[1040]** = **[2051]** – which contained frequent sub-rounded gravel, snail shell and organic fleck inclusions – was overlain by **[1039]** = **[2048]** = **[2049]** = **[2052]** = **[2053]** = **[2054]** = **[2055]** = **[2056]**, a layer of dark greyish brown silty clay. This was in turn overlain by **[1036]** = **[2037]** = **[2038]** = **[2045]** = **[2046]** = **[2047]**, a deposit of pale greyish brown mottled silty clay that lay beneath banded dark grey silty sand and clay layer **[1033]** = **[1034]** = **[1035]** = **[2041]** = **[2043]** = **[2044]**. Above this was **[1027]** = **[1032]** = **[2042]**, a layer of pale to mid grey silty clay which sat beneath upper most deposit **[1024]** = **[1025]** = **[1026]** = **[1028]** = **[1029]** = **[1031]** = **[2034]** = **[2036]** = **[2037]** = **[2038]** = **[2039]** = **[2040]**; the latter consisted of firm mid brown clay material. Elements of the final two layers in this sequence also comprised the lowest deposits visible within the 24 Thompson's Lane watching brief (Davenport *in prep*).

> Layer **[2057]** consists of a mid to pale pinkish yellow coarse sand deposit with very few inclusions 0.31m thick. This material was augured within Trench 2, but was not present within Trench 1. **[2057]** represents a waterborne sand deposit that had most probably settled as a sand bar, though it is not clear whether this occurred within, or close to the edge of, the river. It is of uncertain Prehistoric date. Stratigraphically, it overlies natural and is overlain by **[1040]** = **[2051]**.

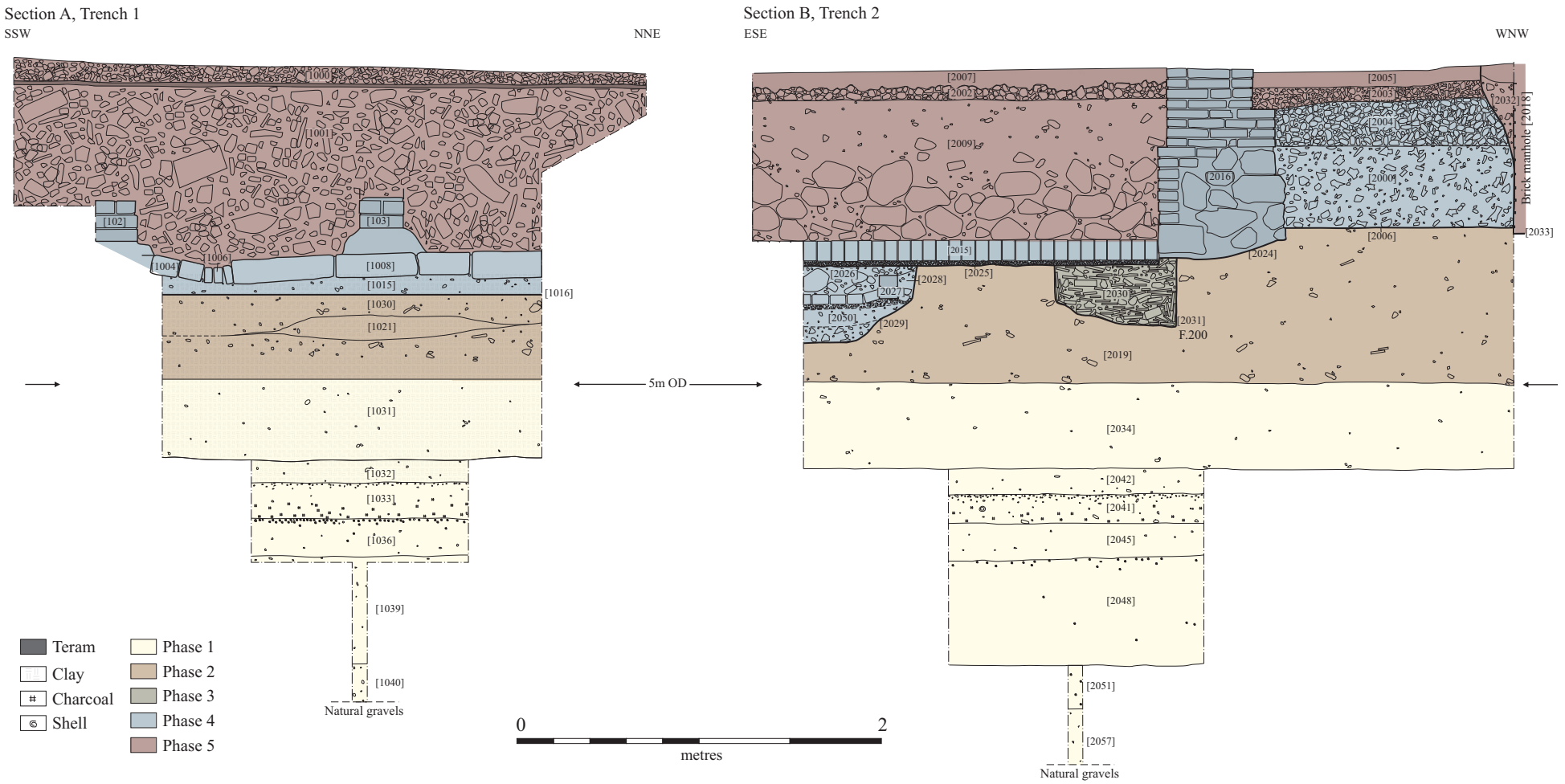


Figure 3: Trench 1 and Trench 2 sections.

Layer **[1040]** = **[2051]** consists of a firm mid to dark greyish brown sandy silt that contained frequent sub-rounded gravel, snail shell and organic fleck inclusions. It was augured within both Trench 1 and Trench 2, and was found to be 0.23m and 0.24m deep respectively. **[1040]** = **[2051]** represents a waterlain deposit of rich organic silt; it is of uncertain Prehistoric date. Stratigraphically, it overlies **[2057]** and is overlain by **[1039]** = **[2048]** = **[2049]** = **[2052]** = **[2053]** = **[2054]** = **[2055]** = **[2056]**.

Layer Order	Contexts	Thickness		Height (m OD)	
		Trench 1	Trench 2	Trench 1	Trench 2
7th	[1024] = [1025] = [1026] = [1028] = [1029] = [1031] = [2034] = [2036] = [2037] = [2038] = [2039] = [2040]	0.45m	0.46m	5.17m	5.07m
6th	[1027] = [1032] = [2042]	0.13m	0.14m	4.72m	4.60m
5th	[1033] = [1034] = [1035] = [2041] = [2043] = [2044]	0.20m	0.16m	4.60m	4.46m
4th	[1036] = [2037] = [2038] = [2045] = [2046] = [2047]	0.20m	0.21m	4.40m	4.30m
3rd	[1039] = [2048] = [2049] = [2052] = [2053] = [2054] = [2055] = [2056]	0.59m	0.60m	4.20m	4.12m
2nd	[1040] = [2051]	0.23m	0.24m	3.60m	3.52m
1st	[2057]	-	0.31m	-	3.28m
Natural	-	-	-	3.37m	2.97m

Table 1; the alluvial sequence at 24 Thompson's Lane as identified in Trenches 1 and 2.

Layer **[1039]** = **[2048]** = **[2049]** = **[2052]** = **[2053]** = **[2054]** = **[2055]** = **[2056]** consists of a very firm mid to dark greyish brown silty clay that contained occasional snail shell and organic fleck inclusions. It was excavated by hand in six spits in Trench 2, within an area of 1.44m^2, but was augured within Trench 1; the layer was found to be 0.59m and 0.60m deep respectively. **[1039]** = **[2048]** = **[2049]** = **[2052]** = **[2053]** = **[2054]** = **[2055]** = **[2056]** represents a gradually accumulated alluvial deposit that appears to have formed in a low energy environment close to the river. It is of uncertain Prehistoric date. Stratigraphically, it overlies **[1040]** = **[2051]** and is overlain by **[1036]** = **[2037]** = **[2038]** = **[2045]** = **[2046]** = **[2047]**.

Layer **[1036]** = **[2037]** = **[2038]** = **[2045]** = **[2046]** = **[2047]** consists of a soft, rather 'crumbly', pale greyish brown mottled silty clay deposit that contained occasional snail shell inclusions. It was excavated by hand in both Trench 1 and Trench 2, in each case within a test pit covering 1.44m^2, and was found to be 0.20m and 0.21m deep respectively; the layer was excavated in two spits within both trenches. **[1036]** = **[2037]** = **[2038]** = **[2045]** = **[2046]** = **[2047]** represents a gradually accumulated alluvial deposit that appears to have formed in a low energy environment close to the river. It is of uncertain Prehistoric date. Stratigraphically, it overlies **[1039]** = **[2048]** = **[2049]** = **[2052]** = **[2053]** = **[2054]** = **[2055]** = **[2056]** and is overlain by **[1033]** = **[1034]** = **[1035]** = **[2041]** = **[2043]** = **[2044]**.

Layer **[1033]** = **[1034]** = **[1035]** = **[2041]** = **[2043]** = **[2044]** consists of a banded deposit of loosely compacted mid to dark grey silty sand overlying a layer of much firmer dark grey clay that contained occasional to frequent charcoal fleck inclusions. It was excavated by hand in both Trench 1 and Trench 2, in each case within a test pit covering 1.44m^2, and was found to be 0.16m and 0.20m deep respectively; the layer was excavated in two spits within both trenches. **[1033]** = **[1034]** = **[1035]** = **[2041]** = **[2043]** = **[2044]** represents a dry and stable period partway through the alluvial sequence. It is Roman in date and contained two sherds of Roman shelly ware, plus single sherds of central Gaulish Samian ware (dating to 120-200AD) and Roman Greyware, along with a sherd of Haddenham Greyware and a sherd of Samian ware (both of which are of 3rd or 4th century

date). Stratigraphically, it overlies **[1036]** = **[2037]** = **[2038]** = **[2045]** = **[2046]** = **[2047]** and is overlain by **[1027]** = **[1032]** = **[2042]**.

Layer **[1027]** = **[1032]** = **[2042]** consists of a pale to mid grey slightly silty clay deposit with occasional to rare discrete rusty brown mottles and rare fine grit inclusions. It was excavated by hand in both Trench 1 and Trench 2, in each case within a test pit covering 1.44m^2, and was found to be 0.13m and 0.14m deep respectively; the layer was excavated in a single spit within both trenches. **[1027]** = **[1032]** = **[2042]** represents a gradually accumulated alluvial deposit that appears to have formed in a low energy environment close to the river. It is most probably of Saxon date, but contained no dateable material. Stratigraphically, it overlies **[1033]** = **[1034]** = **[1035]** = **[2041]** = **[2043]** = **[2044]** and is overlain by **[1024]** = **[1025]** = **[1026]** = **[1028]** = **[1029]** = **[1031]** = **[2034]** = **[2036]** = **[2037]** = **[2038]** = **[2039]** = **[2040]**.

Layer **[1024]** = **[1025]** = **[1026]** = **[1028]** = **[1029]** = **[1031]** = **[2034]** = **[2036]** = **[2037]** = **[2038]** = **[2039]** = **[2040]** consists of a firm mid brown clay deposit containing occasional sub-rounded gravel inclusions. It was excavated by hand in both Trench 1 and Trench 2, in each case within a test pit covering 1.44m^2, and was found to be 0.45m and 0.46m deep respectively; the layer was excavated in four spits within Trench 1 and in five spits within Trench 2. **[1024]** = **[1025]** = **[1026]** = **[1028]** = **[1029]** = **[1031]** = **[2034]** = **[2036]** = **[2037]** = **[2038]** = **[2039]** = **[2040** represents a gradually accumulated alluvial deposit that appears to have formed in a low energy environment close to the river. It is of early Medieval date, and contained a sherd of 13th century Lyveden ware. Stratigraphically, it overlies **[1027]** = **[1032]** = **[2042]** and is overlain by **[1019]** = **[1020]** = **[1021]** = **[1022]** = **[1023]** = **[1030]** = **[2019]** = **[2020]** = **[2021]** = **[2022]** = **[2023]** = **[2035]**.

Phase 1 discussion

Although the four earliest layers (**[2057]**, **[1040]** = **[2051]**, **[1039]** = **[2048]** = **[2049]** = **[2052]** = **[2053]** = **[2054]** = **[2055]** = **[2056]** and **[1036]** = **[2037]** = **[2038]** = **[2045]** = **[2046]** = **[2047]**) are clearly fluvial in origin, it is not apparent on the present evidence whether they formed as a rapid or much more gradual accumulation of material. Thus whilst they may be broadly defined as pre-Roman on stratigraphic grounds, their precise date is harder to establish. Perhaps the closest parallel to these deposits is to be found in an unpublished geological cross-section of the Cambridge river basin prepared by Dr. Steve Boreham (section number 40/55.16) which indicates the survival of similar deposits at several points across the floodplain, often within relict paleochannels of potentially Mesolithic date (Boreham *pers comm*). There is certainly nothing in the environmental evidence recovered from the earliest alluvial material at Thompson's Lane to preclude these layers from having begun to accumulate at a comparably early date (Anne de Vareilles *pers comm*). Environmental analysis undertaken on a sample recovered from layer **[1040]** = **[2051]** revealed a wide range of waterlogged plant species that are indicative of a wet, low energy environment (see further the environmental assessment report). However, it remains possible that some of the overlying deposits originated via more rapid 'high-energy' processes later in the Prehistoric period, processes that might easily have scoured away much of the earlier alluvial material. Further analysis of the environmental samples recovered from these deposits (many of them as yet unstudied) would help to shed valuable light upon such issues as their date and formative nature.

This sequence of apparent riverine deposits was eventually sealed beneath layer **[1033]** = **[1034]** = **[1035]** = **[2041]** = **[2043]** = **[2044]**, which formed under much drier environmental conditions than had been prevalent during preceding period. The analysis of a bulk sample recovered from this layer revealed an extensive assemblage of molluscs which, when compared to those analysed from earlier deposit **[1040]** = **[2051]**, demonstrated that fewer freshwater species were now present in

correspondingly smaller numbers and that species which withstand drying as well as those of dry environments were also present for the first time. Along with these molluscs and a number of animal bones the deposit also contained several sherds of Roman pottery, though their small number and extremely low mean sherd weight (six sherds weighing an average of 5g) suggests that their presence is most likely to be the result of natural as opposed to anthropogenic depositional factors. Nevertheless the succeeding layer, **[1027]** = **[1032]** = **[2042]**, can thus be dated on stratigraphic grounds and is most probably Saxon in origin. The contrastingly alluvial nature of this deposit when compared to its predecessor indicates that the floodplain had largely reverted to its previous form by this time, and suggests that any potential activity in the area is likely to have decreased; indeed even though two sherds of Early to Middle Saxon pottery were recovered from the site, both were found to be residual in later contexts. This fits with a general pattern of decreased activity during this period that has also been observed elsewhere within the city (C.f. Cessford with Dickens 2004). In fact the only site of this date that has tentatively been identified in the surrounding area comprises a possible Middle Saxon to Medieval wharf a little further to the north, beneath what is now the Fort St. George pub (Dickens 2003, 11), although this excavation is as yet unpublished and the wharf's early origin is potentially rather dubious.

The final deposit in this sequence, layer **[1024]** = **[1025]** = **[1026]** = **[1028]** = **[1029]** = **[1031]** = **[2034]** = **[2036]** = **[2037]** = **[2038]** = **[2039]** = **[2040]**, is also the most closely datable. Saxo-Norman (10^{th} to 12^{th} century) pottery was recovered during the watching brief on the Thompson's Lane compound at a height concomitant with the earliest stages of its formation (Davenport *in prep*), and this appears to be well stratified given the 13^{th} century material recovered from its uppermost horizon. It is therefore between the 10^{th} to 13^{th} centuries, during the period in which this deposit was created, that the earliest evidence of nearby occupation may be discerned. The pollen signature revealed by analysis of a monolith sample taken from this material indicates that the area was being gradually cleared and maintained at this time (see further the pollen assessment report). Indeed, probably by around the 12^{th} century it appears that there were gardens in the near vicinity as the pollen of cultivated shrubs such as holly, juniper and box are then present within the sample. This evidence suggests that the site was located on the outskirts of, but was probably not a part, of the occupied city during this period.

Additional support for this view is to be found in the presence of a peat filled channel, potentially several metres wide, which was revealed during the watching brief at 24 Thompson's Lane. This appears to have been created around the 12^{th} to 13^{th} centuries towards the western (or riverward) end of the compound (Davenport *in prep*; see also Figure 2); however, as the feature was seen only in section no dating evidence was recovered and it is not clear whether it represents a tank of some sort, a drainage ditch or even a potential 'barge pull' for shallow-draughted vessels. A similar feature was also seen close to the river during the nearby 1982 Thompson's Lane excavation (see Figure 1). Described as a "deep trench" (Firman & Pullinger 1987, 85) this channel was at least 1.5m+ wide, though it appeared to extend well beyond the limit of the excavated area, and was also aligned at right angles to the river (to which it appears to have been connected). Unfortunately it was not bottomed, and few of its early fills could be investigated as it had been extensively recut at a later date. The only dating evidence recovered comprised three sherds of pottery from the uppermost fill of its

final phase, the latest of which was Late Medieval/Early Post-Medieval in form (*ibid*). Therefore, whilst it may have been contemporary with the potential channel at 24 Thompson's Lane and had simply been recut and remained in use for longer, on the present evidence this example could as easily have post-dated it by a margin of some two or more centuries.

Historical discussion

Relatively few documents of pre-15th century date relating to properties at the eastern end of Thompson's Lane have survived, with the result that the early documentary history of the area is somewhat fragmentary and confused (Faber 2006, 5; Rosemary Horrox *pers comm*). This situation is exacerbated by the unclear and sometimes contradictory information which certain of these documents contain. For example, sources indicate that a *capital messuage* (a dwelling house occupied by the owner of a property containing several *messuages*) was present *ad caput* (at the end of) *Aungeryslane*, the Medieval forerunner of Thompson's Lane, prior to 1279 and in 1317 this same property is described as abutting the *alta ripa* (the 'great bank' of the river) to the north, Grene Croft (a green or wooded area) to the east, the *via regia* (the king's road) to the west and the King's Ditch to the south. Even taking into account the reorientation of this description, which apparently employed the northwest-southeast alignment of the main Bridge Street thoroughfare as opposed to a true compass bearing as its north-south axis, these abuttals appear to remain physically impossible. For although the property must have lain in the near vicinity of the site, lying as it does at the end of the lane close by the King's Ditch, no site with the river situated immediately to its north could also have had the ditch to its south, since this feature is known to have run back at right-angles from the Cam.

In a recent historical examination of the parish of St Clement, within which the current site lies, Thomas Faber (2006) proposed a solution to this problem. He suggested that the *alta ripa* was in fact located some distance back from the river and that the majority of properties at this time, including the *capital messuage*, were located to the east of the present Thompson's Lane; the unusual relationship of this particular plot to the King's Ditch, he proposed, could be explained by an apparent kink in the ditch's course on this eastern side (*ibid*, 34-5). Additional support for this theory is to be found in the presence of contemporary references to an area known as 'St Clement's Holm', a holm being a piece of flat low-lying ground by a river that is submerged or surrounded by water in a time of flood. Such a description agrees very closely with the nature of the alluvial deposits encountered in Trenches 1 and 2, and suggests that the area to the west of Thompson's Lane was subject to at least seasonal inundation at this time. The second issue raised by this proposal – namely the irregular alignment of the King's Ditch, along with the wider question of the precise relationship of this feature to the current site – is examined in association with a consideration of the later cartographic sources during Phase 3.

A wider context: other comparable Cambridge excavations

Unfortunately, the excavations undertaken at the nearby Thompson's Lane site in 1982 did not extend deep enough to investigate the early alluvial sequence of the area; although 'stray' Roman pot was identified at the site, the Roman horizon itself was not reached (Firman & Pullinger 1987, 85). However a small evaluation trench,

measuring 1m by 2m in extent, was excavated at 5 Thompson's Lane – which is located on the opposite side of the road to the present excavation, a little further up the slope to the south (see Figure 1) – during July 2003 (Baker & Kenny 2004). Although the base of the archaeological sequence also could not be reached here for health and safety reasons, the upper surface of a pale brownish grey alluvial horizon with numerous mollusc inclusions was encountered at around 6m OD. This was then sealed beneath a deposit of dark brown sandy silt 0.60m deep that contained over 100 large sherds of pottery of 12th to 14th century date (*ibid*, 5). Because of the limited depth of the excavation, it is not clear whether this latter deposit marks the initial stage of general land reclamation in the area or simply comprises a discrete midden-type deposit situated above a more temporary inundation horizon. However, the location of the trench at the rear of an apparent property plot and the nature of the overlying deposits, which indicate a continuing and potentially unbroken occupational sequence, suggest that the second option is the most likely. In either case, the evidence from this site appears to confirm Faber's suggestion that the area of the floodplain to the east of Thompson's Lane (and thus to the east of a probable earthen bank) was stabilised and settled at an earlier date than the area to the west.

Three other sites, all of which are located further to the south of Bridge Street, have also produced sequences which can be usefully compared to that uncovered at 24 Thompson's Lane. The first of these is located in the Chapel Court and Master's Garden of St. John's College, on the eastern bank of the Cam, and was undertaken in advance of the construction of a new library (Dickens 1996). Although several phases of work were conducted here between 1990 and 1993, of greatest relevance to the present project were two trenches, referred to as Areas 1 and 2, that were both excavated during the summer of 1992. These trenches, each measuring around 13.5m by 6.5m in extent, were located approximately 70m and 50m back from the edge of the river respectively (see Figure 1) and natural gravels were encountered at c.4.20m OD, 1.23m higher than in Trench 2 at Thompson's Lane (though this may perhaps be a result of the latter site's greater proximity to the river). In Area 1 the earliest surviving deposit comprised a dark grey sandy clay alluvial layer that was truncated by at least ten intercutting quarry pits, which ranged from 0.90m to 3.75m in diameter. In contrast, the earliest soil horizon in Area 2 was a sandy clay loam that contained evidence of "expos[ure] after deforestation and ploughing/human activities" (*ibid*, 8). This was subsequently sealed beneath a deliberately introduced deposit of dark grey fine to medium sandy silt with frequent poorly sorted gravel inclusions, which was in turn cut by eleven stakeholes with no discernable pattern that were between 0.08m to 0.10m in diameter. It thus appears likely that at least some of the material extracted from the quarry pits in Area 1 was used to create the gravel surface in Area 2, and the pottery recovered in both areas indicates that this activity probably occurred during the 4th century AD. The purpose behind the creation of these features is somewhat unclear, however; it may be that they were associated to waterfront activity of some kind (*ibid*, 9-10), although this remains unproven.

Towards the very end of Roman period both areas became sealed beneath a deposit of dark greenish brown humic silty clay, subsequent to which a raised east to west orientated gravel pathway was created (*ibid*, 10). It thus appears that the surrounding area had reverted back to its former wetland state, but that access continued to be maintained across the site; however, the pathway soon became sealed beneath further alluvial deposits as inundation continued throughout the Saxon period. During the 10th

to 12th centuries, although waterlain deposits continued to form, a line of stakeholes 1.15m apart was uncovered that ran in a northwest to southeast alignment perpendicular to the main Bridge Street frontage (*ibid*, 14), indicating that the floodplain was subject to at least seasonal usage at this time. The mollusc assemblage recovered from the silty clay alluvial deposits which accrued during this period suggests a mixed environment, with periods of inundation alternating with episodes of damp tussocky grassland (*ibid*, 15). Following this, a series of three drainage ditches were excavated during the 12th to 13th centuries. The most significant of these was around 4.5m wide by 0.5m deep and orientated east-southeast to west-northwest; it had steeply sloping sides leading to a flat base and an associated bank to the northwest that was 2.0m wide and at least 0.60m high (*ibid*, 18). This feature was thus large enough to have accommodated shallow-draughted vessels and may well have acted a minor channel or barge pull. The two remaining ditches were much smaller, being only between 1.2m to 1.5m in width, and appear to have silted up by the end of the 13th century whilst the larger channel was recut and maintained in use until the 15th or 16th centuries (*ibid*, 23). At some time during the 13th century, the reclamation work evidently complete, a series of timber buildings had been established to the north of the channel.

Excavations were also undertaken at Trinity Hall in April 1997 in advance of a proposed extension to the library, in a location immediately adjacent to the present course of the Cam (see Figure 1). The lowest deposits here were excavated within a single trench measuring 3m by 2.5m and natural river terrace gravels were encountered at 3.03m OD, only 0.06m higher than in Trench 2 at Thompson's Lane (Alexander 1997, 5). Above this were discovered 1.91m of alluvial deposits, consisting of mottled and banded deposits of dark greyish brown clayey silt and dark greyish brown silty clay. However, because "the deposits at this level were waterlain and composed of many interleaving lenses, with no clear interface between the various layers" (*ibid*, 6), the precise number of layers was not recorded. Although no dating material was recovered, the two basal horizons did contain waterlogged organic remains similar to those recovered from **[1040]** = **[2051]**. Environmental analysis of this material indicated a heavily wooded environment, with occasional open clearings, adjacent to sluggish (and perhaps in places stagnant) water; as at Thompson's Lane, there was only very limited evidence of anthropogenic activity during this early period (*ibid*, 16). Unlike at Thompson's Lane, however, no discernibly drier phase was identified during the Roman period. Indeed, higher up in the alluvial sequence (and thus probably at around the beginning of the Medieval period) sampling indicated a faster flowing water environment that might be attributable to localised channelling of the river's course (*ibid*). These waterlain deposits were finally sealed in the 16th century when a revetment wall was constructed and the land began to be reclaimed.

A third site – located in Clare College Master's Garden, some 125m to the west of the Trinity Hall site on the opposite bank of the Cam – was investigated via the excavation of two small trenches during 2002 (Clarke 2002; see Figure 1). Beneath a horizon of 19th and 20th century made-ground deposits, the top of the alluvial riverine sequence was identified by auguring to lie at 6.0m OD whilst natural river gravels were encountered at 2.6m OD (*ibid*, 2). This is therefore a much deeper alluvial sequence than that identified on the opposing side of the river, indicating that the western floodplain continued to be subject to inundation long after the Trinity Hall

riverfront area had been consolidated and enclosed. Further to the northwest, on the far side of Queen's Road in the centre of St. John's College Playing Fields, evaluation work has shown that the underlying topography rises sharply, with gravels identified at 10.0 to 9.2m OD in one area (Evans 1991a) and Gault Clay at 10.3 to 10.0m OD in a second (Evans 1991b); this is considerably higher than the natural gravels observed at the Clare College excavation, and suggests that this area lay beyond the limits of the inundated floodplain. Finally, additional excavations were also undertaken at the Trinity College Library Bookstore site in 1989 and 1990 (see Figure 1). Although extensive evidence of the early alluvial sequence and related riverside activities was uncovered (Cessford *pers comm*), this site remains as yet unpublished and cannot therefore be included in this discussion.

Summary

The precise nature of the riverine environment at 24 Thompson's Lane during the Prehistoric period remains unclear, though it seems likely that the Cam was a broad slow flowing river at this time. Subsequently, during the succeeding Roman phase, the area appears to have become markedly drier (whether due to direct anthropogenic intervention or simply via natural environmental change is not clear) prior to reverting back to being an active floodplain throughout the Saxon period. By the 12th century the site appears to have been located to the west of the *alta ripa* – the 'great bank' that may well have acted as the fore-runner of, and perhaps also the foundation for, Medieval *Aungeryslane* – and was thus still being inundated on a seasonal basis. Despite this limitation, however, the riverside area saw at least intermittent usage following the establishment of a potential channel or 'barge pull' that was probably similar to recently excavated examples at Broad Street, Ely (Cessford *et al* 2006) and Ramsey, Cambridgeshire (Spoerry *et al* forthcoming) as well as that at St. John's College Chapel Court and Master's Garden. The presence of such a feature suggests that the site was located on the periphery of the burgeoning mercantile district known to have existed at this time slightly further to the south (Bryan 1999, 32-3).

Phase 2: the creation of 'made-ground'

By the end of the 14th century the preceding alluvial sequence had been sealed by the beginning of a series of deliberately introduced 'dump' deposits, **[1019]** = **[1020]** = **[1021]** = **[1022]** = **[1023]** = **[1030]** = **[2019]** = **[2020]** = **[2021]** = **[2022]** = **[2023]** = **[2035]**, which continued to accumulate up until at least the early 16th century. This material, which contained around two-thirds of the total pottery assemblage recovered from the site along with numerous animal bone fragments, appears to have been introduced on an episodic basis in order to raise the surrounding ground surface and thus decrease the risk of further inundation.

Layer **[1019]** = **[1020]** = **[1021]** = **[1022]** = **[1023]** = **[1030]** = **[2019]** = **[2020]** = **[2021]** = **[2022]** = **[2023]** = **[2035]** consists of a firm dark brownish grey mottled clay deposit containing occasional to frequent ceramic building material fragments, occasional charcoal flecks and occasional to rare sub-rounded gravel inclusions. It was excavated by hand in both Trench 1 and Trench 2, in each case within a test pit covering 1.44m^2, and was found to be 0.47m+ and 0.78m+ deep respectively; the layer was excavated in three spits within Trench 1 and in five spits within Trench 2. **[1019]** = **[1020]** = **[1021]** = **[1022]** = **[1023]** = **[1030]** = **[2019]** = **[2020]** = **[2021]** = **[2022]** = **[2023]** = **[2035]** represents an accumulation of deliberately introduced dumps of alluvial clay. The deposit contained a sherd of 16th century Babylon ware, a sherd of 16th century Broad Street Fineware, six sherds of 16th century Glazed Red Earthenware and a sherd of 16th century Raeren Stoneware. It

also contained three sherds of 12th century Stamford ware, four sherds of 12th century St Neots type ware, four sherds of 12th century Thetford type ware, a sherd of 13th century Developed Stamford ware, five sherds of 13th century Lvyeden ware, 13 sherds of 13th to 15th century grey coarseware, 18 sherds of 14th century Ely ware and a sherd of 15th century Essex Red ware, along with a sherd of Saxon pottery with wavy decoration dated c.450-700AD. Stratigraphically, it overlies **[1024]** = **[1025]** = **[1026]** = **[1028]** = **[1029]** = **[1031]** = **[2034]** = **[2036]** = **[2037]** = **[2038]** = **[2039]** = **[2040]** and is cut by **F.101**, **F.200** and **F.208**.

Phase 2 discussion

The pottery recovered from **[1019]** = **[1020]** = **[1021]** = **[1022]** = **[1023]** = **[1030]** = **[2019]** = **[2020]** = **[2021]** = **[2022]** = **[2023]** = **[2035]**, which was excavated in a series of spits in order to facilitate its later chronological examination, was found to be very well stratified. Along with residual Saxo-Norman material the basal horizon of this deposit produced a number of sherds of Ely ware, and it is this fabric which provides the most reliable indicator of the date of its initial formation. Ely ware is known to have been manufactured in the eponymous city from at least the 12th century onwards (Hall 2001), but only appears to begin to reach Cambridge by around the 14th century (Spoerry forthcoming). The made-ground at 24 Thompson's Lane therefore probably began to be created at some time between the late 13th and the late 14th centuries. The deliberate introduction of material that accompanied the formation of this deposit clearly distinguishes it from the preceding alluvial layers, and marks a significant increase in the degree of anthropogenic activity being undertaken at the site. It is also notable that a similar, though much shallower, deposit of broadly similar date was also seen in the adjacent 1982 excavation (Firman & Pullinger 1987, 85).

Various other activities were also undertaken on the site at this time, as was revealed during the 24 Thompson's Lane watching brief. Of key importance is an apparent laneway of probable 14th or 15th century date that was observed at the eastern end of the compound (Davenport *in prep*; see also Figure 2). This was composed of a 0.11m thick deposit of firmly compacted greenish grey clay with occasional to frequent charcoal fleck inclusions, which acted as bedding for a 0.08m thick metalled surface composed of very compacted sub-angular sandy gravels. The laneway was at least 2m wide, as it extended beyond the width of the cable trench, but was not found to be present in either Trench 1 or Trench 2 (therefore its maximum width must be less than 6m in total). It also appears to have been quite heavily used, for at least part of it was later resurfaced by a deposit of large flat-laid broken tile fragments contained within a 0.17m thick matrix of mid to pale grey sandy clay with frequent charcoal inclusions (although this material may alternatively represent a rather patchy initial construction). Subsequently, at some point during the late 15th or early 16th century, the laneway was sealed beneath a shallow mid to dark grey silty clay alluvial layer that appears to represent a temporary flooding/inundation event. Following this a concave irregularly stepped pit that was at least 0.76m deep by 7.5m long was dug at the eastern end of the site; the backfill of this feature was identical to **[1019]** = **[1020]** = **[1021]** = **[1022]** = **[1023]** = **[1030]** = **[2019]** = **[2020]** = **[2021]** = **[2022]** = **[2023]** = **[2035]** and contained two fragments of a Glazed Red Earthenware basting dish. Since this feature does not appear to have contained sufficient refuse material for it to have comprised a deliberate rubbish pit, it may perhaps represent the extraction of alluvial material in order to strengthen or repair the flood defences closer to the river.

Historical discussion

The partial and often confused state of the early documentary record, previously noted above in relation to Phase 1, also has an unfortunate impact upon any historical discussion of this succeeding period. A number of references are known to survive, however, especially in regard to a townhouse that was occupied in 1381 by the then mayor of Cambridge, Roger de Harleston. Accounts suggest that this residence was attacked during the Peasant's Revolt of that year, when Harleston's dovecot was set alight. Based upon the highly fragmentary surviving sources, Thomas Faber has proposed that this townhouse occupied the majority of the present site (Faber 2006, 141). This now appears to be highly unlikely, given the nature of the archaeological evidence recovered; it seems much more probable that Harleston's residence was located a little further to the south, closer to what is known to have been an area of thriving mercantile activity at this time (Bryan 1999, 32-3). Instead, an alternative suggestion can be made. In the mid 15th century one of Harleston's descendants, who was also named Roger, acquired a parcel of land in a nearby tenement "where a mill is with an adjoining garden". Although it is impossible to link this reference with certainty to the present site (Rosemary Horrox *pers comm*), such a usage would be much more compatible with the nature of the archaeological sequence encountered. For the presence of the laneway indicates that a frequent and potentially quite heavy flow of traffic was entering the site, whilst the absence of cut features and domestic waste suggests that these visitors were most likely to have been involved in commercial as opposed to domestic activity. In addition should a mill building (or indeed any similar such structure) have been present at this time, it would almost certainly have been constructed immediately adjacent to the river in order to capitalise on this freely available power source and would therefore have been situated well outside the area of the present excavation.

The date at which the reclamation and increased usage of the site began, at some point between the late 13th and late 14th centuries, indicates that it may be associated with a probable shift in the alignment of the adjacent King's Ditch that appears to have been undertaken at around this time. This issue is examined in greater depth in association with a consideration of the later cartographic sources during Phase 3.

A wider context: other comparable Cambridge excavations

The presence of a possible, though perhaps unlikely, make-up deposit at the nearby 5 Thompson's Lane excavation has already been discussed above in relation to the preceding phase. It is also notable that no such deposit was discernable at the St. John's College excavation, where the reclamation of the area appears instead to have been undertaken via the creation of a network of at least three drainage ditches (again, see further above). At the Trinity Hall excavation, however, the alluvial sequence was capped at 4.94m OD (only 0.13m lower than at Thompson's Lane) by a peat horizon representing the beginning of a drier phase. This contained 16th century pottery and at least four wooden stakes that had been driven into its surface, most probably to assist with the reclamation of the former wetland zone (Alexander 1997, 6-7). It appears likely that this episode is associated with Trinity College's acquisition of the land in 1544, when it was thought that the first phase of a riverside revetment wall may have been constructed (*ibid*, 10-12). Subsequently, a significant amount of make-up material containing mainly 17th century pottery and domestic refuse was introduced (*ibid*, 8-9). However no pottery earlier than the 15th century was recovered from the

site, suggesting that intensive activity in this area commenced much later in the sequence than at St. John's College or Thompson's Lane (though this difference may perhaps be attributable to the Trinity Hall excavation's much closer proximity to the river).

Summary

The made-ground that was created during this phase overlies the probable channel to the west, indicating that the use of the site had changed although the primary focus of activity still appears to have remained centred upon the riverside area. It is possible that a mill had been erected by this time, or else some other form of organised mercantile activity was being undertaken; sufficient traffic was certainly being generated to require a laneway to be constructed across the still intermittently flood-prone area. However the presence of only occasional dump deposits, as opposed to a network of drainage ditches such as had been created at the St. John's College site, suggests that the area remained less desirable than riverside property in the centre of the city. It is likely that the reclamation process here was begun when the alignment of the King's Ditch, which had previously run adjacent to the southern boundary of the site, was shifted further to the north; whether this activity therefore represents an opportunistic usage of the newly available space, or whether the increasing expansion of the mercantile district to the south had in effect pre-empted its movement, remains unclear.

Phase 3: the early occupational sequence

At some time during the 16th century the creation of made-ground ceased, and there is evidence that subsequently at least one building was constructed on the site. This is represented by north-northeast to south-southwest orientated foundation trench **F.200** (see Figure 4), which contained significant amounts of Late Medieval ceramic building materials including glazed roof and floor tile fragments (such material is generally 14th or 15th century in date). This feature appears to have comprised the foundation for a wall of not insubstantial size. However extensive truncation caused by the insertion of a cellared building in Trench 2 during Phase 4 has removed all traces of the wall itself, along with those of any associated floor surface. A similar degree of truncation, again the result of later cellaring, occurred in Trench 1. Although a small stakehole, **F.101**, was identified in this location no other structural remains survived.

Stakehole **F.101** is sub-circular in form. Cut **[1018]** is 0.09m by 0.08m in extent and 0.14m deep with steeply sloping sides leading to a circular partially concave base. It contained **[1017]**, a single mottled brownish grey silty clay fill with significant ash inclusions. **F.101** represents the only posthole within the limit of excavation, which may relate to a pre-cellar structure or boundary continuing beyond the extent of Trench 1. It is late 16th century or later in origin, but cannot be more closely dated as it contained no datable material. Stratigraphically, it is cut by **F.104** and cuts **[1024]** = **[1025]** = **[1026]** = **[1028]** = **[1029]** = **[1031]** = **[2034]** = **[2036]** = **[2037]** = **[2038]** = **[2039]** = **[2040]**.

Linear **F.200** is orientated north-northeast to south-southwest and continues beyond the limits of excavation in both directions. Cut **[2031]** is 2.55m+ by 0.70m+ in extent and 0.37m+ deep with steeply sloping to near vertical sides leading to an irregular base that sloped partially to the northwest. Within it was deposited a single fill, **[2030]**, which consists of a relatively loosely compacted yellowish brown sandy mortar deposit with extremely frequent inclusions of

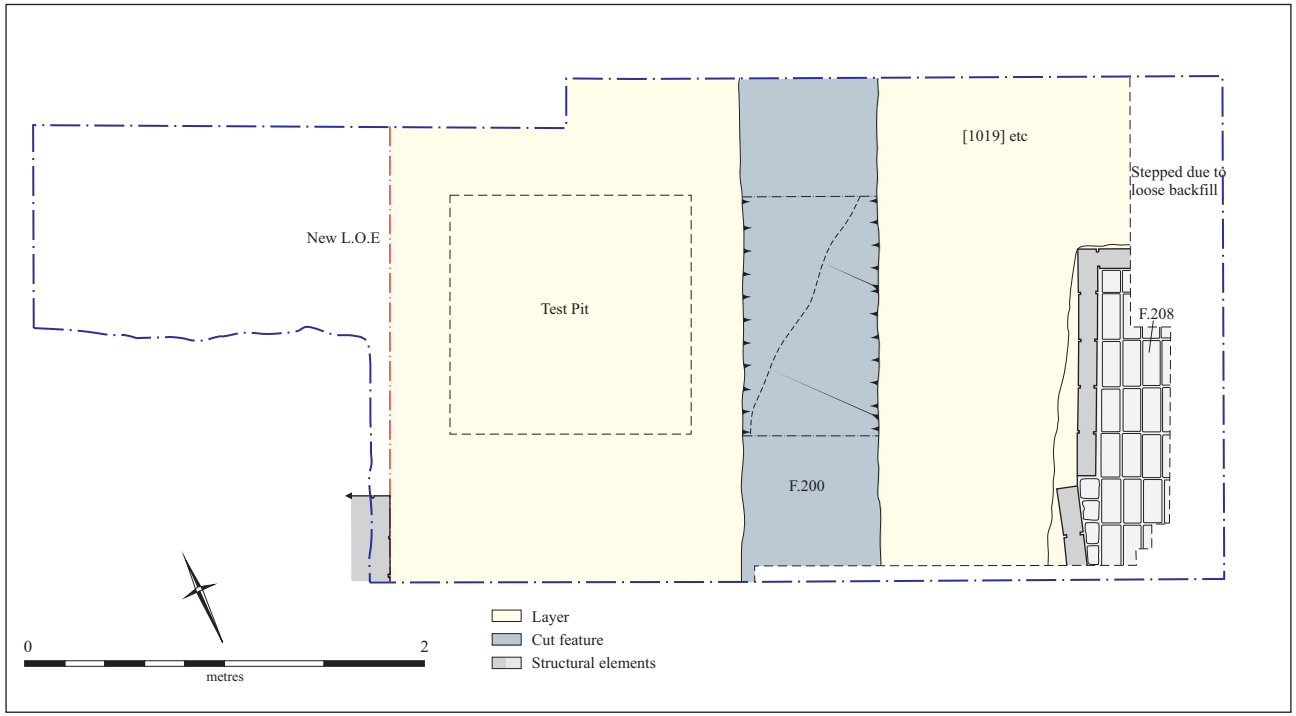


Figure 4: Trench 2 Phases 2 and 3.

fragmented ceramic building material, including pieces of glazed tile and fragments of lime mortar. **F.200** represents the foundation trench for a wall that was truncated by later cellar **F.207**; it appears to have been deliberately backfilled with material derived from the demolition of an earlier structure. It is late 16th century in date, and contained two sherds of 16th century Glazed Red Earthenware. Stratigraphically, it is cut by **F.207** and cuts layer **[1024] = [1025] = [1026] = [1028] = [1029] = [1031] = [2034] = [2036] = [2037] = [2038] = [2039] = [2040].**

Phase 3 discussion

The presence of Late Medieval building materials within 16th century foundation **F.200** implies the demolition of an earlier building (or buildings) in the near vicinity prior to its construction. Whilst it is possible that a structure had been present on the site since the 14th or 15th century (although situated much closer to the river; see above Phase 2), the relatively high status domestic nature of this material suggests that it is more likely to have been derived from within the mercantile district to the south. The function of the structure represented by **F.200** also remains unclear, due to the extensive truncation both of this feature and of any contemporary deposits. However, during the 24 Thompson's Lane watching brief a compacted gravel surface was observed towards the eastern end of the compound, overlying the uppermost horizon of the preceding made-ground (Davenport *in prep*). This appears likely to have comprised part of a yard area of some form lying immediately to the rear of any potential riverside buildings, a pattern which might indicate a potential commercial usage of this part of the site during this phase.

The King's Ditch: a consideration of its changing alignment over time

Any meaningful discussion of the King's Ditch, including an analysis of its early history in this area, is most profitably conducted in association with a review of the later cartographic sources (see Figure 5); for this reason the following section will examine the history of this feature across all of the period represented by Phases 1 to 3. To aid this discussion further, the ditch has been sub-divided into four segments (comprising the 'Jesus Ditch', plus 'inner', 'middle' and 'outer' spurs of the King's Ditch itself) that will each be examined separately.

The oldest of these four is most probably the Jesus Ditch, which initially represented the boundary of the Benedictine nunnery of St. Mary and St. Radegund, founded in 1133 (Willis & Clark 1886, 117). Because the deeded land that was gifted for the foundation of this nunnery, the earliest religious house to be established in Cambridge, already existed as discrete parcel of land in the early 12th century (*ibid*, 118) it is also possible that the ditch was already in existence at this time; the Jesus Ditch (so called because Jesus College was later founded on the site in 1497) is therefore very likely to have predated the consolidation of the city boundary undertaken by King John in 1215. The 'inner' ditch appears most likely to have been an additional spur that was later added to the line of the Jesus Ditch, although it may perhaps have been contemporary with it. Thomas Faber certainly believed this to have been the earliest element of the King's Ditch to have connected to the river, based largely upon the curious nature of many of the property abbutals referred to in Phase 1 (Faber 2006, 31). Additional support for this theory is to be found in the curiously sinuous alignment of this particular phase of the feature (see especially Loggan 1688), which suggests that it is likely to have followed the natural contours in the underlying

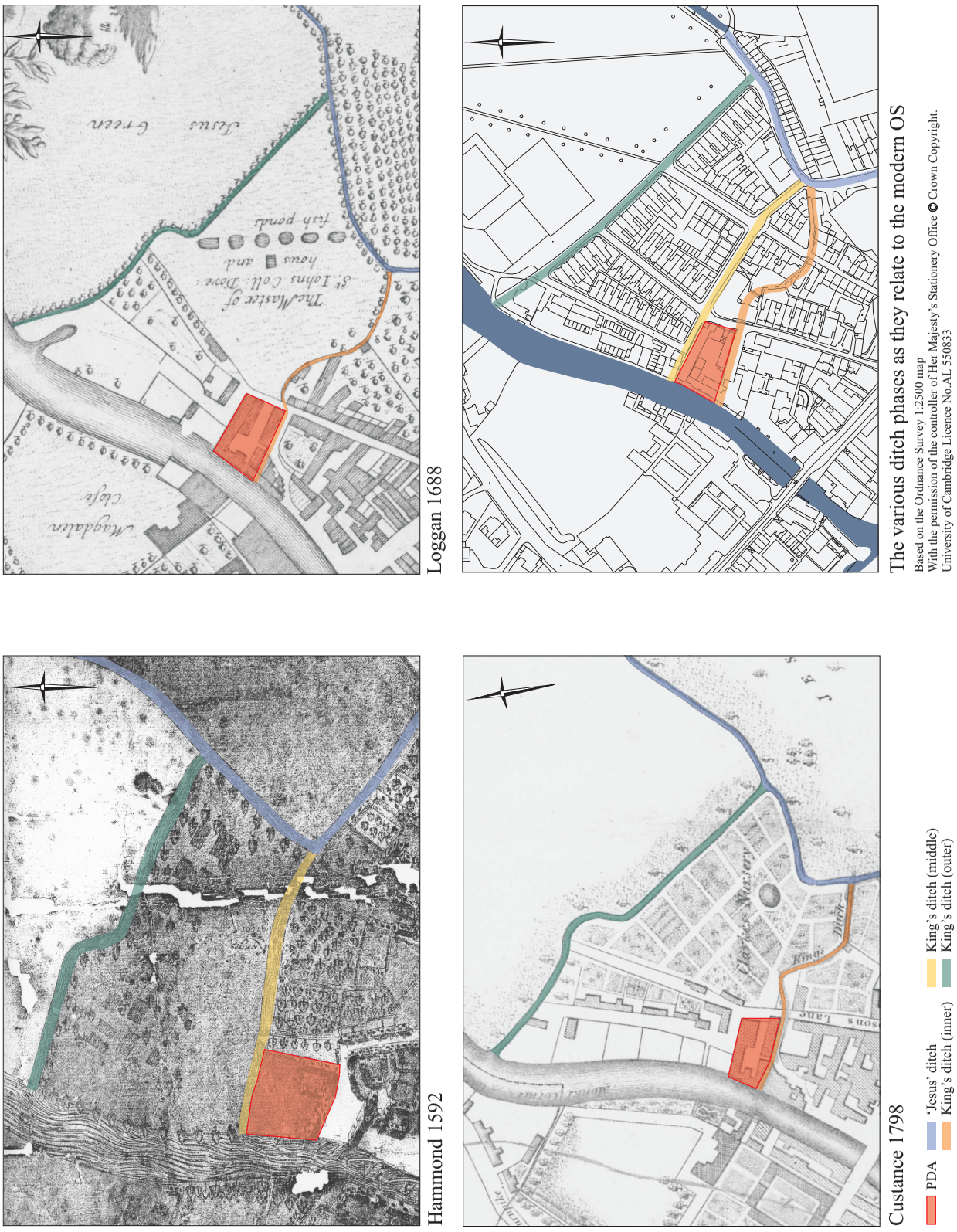


Figure 5: The route of the King's Ditch as shown in the historic map sequence.

topography and thereby perhaps separated the habitable land from the continuing wetland zone; if this is indeed the case, then it is most probably associated with the initial attempt at settlement in this part of the floodplain. Again, it appears likely to have pre-dated the consolidation undertaken in 1215.

The 'middle' ditch, in contrast to the 'inner' phase, is notably much straighter in form (see Hammond 1592). Based upon "inconsistencies" observed within the surviving documentary sources, Faber has dated its creation to the late 13th century and thus equated it to the program of 'refortification' undertaken by Henry III in 1267 (Faber 2006, 33). However, the archaeological evidence recovered at 24 Thompson's Lane presents a less conclusive picture. Whilst it is certainly possible that the boundary transferred from the inner to middle alignments in the late 13th century as a direct result of political incentive (and thus that the increased levels of activity observed on the site at this time represent an opportunistic usage of the newly available space), it remains equally possible that this transition occurred up to a century later, perhaps in response to pressure from the increasing expansion of the successful mercantile district situated a little way to the south. In either case, it is clear that by the late 16th century it is the middle alignment which is being referred to as the King's Ditch (though the inner alignment is still clearly visible as a field boundary at this time); by the time of Loggan's plan of 1688, however, no trace of the middle spur remains.

In fact documentary sources indicate that between 1607 and 1609, under the aegis of the St. John's College, the middle ditch had been backfilled and the line of the inner ditch re-established (*ibid*, 32). This appears to have been made possible following the gradual acquisition of land in the area by the College throughout the preceding century; in 1530 they had purchased the 'pondyard' situated within the former greencroft, and by 1588 owned in addition the area to the south stretching up to the former boundary (therefore including the present site). A survey of the 'King's Dyke' undertaken on the 23rd of June 1629 (c.f. Atkinson 1907) supports the notion this ditch had recently been recut. For the stretch beyond Jesus Close was depicted as being wider than any other along its length, at 1.6m in breadth, and as having a much sharper and more regular profile; the survey also depicted a 'stanche' (most probably some form of sluice gate) to have been located at the junction with the Jesus Ditch, suggesting a control of the water flow that would only be possible within an open and well-maintained feature.

The 'outer' spur, which remained the most consistent within the historic map sequence, is also the most enigmatic; it is clearly a later off-shoot of the Jesus Ditch, but whether it is contemporary with the first phase of the inner alignment, or else perhaps more likely post-dates it by some way, remains unclear. It would certainly appear that this ditch marked a second boundary, lying beyond the limit of the city, which defined a more marginal or 'liminal' space situated between the common land of Jesus Green and the occupied settlement. Such an area may have come into existence at any time between the Saxo-Norman period and the early 16th century, but is perhaps most likely to have originated around the 12th to 13th centuries when the area to the south was first undergoing significant development.

It is notable that all three 'spurs' have been referred to at various times as comprising elements of the King's Ditch (Faber 2006, 33), indicating that this term came to be used somewhat flexibly to define what was then perceived as the current city

boundary. These variations have contributed to a significant degree of confusion within the surviving historical sources, with the result that the development of this feature cannot be traced with absolute certainty. Despite this obstacle, however, a general model may be presented that is based upon the above discussion. With the exclusion of the Jesus Ditch it seems likely that the inner spur was the earliest, subsequently being replaced by the middle spur until the inner alignment was again re-established during the early 17th century; thus the site can be seen to have lain at first outside the city boundary, before later becoming incorporated within the its bounds and then later still being situated outside them once again. However the extent to which the King's Ditch comprised an accurate, or indeed even widely recognised, boundary to the city by the time of its final repositioning in the early 17th century is open to question. A further point of interest is revealed when comparing the various historical alignments to the modern OS map, as it is apparent that each of the numerous phases of ditch have become 'fossilised' as either roadways or paths within the present cityscape. The ditches themselves would of course have been entirely unsuitable as contemporary routeways, but this pattern suggests that their banks – which must originally have been amongst the few features in the landscape to have risen clear of the surrounding marshland – provided a useful and practical means of traversing the area.

Historical and cartographical discussion

It is during this phase that cartographic information first becomes available as a viable resource, scaled plans of Cambridge only having been compiled from the late 16th century onwards (c.f. Baggs & Bryan 2002). The earliest extant plan to depict the site in sufficient, as well as reliable, detail is that of Hammond in 1592 (see Figure 5). His map clearly shows a number of buildings to have been present along the southern perimeter of the site, with an apparent quadrangle located at the eastern end of the property that extended further to the north than any of the other structures. It appears likely that foundation **F.200** is associated with this quadrangle; however, if this is the case then it suggests that this building could only have been constructed at the beginning of the 16th century at the earliest. Similarly, comparable features in Area 1 could easily have been truncated by the later construction of a cellared building, but only if they had occurred equally late (and therefore high up) in the sequence. This provides a strong counterargument to Thomas Faber's suggestion that the quadrangle represents the location of 'Harelston's Place', a student hostel that was established prior to 1466 (Faber 2006, 141). Since no 15th century occupational evidence has been discovered, it appears much more likely that these buildings relate instead to the expansion of the successful mercantile district further to the south; the buildings closest to the river at least may well have functioned as warehouses or other commercial properties at this time. What is known with much greater certainty is that present day Thompson's Lane was commonly referred to as Harleston Lane during this period (Reaney 1943).

The next plan to give an accurate depiction of the site is that compiled by Loggan in 1688, which presents a very different picture to that shown by Hammond almost a century earlier (see Figure 6). By this date a series of large buildings have been constructed that extend across the whole width of the site and bear little or no relation to the layout of their predecessors; the earlier Phase 2 laneway, conspicuously absent in Hammond's 1592 depiction, has also clearly been re-established. These structures,

which are virtually indistinguishable on Custance's map of 1798 from those shown in 1688, are listed in a will of 1788 as consisting of "granaries, maltings, etc" (Faber 2006, 143-4). They therefore appear to be largely commercial in origin, and indicate the continuing expansion of the mercantile district at this time. Indeed it is also notable that the area to the north of the site, which contained only fishponds in 1592, has now also been at least partially developed and had a number of buildings constructed upon it. The beginning of this process of redevelopment can be linked with some certainty to the movement of the King's Ditch in 1607-9, when all of the land concerned was united under the ownership of St. John's College. It seems likely that a degree of 'property speculation' was being undertaken, with the College able to charge much higher rents for commercial tenants (since a large corpus of documents from this period is known to survive in St. John's College, this might provide a fruitful avenue for future research). Another interesting detail of Loggan's 1688 plan is the apparent channel shown on the outermost fringe of the newly developed area. Its form and marginal location bear a striking similarity to those of the probable Phase 1 channel at 24 Thompson's Lane, as well as those of the potentially slightly later example encountered during the 1982 excavation; this raises the intriguing possibility that similar types of 'marginal' activity had gradually been shifted northwards in advance of the expanding mercantile district (though it must be stressed that the evidence upon which such an interpretation is based remains largely circumstantial).

A wider context: other comparable Cambridge excavations

At the 5 Thompson's Lane excavation, the foundations of buildings of probable 16th century date were observed during the monitoring of modern foundation trenches, although no direct dating evidence was recovered (Baker & Kenny 2004, 9). Contemporary material culture from the site, though limited in quantity, suggests that these buildings are most likely to have been domestic in origin. However, because both the monitoring work and the evaluation trench were situated towards the rear of the property, this does not preclude the possibility that other buildings had been present from a much earlier date closer to the street frontage. The building sequence at the St. John's College excavation, in contrast, commenced during the 13th century (Dickens 1996, 24-5). At least five timber structures were constructed here at this time and, as they were situated at the rear of their respective property plots and in close proximity to a probable barge channel, they are most likely to have been commercial in nature. Yet although the majority of them went through numerous phases of use and rebuilding, they appear to have been largely demolished by the end of the 14th century (ibid, 28). Despite this, however, a number of activities continued to be undertaken in the area; the barge channel remained in use, and a number of clay lined pits or tanks were created (ibid, 31-3). These were not backfilled until the 16th century, when the channel appears to have been abandoned and the area given over to horticultural use.

Summary

Although buildings of some form may already have been constructed on the site during the preceding phase, the earliest definite structural evidence to be recovered archaeologically is 16th century in origin. The buildings that are thus represented probably relate to the quadrangle visible in Hammond's 1592 plan, and may well have been largely commercial in function. The same is also true of the structures that

appear to have replaced them following a massive reorganisation of the site in the early 17th century. Cartographic evidence indicates that elements of the initial Phase 2 layout, including the presence of a central laneway, were reinstated and that many new buildings were constructed at this time. Despite these changes, however, the primary focus of activity seems to have remained centred upon the riverside area, with additional warehouses or storerooms stretching back into the current area of investigation. Historical evidence suggests that many of these structures were utilised by the river merchants who continued to operate in this area.

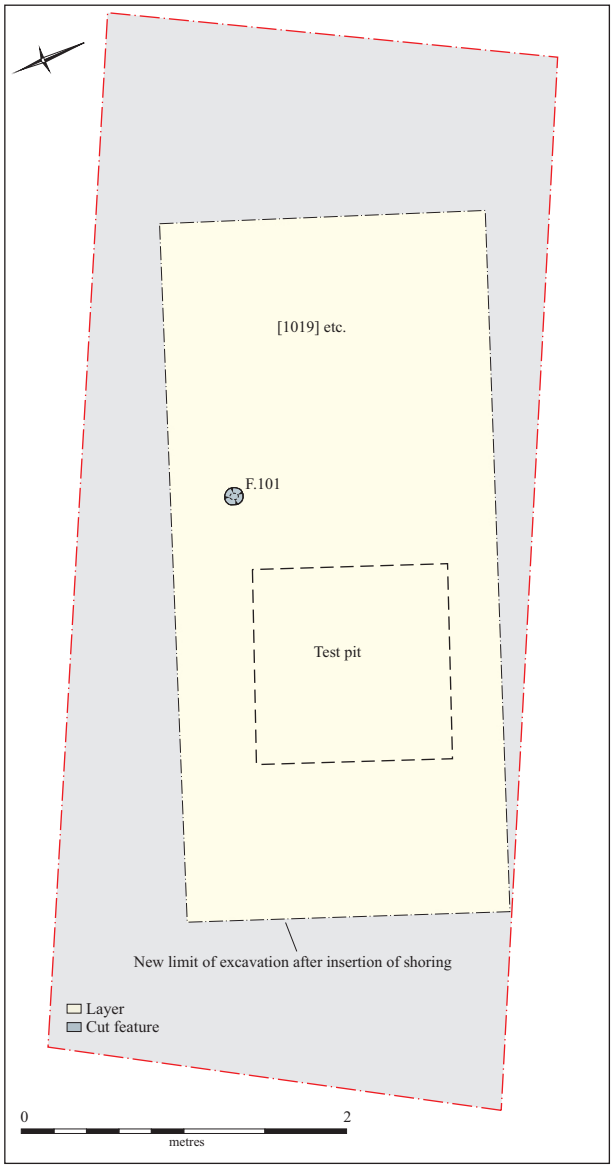
Phase 4: the brewery sequence

In 1788 a brewery was established on the site that continued in operation until 1902. Archaeologically, this phase is represented by the largest number of features to be identified from any period on the site; the following discussion has therefore been divided between the two respective trenches in order to highlight any potential spatial differentiation.

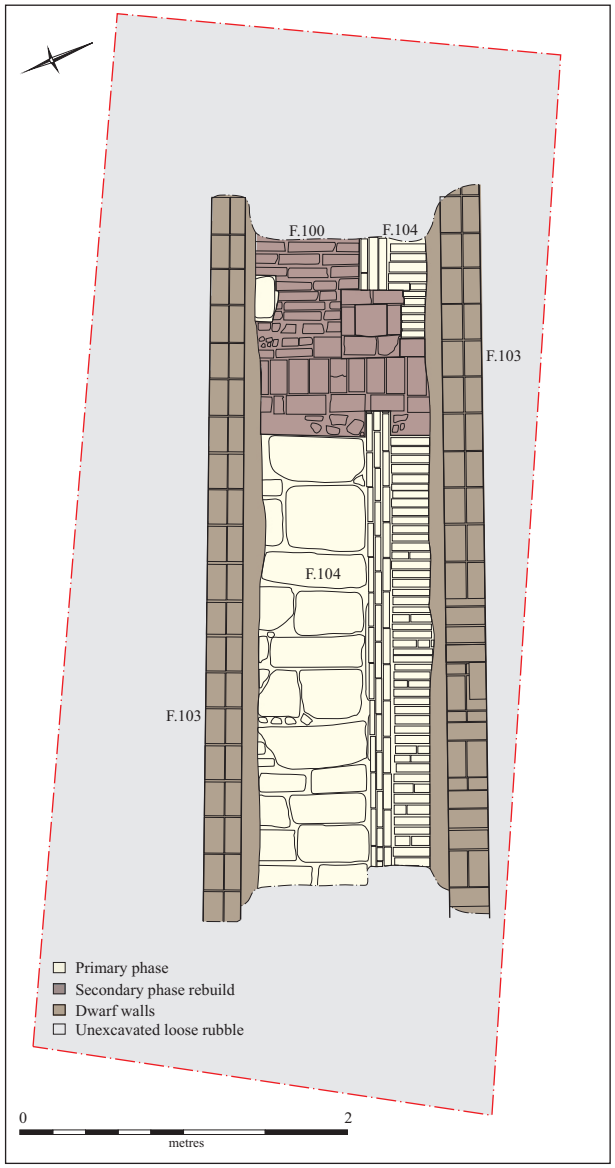
Trench 1

The earliest feature of Phase 4 date to be identified within Trench 1 comprises building **F.104**, which extended beyond the limit of excavation in every direction. The floor of this structure appears to have been composed primarily of large limestone blocks, which were pitched on a slight gradient so as to feed into a brick-lined drainage channel that sloped down to the east (see Figure 6). Although many of the materials employed in its construction appear to have been reused, most probably from one of the initial structures depicted on Loggan's 1688 map, the presence of the central drain strongly indicates that this building functioned as part of the brewery premises; it was therefore probably constructed during the late 18th or early 19th centuries. Later in the 19th century, soakaway **F.100** was inserted in order to assist the drainage of the central channel. Finally, however, the channel went out of use and dwarf walls **F.103** were constructed to the raise level of the floor; this event probably occurred during the late 19th century, although it is also possible that it represents a modification of the building undertaken to facilitate its post-brewery usage.

> Building **F.104** consists of a series of contemporary pitched brick and stone surfaces that extend beyond the limits of excavation in all directions. Initial cut **[1016]** measures 4.30m+ by 2.00m+ in extent and 0.53m+ deep with a flat base, though no sides were visible. Within it was set layer **[1015]**, which comprises a deposit of firm grey clay with frequent CBM fragment inclusions 0.10m deep; this material then acted as the foundation for a floor surface composed of several different elements. The most southerly of these, **[1004]**, consists of an area of edge-set handmade red brick fragments that measure a maximum of 220mm by 95mm by 55mm and are bonded with greyish yellow sandy mortar. It covers an area 2.65m+ by 0.22m+ in extent and 0.10m thick, and is gently pitched so that it slopes slightly to the north. So too does **[1005]**, an identical surface that was originally connected to **[1004]** but was later separated from it by the insertion of soakaway **F.100**; it measures 0.70m+ by 0.28m+ in extent and 0.10m thick. Both surfaces abut brick drainage course **[1006]** and **[1007]** to the north. This was similarly bisected by **F.100**, resulting in the former remnant measuring 2.8m+ by 0.16m in extent by 0.10m deep and the latter 0.30m+ by 0.16m in extent and 0.10m deep. It is also comprised of edge-set bricks, though here they are aligned at right angles to those of the preceding element and measure 225mm by 100mm by 45mm on average. This surface most probably formed the base of a drainage channel, and slopes gradually to the east-southeast. The final and most northerly element of the original floor consists of flagstone surfaces **[1008]** and **[1014]**, which were again truncated by **F.100**. Both were set down upon an initial bedding layer, **[1013]**, which is composed of friable yellow sand covering an area 1.20m+ by 0.50m+ in extent and up to 0.14m thick. **[1008]** and **[1004]** consist of a series of well tooled



Phases 2 and 3



Phase 4

Figure 6: Trench 1 plans.

limestone blocks, each measuring 0.40m by 0.24m by 0.20m deep on average, that extend over areas 2.80m+ by 0.70m+ in extent and 0.31m+ by 0.16m+ in extent respectively. They are also pitched gently to the south, again suggesting that **[1006]** and **[1007]** acted as a central drainage course. **F.104** represents the floor of a partially cellared building. It is composed of an initial construction cut, **[1016]**, into which levelling/foundation layer **[1015]** was introduced. Various elements - **[1004]**, **[1005]**, **[1006]**, **[1007]**, **[1008]**, and **[1014]** - were then set down to comprise a well constructed surface that appears to have largely reused elements from an earlier building. The presence of a central drainage channel suggests that it may have been utilised for small-scale industrial usage, such as in a brewery. Foundation layer **[1015]** contained a sherd of 16th century Babylon ware, a sherd of 14th century Ely ware, a sherd of 15th century Essex Red ware, a sherd of 12th century Thetford type ware and an abraded sherd of Saxon pottery dated c.450-700AD. Stratigraphically, it cuts **F.101** and is cut by **F.100**.

Building modification **F.100** is sub-rectangular in form and is orientated west-northwest to east-southeast, though it extends beyond the limits of excavation in at least two directions. Initial cut **[1041]** is 1.18m+ by 1.02m+ in extent and 0.49m+ deep with steeply sloping sides leading to a relatively flat base. Within the space that was thus cleared, brick soakaway **[1011]** was constructed. It is sub-square in form, measuring 0.57m by 0.52m in extent and 0.49m deep, and is composed of handmade yellow and red unfrogged bricks (averaging 225-240mm by 105-120mm by 45-65mm) that were laid irregularly within a soft white sandy mortar; many of the materials employed in its construction appear to have been reused. Across the remainder of **[1041]** was then spread make-up layer **[1012]**, a friable black cinder-rich deposit measuring 0.65m+ by 0.60m+ in extent and 0.11m thick. This was used as the foundation for brick floor **[1010]**, which reconnected the area around the soakaway to the preceding surface. **[1010]** itself was composed of unfrogged yellow bricks, measuring 225mm by 110mm by 65mm, laid in a 'best-fit' manner both on-bed and on-edge and bonded with a pale brownish yellow sandy mortar. **F.100** represents the construction of soakaway **[1011]** and the associated introduction of make-up layer **[1012]** and replacement floor **[1010]**, all within initial clearance cut **[1041]**. It is most probably 19th century in origin, but contained no datable material. Stratigraphically, it cuts **F.104** and is overlain by **F.103**.

Walls **F.103** comprises two east-southeast to west-northwest orientated dwarf walls that both extend beyond the limits of excavation. The most southerly of these walls, **[1002]**, is linear in form and composed of yellow and red machine-made frogged and perforated bricks that measure 225mm by 105mm by 65mm on average; these are laid predominately in English bond, with a few minor irregularities, and bonded with a tough grey mortar. The whole was set down atop a low concrete footing that rested upon an earlier floor surface. It measures 4.44m+ by 0.35m+ in extent and 0.30m+ deep. Running parallel to it 1.02m to the north is wall **[1003]**, which is also linear in form and constructed from identical materials to those employed in **[1002]**. It in turn measures 4.46m+ by 0.38m+ in extent and 0.32m+ deep. **F.103** represents two parallel dwarf walls and footings that were inserted into pre-existing building **F.104** in order to create a raised floor surface, most probably during the late 19th century. Unfortunately, this cannot be precisely determined as no datable material was recovered. Stratigraphically, they overlie **F.100** and are overlain by **F.102**.

Trench 2

The earliest Phase 4 feature to be identified in Trench 2 also comprised a building, **F.207**, which is very similar to, and is probably contemporary with, **F.104** in Trench 1; the walls of this structure were again constructed from largely reused material, in this case numerous fragments of moulded limestone blocks that appear likely to be of ecclesiastical origin. Many of these stones bear traces of two different types of mortar, suggesting that they were initially incorporated into the fabric of a 17th century structure prior to this being reconstructed in the late 18th century in association with the establishment of the brewery complex. Remnant floor surface **F.208** was most probably associated with **F.207** at the time of its construction, but was subsequently heavily truncated by the insertion of replacement floor **F.205**. This latter surface was comprised of flat-laid machine made unfrogged bricks overlain by a layer of trampled coal dust, and is 19th century in date. Potentially contemporary with the introduction

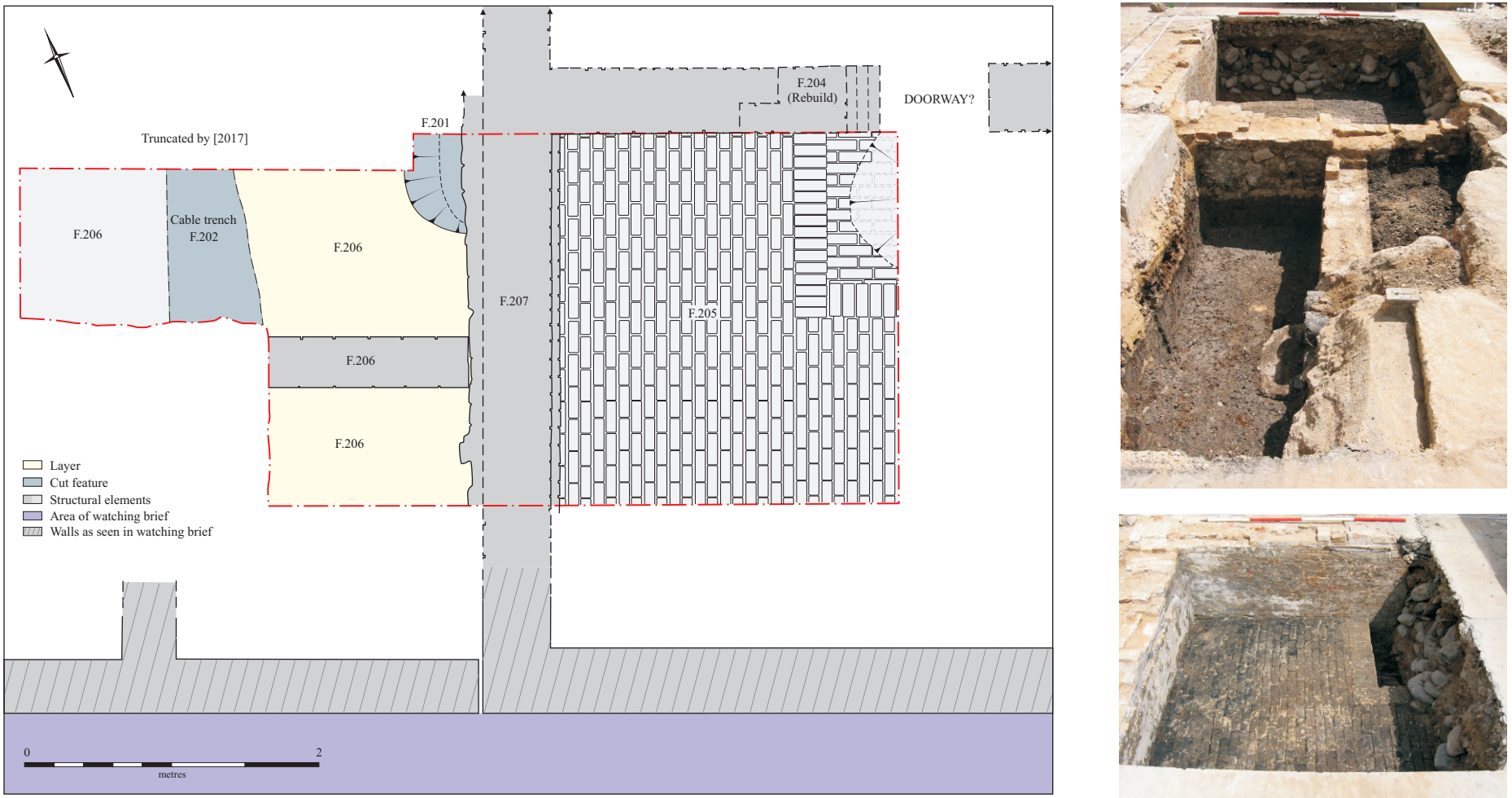


Figure 7: Trench 2 Phase 4.

of **F.205** was the addition of a second structure, **F.206**, to the west of **F.207** (see Figure 7). This building, which contained early to mid 19th century pottery within its initial foundation material, was of unclear form as it was only partially present in the trench and had also been heavily truncated during Phase 5. **F.201**, a repair conducted to the outer surface of **F.207**, was perhaps undertaken at the time of **F.206**'s construction.

Cellar **F.207** is sub-rectangular in form, though it is partially truncated and extends beyond the limits of excavation to the south and east. Cut **[2024]** measures 2.55m+ by 0.70m+ in extent and 0.21m+ deep with a relatively flat base – no sides were visible, but can reasonably be presumed to have been vertical. Within this space was constructed wall **[2016]**, which consists of two (visible) arms: the first is orientated north-northeast to south-southwest and measures 5.30m+ by 0.65m in extent and survives to a depth of 0.80m; the second is orientated west-northwest to east-southeast and measures 2.20m+ by 0.45m in extent and survives to a depth of 1.0m+. Both walls constitute elements of a single contemporary build and are constructed from identical whole and broken yellow, red and pink handmade bricks (measuring 230mm by 100mm by 45mm on average) and occasional to frequent reused limestone blocks (measuring 150mm by 100mm by 80mm on average), all of which were bonded with a moderately firm yellow sandy mortar with small grit inclusions. Some of the bricks and limestone fragments also had traces of residual lime mortar adhering to them, suggesting that they had been salvaged from an earlier building. Additionally, the cellar's internal face had a dark grey render surviving in places. **F.207** represents the wall of a cellar constructed from largely reused materials. For this reason, its precise date is unclear; it may be contemporary with probable 18th century brick floor remnant **F.208**, but may also have predated this feature by some way. No datable material was recovered. Stratigraphically, it cuts **F.200** and is cut by **F.201** and **F.206**.

Sunken brick floor **F.208** is sub-rectangular in form, though it continues beyond the limits of excavation to the south and east. Cut **[2029]** has steeply sloping to vertical sides leading to a relatively flat base, and measures 1.60m+ by 0.64m+ in extent and 0.42m+ deep. Initial fill **[2050]** is comprised of a banded deposit of multiple lenses of slag, ash and cinder along with grey and brownish red silt and charcoal that acted as the foundation deposit for a brick floor. This surface, **[2027]**, was constructed from yellow and pink unfrogged handmade bricks, measuring 220mm by 105mm by 50mm on average, laid flat and adjacently on a thin bed of gravel and bonded with pale brown friable mortar. A single skin brick wall built against the edge of the step marks the limit of the sunken floor. This wall is aligned west-northwest to east-southeast and uses the same bricks as wall **[2016]**. It was overlain by **[2028]**, a deposit of loosely compacted mid yellowish brown sandy silt 0.20m thick that was in turn overlain by **[2026]**, a layer of loosely compacted mid yellowish brown crushed mortar demolition debris 0.16m thick with frequent fragments of limestone and ceramic building material. **F.208** represents a sunken brick floor that was most probably contemporary with the construction (or perhaps the rebuilding) of cellar **F.207.** However, any relationship that may once have existed between the two has been destroyed by the insertion of later floor **F.205**. It is probably 18th century in origin, but cannot be more closely dated as it contained no datable material. The presence of slag indicates that it may be associated to nearby industrial activity. Stratigraphically, it cuts **[1024] = [1025] = [1026] = [1028] = [1029] = [1031] = [2034] = [2036] = [2037] = [2038] = [2039] = [2040]** and is cut by **F.205**.

Brick floor **F.205** is sub-rectangular in form, though it extends beyond the limit of excavation to the south and east. Cut **[2025]** has steeply sloping to near vertical sides leading to a relatively flat base, and measures 2.55m+ by 2.38m+ in extent and 0.15m deep. Into this cut was laid brick floor **[2015]**, which was constructed from machine-made yellow bricks that measure 225mm by 105mm by 65mm on average. The bricks were laid on-edge and bonded with pale yellow sandy mortar; a 0.00m step, located in the eastern corner, is bonded with a tougher mortar and most probably relates to the position of a doorway. A thin layer of trampled coal dust was present across the whole surface. **F.205** represents the relaid floor of a cellar, which replaced earlier surface **F.208** of cellar **F.207**. It is most probably 19th century in origin, but cannot be more closely dated as it contained notable material. Stratigraphically, it cuts **F.208** and is overlain by **F.204**.

Building **F.206** is 'L' shaped in form, with arms that are orientated northeast to southwest and northwest to southeast respectively, though it is heavily truncated and extends beyond the limits of

excavation in several directions. Cut **[2006]** measures 3.04m+ by 2.28m+ and 0.74m+ deep with a flat base – no sides were visible, but can reasonably be presumed to have been vertical. Within this space was constructed wall **[2011]**, which is orientated west-northwest to east-southeast and measures 1.42m+ by 0.35m in extent and 0.40m+ deep. It is constructed from squared red bricks, measuring 225mm by 105mm by 70mm on average, set in a tough yellow sandy mortar. To the south of wall **[2011]** was deposited layer **[2000]**, which is composed of mixed dark brown (glass) and black (iron) slag, ash and cinder and extends over an area of 1.38m+ by 0.78m+ in extent and 0.48m thick. This deposit is overlain by a similar layer, **[2004]**, which contained a greater quantity of brick and mortar fragments and occasional interrupted lenses of sandy mortar and brick dust 0.26m thick. To the north of wall **[2011]** was set banded layer **[2001]**, which consists of numerous lenses of dark brown to purple silt and cinder that contain evidence of trample horizons at the upper and lower extremities. It measures 3.08m+ by 1.04m+ in extent and is up to 0.21m thick; it most probably acted as make-up material for probable floor surface **[2002]**. This consisted of a layer of unfrogged yellow bricks, measuring 220mm by 100mm by 50mm on average, laid upon an orangey brown coarse sand and mortar bedding deposit 0.04m thick; it also covers an area 3.08m+ by 1.04m+ in extent and is 0.09m thick. **F.206** represents a building associated with the Anchor Brewery that was appended to the western side of earlier structure **F.207**. The slag and cinder material present within make-up deposits **[2000]**, **[2004]** and **[2001]** probably derived from small-scale industrial processes undertaken in the near vicinity; the presence of glass slag in **[2000]** indicates that these processes are likely to have been directly associated with the brewery itself. It is 19th century in date and contained 13 sherds of 19th century Refined White Earthenware, eight sherds of 19th century English Stoneware, three sherds of 19th century Coarse Red Earthenware plantpot and two sherds of 19th century Blue-bodied Earthenware. Stratigraphically, it cuts **F.207** and is overlain by **F.203**.

Wall modification **F.201** is sub-oval in form. Cut **[2014]** is 0.80m by 0.40m in extent and 0.20m deep. It has steeply sloping concave sides leading to a slightly rounded sub-oval base. The initial deposit, **[2013]**, consists of a deposit of broken bricks and limestone pieces (measuring 100mm by 60mm on average) that was applied to the external face of cellar wall **[2016]** with a tough pale grey mortar. It covered an area 0.53m by 0.38m in extent and was 0.05m deep. Above it was inserted **[2012]**, a mixed deposit of a soft mid grey silty clay with infrequent inclusions of clunch and gravel 0.20m deep. **F.201** represents a repair the external face of cellar wall **F.207**. It is most probably 19th century in origin, but cannot be more closely dated as it contained no dateable material. Stratigraphically, it cuts **F.200** and is sealed by **F.203**.

Phase 4 discussion

At least two of the buildings constructed during this phase, namely **F.104** and **F.207**, were comprised almost exclusively of re-used materials that are likely to have been salvaged from the earlier phases of warehouses and other structures established on the site in the early 17th century. Indeed the property was probably being developed on an almost continual basis during this period, with additional construction being prompted by the twin stimuli of business expansion and technological progress. Although little is known of the precise layout of the brewery premises during the earlier part of its existence, documentary sources associated with auctions of the property conducted in 1896 and 1902 reveal a great deal of information about its form during the late 19th century (see Figure 8); at this time, it appears, Trench 1 was situated within a storeroom whilst Trench 2 was sited within the area of the mineral water plant and stokehole. The nature of the archaeology encountered in these locations agrees strongly with such an identification. In Trench 2, for example, a deposit of trampled coal dust was uncovered overlying 19th century cellar floor **F.208**, suggesting that this is associated to the aforementioned stokehole, whilst the building represented by **F.206** could well have comprised part of the mineral water plant. The same is also true in Trench 1. Here, even the additional drainage represented by **F.100** that had been inserted into building **F.104** is likely to have gone out of use by this time, and dwarf walls **F.103** may well already have been constructed. A brick-lined well was

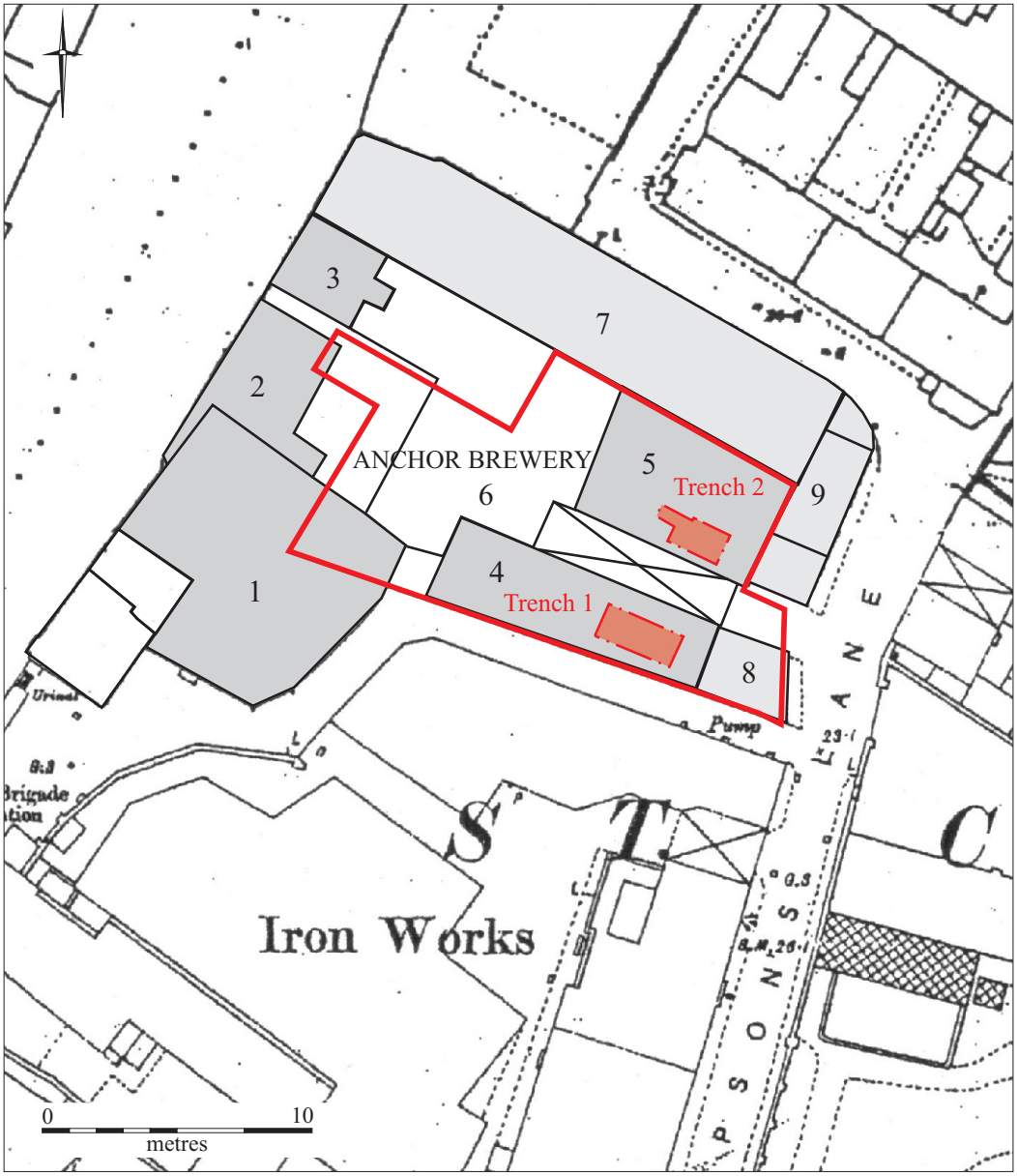


Figure 8: 1st Edition Ordnance Survey (1886) plan of the Anchor Brewery, with details shown from the 1896/1902 auction documents.

also observed during the watching brief, lying at the eastern end of the compound; it was constructed of unfrogged machine made-bricks and is therefore probably early 19th century in origin (Davenport *in prep*; see also Figure 2).

The brewery clearly formed part of a much wider industrial landscape at this time. To the south, a large ironworks was well established by the time the first edition Ordnance Survey map was compiled in 1886 (see Figure 8); the iron slag identified within the foundation of 19th century building **F.206** may perhaps have originated from here. To the north, a large brick-built kiln measuring over 5m in length had been constructed during the 18th century (Firman & Pullinger 1987, 89). This was used to fire peg-tiles and plant pots of various sizes and forms, and may well have continued in use into the 19th century.

Historical discussion

The will of the merchant William Tassel, which was proved on the 23rd of August 1788, requested the sale of his "granaries, maltings etc." (buildings that can be linked to the structures shown on Loggan and Custance's maps), as well as his lease of a warehouse in the same property, in order to pay off his debts and discharge his remaining legacies (Faber 2006, 142-3). Within a few months of this date much of the estate had been indeed been purchased by one Thomas Clarke, a river merchant, for £680 (or around £125,000 in modern terms) with the remainder of the property being leased to Messers Whittred and Haggerston, Common Brewers (*ibid*, 143-4). In 1796 John Haggerston purchased the entire property for almost double what Clarke had paid eight years before, and a detailed account of the items he acquired has survived. This included "all that freehold… malting or merchant's yard… chambers, granaries, stables and other buildings" then in the ownership of Clarke. The 'other building's' apparently included "that freehold Messuage or Tenement called or known by the sign of the Ship [a tavern?], now in the tenure of John Haggerston and in the occupation of James Swallow his undertenant". This structure may or may not have been situated on the site itself, since the lease of a coalyard on an adjacent property was also included in the sale. Perhaps of greatest interest, however, certainly in terms of illustrating the life of a river merchant in the late 18th century, is the fact that Clarke's stock, fixtures and fittings were also sold and are therefore carefully documented; Haggerston purchased his "Merchantile stock viz. Coals, Deals, Balkers, Synders, Timber etc, stocked from Lynn", along with the "stock of Corn and Seeds viz. Oats, Wheat, Rye, Barley, Beans, Grass Seeds etc.". Also included were an "Oil cake Mill… sheds, gallies, Pebbles, Bricks, Old Wood, Shovels, Brooms, Skreens, Measures, Weights, Ladders, Scales and Beams, Landing Planks" (*ibid*, 144).

It is clear that the Whittred and Haggerston brewery quickly extended into these new premises; a document of the early 18th century records the presence of a 'Brewhouse' at the east end of Harleston Lane, where "bones were found in 1797 on digging there, about the brewhouse well" (*ibid*, 145). There is no specific reference to human remains being revealed at this time and it seems much more likely that these bones relate instead to a domestic refuse deposit, probably one very similar to those encountered in the 1982 Thompson's Lane excavation (Firman & Pullinger 1987, 85-9). The well itself may be that identified during the recent watching brief (see above), although unfortunately this cannot be directly proved on the present evidence. The brewery subsequently passed into the ownership of William Casburn, under whose

name it appeared in an 1830 brewer's directory, and then to Francis Eaden, under whose name it appeared in directories of 1839 and 1847. Following this it was acquired by one William Potts around the middle of the century, and it appears to have been at this time that it first became known as the 'Anchor Brewery' (Faber 2006, 145). Potts finally auctioned off the premises in 1896, when the maltings building was bought by the Great Northern Railway Co. and transformed into a bonded warehouse. The majority of the remaining structures were purchased by the Star Brewery, which continued production on the site (without a maltings) until 1902 (*ibid*). The property was then put up for auction for a second time, bringing to an end its long brewing history.

Summary

The establishment of a brewery on the site can be seen in many ways as a culmination of the area's long mercantile history. For although the buildings were now being employed for a single trade, as opposed to the variety of uses to which they had most probably been put in the preceding phase, a wide range of skilled crafts were still being undertaken on the site during this period. As well as the brewers themselves, coopers were also present – as demonstrated by both documentary and photographic evidence (Faber 2006, 147) – along with the bargemen who not only delivered the raw materials but also transported the finished product. A number of breweries are known to have been in operation in Cambridge during the 19th century, and these establishments played an important role in the commercial life of the city.

Phase 5: modern activity

The majority of modern activity that has been detected archaeologically is related to the demolition of the former brewery structures. The building represented by **F.207**, for example, was levelled to the ground and its cellar backfilled in the early 20th century prior to new structure **F.204** being established upon its foundations. Demolition horizons **F.102** and **F.203** are also associated with the demolition of Phase 4 structures, probably towards the end of the 20th century, and the establishment of temporary surfaces above their remains. Finally **F.202**, a series of electrical cables that are associated to the electricity substation established on the site in the early 20th century, were also detected.

> Rebuild **F.204** is of unclear form as it extends beyond the area of excavation in every direction; it is 2.55m+ by 2.38m+ in extent and 1.15m+ deep. The earliest element in the process is represented by backfill **[2009]**, which consists of a soft mid brownish grey silty sand with frequent large sub-rounded cobble inclusions 0.80m deep. This was then overlain by a layer of hardcore, **[2008]**, composed of broken brick, tile and demolition debris 0.22m thick, which was in turn sealed beneath mid grey 0.13m deep concrete surface **[2007]**. Wall **[2010]**, which measures 0.73m+ by 0.46m in extent and 0.70m deep, was then constructed atop the pre-existing foundation from whole and broken red and yellow machine-made bricks (measuring 225m by 110m by 65mm on average) bonded with tough pale grey mortar. An iron plate 0.62m long by 0.02m thick was also incorporated into this build to reinforce its northeastern corner. **F.204** represents the backfilling of preceding cellar **F.207** and the levelling of the associated standing structure in order to construct a new uncellared building above its remains that incorporated the earlier walls as foundations. It is late 19th/early 20th century in date and contained three sherds of 19th century English Stoneware. Stratigraphically, it overlies **F.205**.
>
> Demolition horizon **F.102** consists of two layers, **[1001]** and **[1000]**, both of which extend beyond the limits of excavation in all directions. The former consists of a mixed deposit of brownish grey silty sand with frequent brick, slate and plastic inclusions whilst the latter is a modern hardcore

deposit set down above a layer of teram; they are 1.00m deep and 0.11m deep respectively. **F.102** represents the demolition material from, and subsequent temporary surface established above, the remnants of building **F.104**. Both layers are late 20th century in origin; stratigraphically, they overlie dwarf walls **F.103**.

Modern layers **F.203** are of unclear form as they are heavily truncated; they measure 7.24m+ by 2.70m+ in extent and are 0.87m thick. The earliest deposit, **[2017]**, consists of a very tough mid to pale grey concrete foundation slab 0.66m thick. This was abutted by mid greyish brown silty sand make-up layer **[2003]**, which measured 3.0m+ by 1.08m+ in extent and 0.25m thick. Above this was set banded surface **[2005]**, which was composed of mid to pale grey concrete measuring 3.08m+ by 2.08m+ in extent and 0.16m thick that was in turn overlain by a layer of firm black tarmac 0.08m thick. **F.203** represents a series of modern layers and surfaces relating to the use of the site in the late-20th century. Stratigraphically, it seals **F.201** and **F.207** and is cut by **F.202**.

Service trench **F.202** is linear in form and orientated north-northeast to south-southwest, though it continues beyond the limits of excavation. Cut **[2033]** is 2.3m+ by 1.26m+ in extent and 0.94m deep, with steeply sloping to vertical irregular sides that break sharply onto a relatively flat base. Within this space was first constructed brick-lined manhole **[2018]**, which measures 1.68m+ by 1.26m+ in extent and 0.94m deep and is constructed from machine made frogged red bricks, measuring 220mm by 120mm by 70mm on average, set within a very tough pale brown sandy mortar; a firm grey concrete layer overlies the construction. Six cable pipes exit the manhole and continue across the extent of Trench 2 to the east. These were backfilled with **[2032]**, a relatively loosely compacted mid brown silty clay containing frequent inclusions of ceramic building material and broken concrete 0.94m deep. **F.202** represents a modern service trench, and associated manhole, that were constructed in the early to mid 20th century in order to house electricity cables relating to the Thompson's Lane sub-station. No dating material was recovered. Stratigraphically, it cuts **F.203**.

Phase 5 discussion

It is only really within the past century, following the final sale of the brewery complex in 1902, that the form of the area has significantly differed from that depicted by Loggan in 1688. That part of the site which was soon to be occupied by the first electricity substation had been purchased at auction by the Cambridge Electricity Supply Ltd. in 1906 (Faber 2006, 147), and the initial stages of the seemingly oft-replaced associated cabling presumably date from this period. An industrial glassworks was also established in the former maltings building during the early 20th century (this space is now occupied by The Glassworks fitness studio), whilst many of the original warehouses and brewery buildings were clearly either demolished or replaced in the latter half of that century. It is interesting to note, given that the site is now undergoing yet another phase of rebuilding and redevelopment, that it is no longer situated at the margin of the city but has instead been incorporated into a belt of suburban housing that is largely 19th and 20th century in origin. The nature of the businesses that are located here have been similarly transformed; the commercial and industrial enterprises that were once restricted to the city's margins have been replaced by a gymnasium, which is perfectly suited to the new suburban environment.

Conclusion

The excavations at 24 Thompson's Lane have illuminated many elements of the long history of this part of Cambridge. Following on from the wet, low energy environment prevalent during Prehistoric times the area became significantly drier during Roman period, though no direct evidence of human activity was detected on the site itself at this time. It then reverted to its previous wetland form, with the first

evidence of occupation in the near vicinity only being identified during the Saxo-Norman period. This suggests that settlement in the area is likely to have been established at around the same time as the first (or 'inner') phase of the King's Ditch was created; indeed in its initial, sinuous form, this feature most probably subdivided the habitable ground from the remainder of the surrounding floodplain. At this time the site appears to have been located immediately outside of this boundary; however, the establishment of a probable channel or barge pull shows that it was in at least occasional use, and it is also possible that the stretch of the King's Ditch immediately adjacent to the river was at least partially navigable during this period.

Then, in the late 13th or early 14th century, the city's boundary was shifted to the north following the excavation of a new (or 'middle') ditch and the scale of activity on the site increased; the earlier channel went out of use and the surrounding ground level was artificially raised, a laneway was created and a mill may also have been constructed close to the river. Indeed by the late 16th century a number of buildings, most probably associated with the area's flourishing river trade, are known to have been present along the site's southern perimeter. The majority of these structures appear to have been demolished in the early 17th century, however, when a major redevelopment of the area was undertaken. Between 1607 and 1609, the middle phase of the King's Ditch was backfilled and the original alignment of the boundary re-established; but far from decreasing at this time, activity on the site appears to have increased following the construction of new and much larger buildings that now stretched across the entire width of the property. These structures were primarily commercial in nature, and demonstrate the continuing expansion of mercantile interest in this area during the 17th and 18th centuries. This culminated in the foundation of a brewery on the site in 1788, which remained in production until 1902; following its closure, the site has continued to be redeveloped in a piecemeal fashion until the present day.

Two key themes may be observed within the developmental history of this site. The first of these is its relationship to the King's Ditch, the sequential development of which demonstrates a very different pattern here to that observed for the same feature at the recent Grand Arcade excavation. On the southern boundary of the city, the ditch was found to have been enclosed by suburban properties whose limits were established during the 11th century and did not subsequently alter, thereby limiting the scope for movement of the boundary itself (c.f. Cessford 2007). At Thompson's Lane the more open space afforded by the nature of the floodplain appears to have allowed greater flexibility, with movement perhaps being precipitated by economic or political factors, yet the tenacity of the original boundary remains striking. The second theme is the role played by an outside institution, in this case St. John's College, in driving forward the site's development. The extensive early 17th century redevelopment mentioned above, in which not only the site but also a substantial area of riverside land to the north saw significant investment, was apparently undertaken following the purchase of these areas by the College in the mid to late 16th century. A very similar pattern was also observed at the Trinity Hall and St. John's College excavations, thus highlighting the instrumental role played by Colleges in the development of the cityscape with which we are familiar today.

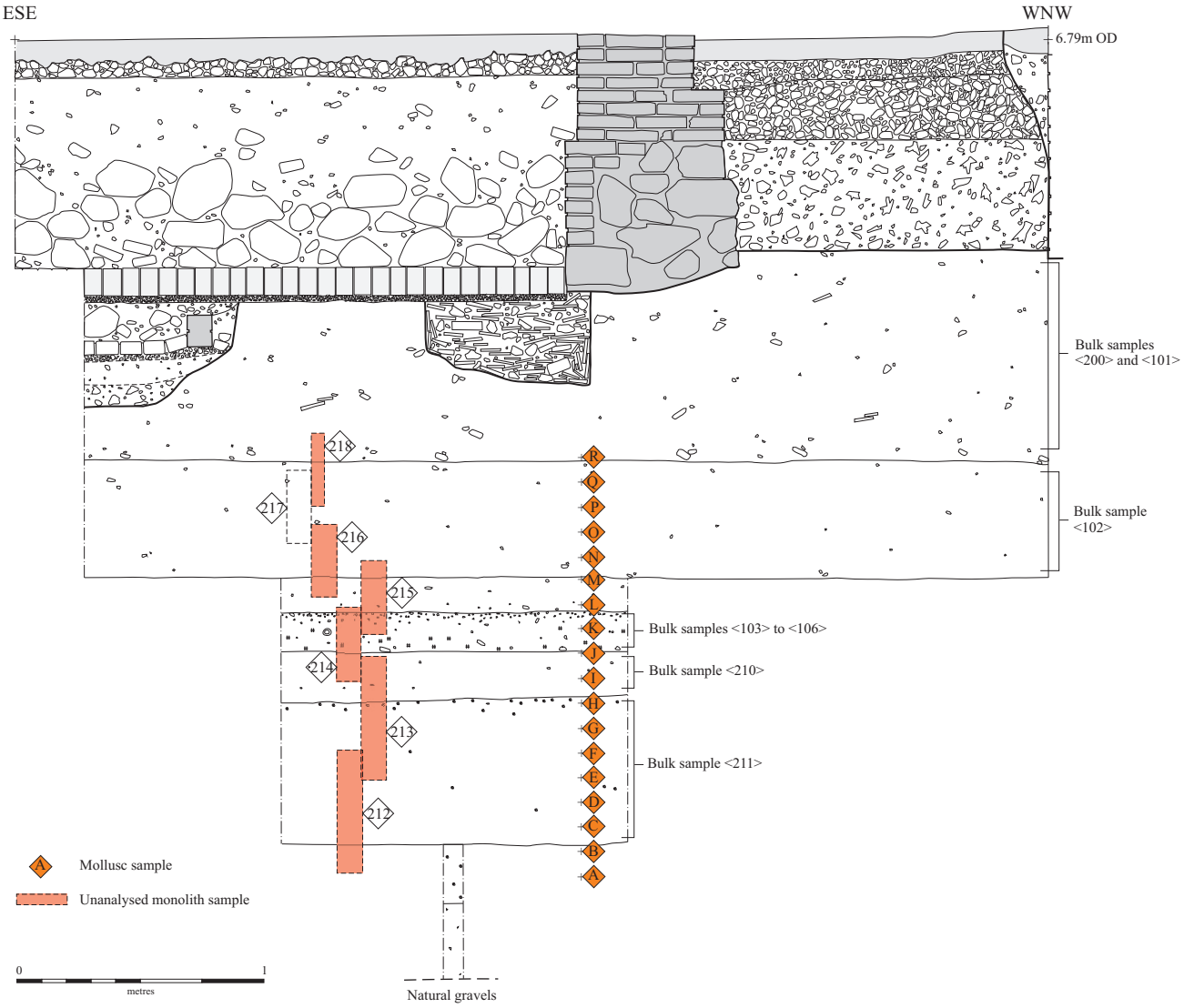


Figure 9: Trench 2 section highlighting as yet unstudied samples.

Recommendations for further work

Although the scale of the excavation at 24 Thompson's Lane was rather modest, it has succeeded in recovering the most complete environmental sequence yet known from a site in the centre of the city. Assessments of this material have indicated that there is great potential for further analysis of both the monolith tin and mollusc sample sequences (see Appendix 1 and Figure 9). Indeed with the exception of the recent excavation at Grand Arcade, pollen analysis has only been attempted at one other site in the city centre, St. John's College, though unfortunately the deposits sampled here were found to be sterile (Dickens 1996, 111). The analysis undertaken for the Thompson's Lane pollen assessment report, however, has clearly demonstrated the potential of this material to elucidate details of the surrounding environment potentially as far back as the Mesolithic period. Although pollen analysis was not attempted at the Trinity Hall site, an extensive mollusc assemblage was recovered which would provide excellent parallel to the material collected from Thompson's Lane. It is therefore recommended that the unstudied monolith samples from the present site, along with the mollusc samples and remaining bulk environmental samples, be fully analysed in order to allow the complete environmental sequence to be reconstructed.

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Appendix: finds and environmental assessment reports

287 items weighing 24.8kg were recovered from the excavation at 24 Thompson's Lane. Even given the limited number and size of the excavated trenches, this represents an unusually small assemblage from a site located so close to the centre of a major Medieval city such as Cambridge; the lack of material remains therefore highlights the specific nature of the area investigated. It reinforces the notion that the site was situated within a marginal, essentially 'liminal' zone in which only sporadic or non-intrusive activites were undertaken for much of its history. Indeed, with a partial exception during the Roman period, it is only from the 14th century onwards that cultural materials are present within the archaeological record in any appreciable quantity.

Provisional assessments of the most significant classes of material are presented below. In certain cases, however, insufficient quantities were recovered for a full assessment to be worthwhile. In the case of animal bone, for example, only 111 fragments weighing 1.52kg were recovered, largely as residual material within secondary make-up deposits; such a small quantity is insufficient for any useful interpretation to be derived. Similarly, the glass assemblage is equally sparse. Although five window glass fragments (weighing <1g each) were recovered from **<065> [2030]** in foundation trench **F.200**, these are too badly degraded to discern whether they were originally decorated. The nine remaining shards (which weigh 105g) represent small undiagnostic fragments from 19th century bottles.

Pottery assessment

(with David Hall and Katie Anderson)

The total amount of pottery recovered during the excavation comprised 107 sherds weighing 1.56kg; therefore, given the limited scale of this assemblage, an intensive analysis is not warranted. Instead a summary of the material is presented, broken down by chronological period and highlighting any elements of specific interest.

Roman and Saxon

The earliest material recovered from the site comprised six sherds of Roman pottery from layer **[1033]** = **[1034]** = **[1035]** = **[2041]** = **[2043]** = **[2044]**, which included two sherds of unidentified Roman shelly ware weighing 5g (**<15>**), a sherd of Central Gaulish Samian ware dating to 120-200AD weighing 6g and a sherd of unidentified Roman Greyware weighing 3g (**<77>** and **<42>** respectively), along with a sherd of Haddenham Greyware weighing 8g and a sherd of Samian ware weighing 1g both of 3rd or 4th century date (**<77>** and **<14>** respectively). The semi-alluvial nature of the material from which they were recovered, along with the spread of dates that they represent, suggests that these sherds were deposited gradually via natural as opposed to anthropogenic processes. Two sherds of Saxon pottery were also recovered from the site, though both were redeposited within later contexts; **<4>** comprises a heavily abraded rim sherd weighing 5g of probable mid 5th to late 7th century date, whilst **<40>** comprises a sherd with an unusual 'T' shaped rim form and incised wavy decoration that is also likely to be mid 5th to late 7th century in date. The latter appears to be most comparable to material excavated from Waterbeach in the early 20th century (c.f. Lethbridge 1927; Lethbridge & Tebbutt 1933). The scarcity of material

from the earliest phases of the site is underlined by its extremely low mean sherd weight of 5.7g, which indicates that only small fragments were deposited as opposed to the more significant quantities associated with primary refuse disposal.

Medieval

This period produced more material than any other on the site, with the majority of sherds being derived from make-up deposit **[1019]** = **[1020]** = **[1021]** = **[1022]** = **[1023]** = **[1030]** = **[2019]** = **[2020]** = **[2021]** = **[2022]** = **[2023]** = **[2035]**. From the site as a whole, twelve sherds of 10th to 12th century Saxo-Norman pottery were identified. These comprised: three sherds of Stamford ware weighing 71g; four sherds of St Neots type ware weighing 69g and five sherds of Thetford type ware weighing 109g. One sherd of 13th century Developed Stamford ware weighing 3g was also identified, along with eight sherds of 13th century Lyveden ware weighing 104g. From the 14th century, 20 sherds of Ely ware weighing 294g were present on the site, along with 13 sherds of 13th to 15th century Grey Coarseware weighing 66g. Finally, two sherds 15th century Essex Red ware weighing 11g were also present. No items of inherent or intrinsic interest were identified and the mean sherd weight of material from this phase was again low, at 13.0g, reinforcing the notion that refuse disposal was not the primary objective of many of these deposits.

Post-Medieval

This section details the 16th century material identified from the site. Many of the sherds from this period were derived from the uppermost horizon of made-ground layer **[1019]** = **[1020]** = **[1021]** = **[1022]** = **[1023]** = **[1030]** = **[2019]** = **[2020]** = **[2021]** = **[2022]** = **[2023]** = **[2035]**. In total, two sherds of Babylon ware weighing 3g were recovered, along with one sherd of Broad Street Fineware weighing 1g, eight sherds of Glazed Red Earthenware weighing 194g and one sherd of imported German Stoneware from Raeren weighing 6g. Once again, no individual items of inherent or intrinsic interest were identified. However whilst remaining low, the mean sherd weight of material from this phase (at 17g) is higher than that of preceding periods, suggesting that a greater degree of primary disposal was involved in its deposition and indicating a potential increase in activity on the site at this time.

Modern

The majority of pottery of this date was recovered from **<16> [2000]** in **F.206**, a foundation layer within a 19th century building. This deposit contained: eight sherds of 19th century Utilitarian English Stoneware weighing 326g; 13 sherds of 19th century Refined White Earthenware (many with transfer print decoration) weighing 96g; three sherds of 19th century Coarse Red Earthenware plant pot weighing 16g, and two sherds of 19th century Blue Bodied Earthenware weighing 13g. Three sherds of 19th century Utilitarian English Stoneware weighing 103g were also recovered from **<17> [2009]** in **F.204**. The mean sherd weight of material from this phase, at 19.2g, is the highest of any period. This is especially notable because more modern ceramics, by virtue of advancements in production technology, are typically much lighter than those of earlier periods.

Conclusion

Although very small, this assemblage does represent a reasonable spread of the most common pottery types of the Cambridgeshire region from the Roman period onwards (c.f. Edwards & Hall 1997; Hall 2001) though with a notable absence of Middle to Late Saxon material, such as the Maxey type and Ipswich type wares that were present in small quantities at the St. John's College site (Dickens 1996). However, few if any of the deposits that were encountered at 24 Thompson's Lane represent the primary disposal of refuse material and although the majority of pottery recovered was Medieval in date, this was almost exclusively associated with the creation of 'made-ground'; little insight can therefore be gained into the habits and preferences of the occupants of the site at this time.

Clay tobacco pipe assessment

By Craig Cessford

Only two clay tobacco pipe fragments (**<054>**, weighing 6g in total) were recovered during the excavation at 24 Thompson's Lane. Both of these were stem fragments, derived from **[2000]** in **F206**. In general, the presence of clay tobacco pipe fragments in a context indicates a date between late 16th to early 20th centuries (*c.*1580-1910). One of the two stem fragments recovered is a screw thread form marked …HORN & Co / … LEY; this stem can be attributed to William Southorn & Co of Broseley in Shropshire. William Southorn is known to have been active between 1802 and 1841 (Oswald 1975, 192) and the firm of William Southorn & Co was founded in 1823 (Higgins 1992, 30). In the 19th century Broseley was one of the leading centres of clay tobacco pipe manufacture and William Southorn & Co. was one of the leading manufacturers. As the Eastern Counties Railway to Cambridge only opened in 1845 the pipe must predate this and presumably arrived by river, indicating the significance of the Cam to long distance trade in the first half of the 19th century (*cf.* Chisholm 2003). Along with another stem from the St. John's Triangle site (Cessford in Newman *in prep*) this represents the first material from Broseley identified in Cambridge and as such is of some significance.

Moulded stone assessment

A large number of dressed and moulded stone fragments were encountered during the course of the excavation, all of which were reused within 18th century structures **F.104** and **F.207**; the majority were preserved in-situ. These buildings, which probably comprised primary elements of Whittred and Haggerston's Brewery, first established on the site in 1788, appear to have made frequent use of architectural fragments reclaimed from the warehouses and other structures that had been constructed on the site in the early 17th century. However many of these materials, which in certain cases bear traces of at least two types of mortar, are likely to have been reused even within this early 17th century context, suggesting that by the late 18th century they had been 'salvaged' at least twice. Consequently, the majority of these fragments were found to be in a very poor state of preservation and only two examples, both derived from wall foundation **[2016]** in **F.207**, were retained.

<1> comprises a moulded and dressed limestone block measuring 360mm by 190mm by 170mm in extent. At least seven moulded protuberances radiated

outwards in asymmetric semi-circular form from a flat dressed section at the rear, suggesting that this fragment once formed part of a complicated tracery. Traces of plaster/limewash still adhere to its outer surface.

<2> comprises a moulded and dressed limestone block measuring 430mm by 390mm by 220mm in extent. Although quite heavily denuded, three dressed and one partially moulded face could be discerned. Its size and form indicate that it is likely to have formed an element within a window- or door-frame.

Both of these fragments appear likely to have originally been of ecclesiastical origin. Many such fragments were reclaimed following the Dissolution of the monasteries in the mid 16th century, and the construction of at least two colleges in the near vicinity – Jesus College, which was founded upon the site of the nunnery of St. Mary and St. Radegund in 1497 and St. John's College, which was founded upon the site of St. John's Hospital in 1511 – might have provided a ready local source for such material. Building stone is also known to have been imported into Cambridge from much further afield, however (from sites such as Ramsey Abbey, for example), and a more distant source cannot be ruled out.

Ceramic Building Material assessment

Only a small amount of CBM, comprising 16 tile fragments (weighing 5.17kg) and seven bricks (weighing 13.82kg), was retained from the Thompson's Lane excavations. The most significant group of material was encountered in **<069> [2030]**, the backfill of foundation trench **F.200**. Although it was deposited in the late 16th century, this group included numerous fragments of Late Medieval (most probably 14th to 15th century) ceramic building materials. There were four glazed floor tile fragments (weighing 2.09kg), including: one piece measuring 124mm by 82mm+ by 18mm that was covered in a thick greenish brown glaze, and; one piece measuring 215mm by 118mm+ by 18mm that was covered in a mid green glaze with occasional brown fleck mottles. There were four unglazed floor tile fragments (weighing 2.12kg), including: one piece in a coarse yellow fabric, measuring 220mm by 165mm+ by 25mm, which had a thick layer of off-white lime mortar still adhering to its base. There was also a fragment of a glazed Ely ridge tile, measuring 50mm+ by 45mm+ by 34mm and weighing 52g, which had a central pyramidal 'pinched' ridge and was covered in a thick greenish glaze.

Of the seven retained brick samples, three are of intrinsic interest (though all appear to have been reused in their final context). These comprise:

<070> [2030], which was of mid to pale red fabric and had a flat base and sides with an uneven convex top that contained occasional straw impressions. It measured 230mm by 110mm by 43mm.

<044> [1006], which was of mixed pinkish yellow fabric and was hand-formed with occasional straw impressions. It measured 215mm by 105mm by 40mm.

<059> [2016], which was of mixed pinkish yellow fabric with occasional large inclusions and was hand-formed with frequent straw impressions. It measured 220mm by 100mm by 44mm.

Metalwork assessment

The metalwork recovered from the excavations at 24 Thompson's Lane, which includes six fragments weighing 234g, consists of an even split between iron and copper objects. All of this material was derived from a single 19th century context, **[2000] F.206**. It includes:

<082> a fragment of a square-sectioned iron bar weighing 59g and two fragments from unidentifiable iron objects that weigh 21g and 96g respectively.

<083> three fragments of extruded copper wire that are 1.5mm in diameter and weigh 12g.

None of these objects require further study.

Slag assessment

In total, 36 fragments of slag weighing 4.80kg were retained from the excavations at 24 Thompson's Lane. The vast majority of this material (32 fragments weighing 4.45kg) was derived from **<055>**/**<081>** **[2000]**, a 19th century make-up layer within building **F.206**. This deposit contained both iron slag (25 fragments weighing 3.36kg) and glass slag (seven fragments weighing 1.09kg), suggesting that numerous processes were being undertaken at or near to the site at this time. The iron slag could further be divided between apparent crucible base (four fragments) and bloom (21 fragments). It is possible that this material is associated with iron works shown to the south of the site on the first edition Ordnance Survey map of 1886, though the presence of glass slag suggests it may have derived from the Anchor brewery which operated on the site at this time. A second, potentially earlier slag deposit was also recovered from **<079>** **[2050]**, a probable 17th/18th century make-up deposit beneath sunken floor **F.208**. Here four fragments of iron slag weighing 349g were encountered, though none were clearly diagnostic.

None of this material requires further study.

Environmental remains assessment

By Anne de Vareilles

Methodology

Three samples were analysed for this assessment report; they were processed using an Ankara-type flotation machine at the Cambridge Archaeological Unit. The flots were collected in 300µm aperture meshes and the remaining heavy residues washed over a 1mm mesh. They were then dried indoors and those from **[2034]** and **[2041]** were scanned for the presence of charred plant macro remains and other ecofacts. It became evident that material from **[2051]** was waterlogged, thus a sub-sample was floated in the George Pitt-Rivers Laboratory, McDonald Institute, University of Cambridge and analysed for surviving waterlogged macro remains. The >4mm fractions of the heavy residues were sorted by eye. Sorting and identification of the macro remains was carried out under a low power binocular microscope. Identifications were made using the reference collection of the G. Pitt-Rivers Laboratory. Nomenclature follows Stace

(1997) for flora and Beedham (1972) for molluscs. All environmental remains are listed in tables 2 to 4 (below).

Preservation

Contexts **[2041]** and **[2034]** did not contain waterlogged plant matter, but charred plant macro remains and vitrified charcoal and/or coal were extracted from both samples. Conversely, **[2051]** was waterlogged and no charred remains other than very small quantities of charcoal were seen in the 500ml analysed. All three samples revealed a rich assemblage of molluscs from which a general picture of the riverine environment can be drawn.

Results and Discussion

*Alluvium **[2051]** (potentially Mesolithic)*

A wide range of waterlogged plant species were found in this sample that are indicative of a wet, low energy environment. The floodplain seems to have been well vegetated with buttercups (*Ranunculus acris/repens/bulbosus*), golden dock (*Rumex maritimus*), mint (*Mentha* sp.), fool's water-cress (*Apium nodiflorum*), water-plantain (*Alisma plantago-aquatica*), rushes (*Juncus* sp and *Eleocharis* sp.), sedges (*Carex* sp.) and other fen-land species. Stinging nettle (*Urtica dioica*) was one of the most frequently occurring plants, and is a typical plant of soils regenerating after having been disturbed in some way (i.e. physically interacted with). Aquatic plants were also recovered, such as celery-leaved buttercup (*R. sceleratus*), pondweeds (*Potamogeton* sp. and *Zannichellia palustris*), duckweeds (*Lemna* sp.), fine-leaved water-dropwort (*Oenanthe aquatica*) and narrow-fruited water-cress (*Rorippa microphylla*). Although the aquatics were most probably growing within the river itself, it is difficult to ascertain the growing location of plants in an active river system without a more detailed sampling across the old river-bed. Algae oogonia show that the river was 'unpolluted'. The only trees identified were alder (*Alnus glutinosa*) and elder (*Sambucus nigra*).

*Alluvium **[2041]** (Roman)*

This nine litre sample was rich in charcoal and contained two cereal grains, one spelt wheat glume base (*Triticum spelta*), two grass stem nodes (wild or cultivated) and two wild grass seeds (indet. Poaceae). Although the ensemble of seeds and chaff is poor (and probably residual) it suggests that cereal processing, or at least the burning of waste from such activities, took place nearby.

*Alluvium **[2034]** (Medieval)*

Less charcoal and fewer seeds than had been observed in **[2041]** were retrieved from this eight litre sample: one barley grain (*Hordeum vulgare sl.*), one wheat or barley grain (*Hordeum/Triticum*), one rye-grass (*Lolium* sp.) and one other wild plant seed were recovered. As with **[2041]**, no distinctive information can be gained from these ecofacts.

Molluscs

A rich assemblage of adult and juvenile snails was found in all three samples. Both **[2051]** and **[2034]** had a range of freshwater and marsh-land molluscs, suggestive of a slow flowing river with a rich ecological community and a damp/wet vegetated floodplain. The snails from intervening layer **[2041]**, however, show a drier environment; were found only in this context.

Conclusion

The sample studied from the potentially Mesolithic floodplain indicates a well-vegetated marshy environment, with evidence of only small-scale disturbance (though it is unclear whether this was caused by people and/or animals). The Cam at this time appears to have been a clean, gentle river with a diverse ecosystem of plants and animals. During the Roman period, however, it appears that the floodplain was much drier, though it is not clear whether this was the result of direct human intervention or simply the by-product of a more general climatic change. The very small assemblages of cereal grains in the Roman and Medieval contexts show only that the processing of cereals for consumption probably took place nearby.

Recommendations

The preservation of molluscs is very good, and the extensive mollusc sample sequence that was recovered (see Figure 10) should be sent to a specialist for more comprehensive study. The remaining unstudied bulk samples, especially those taken from probable Roman horizon **[2041]**, should be floated and rendered comparable to those already analysed.

Sample number		**219**
Context		**[2051]**
Context type		Alluvium
Phase / Date		**Mesolithic ?**
Sample volume - millilitres		500
Flot fraction examined -%		100
Nuphar lutea TYPE	Yellow Water-lily TYPE	-
Ranunculus acris/ repens /bulbosus	Meadow / Creeping / Bulbous Buttercup	a
R. sceleratus	Celery-leaved Buttercup	c
R. Subgen, *BATRACHIUM*	Crowfoot	b
Thalictrum flavum / minus	Common/Lesser Meadow-rue	++
Papaver sp.	Poppy	-
Urtica dioica	Common Nettle	b
Alnus glutinosa	Alder	+
Chenopodium album	Fat-hen	++
Atriplex patula/prostrata	Oraches	+
Stellaria media	Common Chickweed	++
cf. *Myosoton aquaticum*	Water Chickweed	-
Spergularia media	Greater Sea-spurrey	-
Polygonum aviculare	Knotgrass	+
Rumex acetosella	Sheep's sorrel	+
R. sanguineus	Wood Dock	-
R. conglomeratus/obtusifolius/sanguineus	Dock	+
R. maritimus	Golden D. tepals (nut)	+ (a)
Rumex sp.	Dock	+
Rorippa microphylla	Narrow-fruited W.-cress	a
Rubus sp.	Bramble	+
Oenanthe aquatica	Fine-leaved Water-dropwort	a
Apium nodiflorum	Fool's Water-cress	a
Torilis sp.	Hedge-parsley	-
Hyoscyamus niger	Henbane	-
Solanum dulcamara	Bittersweet	+
Menyanthes trifoliata	Bogbean	+
Lamium sp. type 1	Dead-Nettle	-
Mentha sp.	Mint	b
Plantago major	Greater Plantain	+
cf. *Veronica spicata*	Spiked Speedwell	-
Sambucus nigra	Elder	+
Carduus/Cirsium	Thistles	++
Sagittaria sagittifolia	Arrowhead	++
Alisma plantago-aquatica	Water-plantain	a
Potamogeton sp. large	Pondweeds	++
Potamogeton sp. small	Pondweeds	+
Zannichellia palustris	Horned Pondweed	++
Lemna sp.	Duckweeds	-

Table 2: waterlogged plant macro remains. (key: '-' 1 or 2, '+' <10, '++' 10-25, 'a' 25-50, 'b' 50-100, 'c' 100-500, 'd' >500 items).

Sample number		**219**
Context		[2051]
Context type		Alluvium
Phase / Date		**Mesolithic ?**
Sample volume - millilitres		500
Flot fraction examined -%		100
Juncus sp.	Rushes	-
Eleocharis sp.	Spike Rushes	+
cf. *Schoenoplectus lacustris*	Common Club-rush	a
Cladium mariscus	Great Fen Sedge	+
trigonous *Carex* sp. type1	trilete Sedge seed	++
trigonous *Carex* sp. type2	trilete Sedge seed	++
Indeterminate wild plant seeds		8
Indeterminate bud		-
Entomological (insect) remains		++

Table 2 (continued): waterlogged plant macro remains. key: '-' 1 or 2, '+' <10, '++' 10-25, 'a' 25-50, 'b' 50-100, 'c' 100-500, 'd' >500 items

Sample number		**219**	**202**	**201**
Context		[2051]	[2041]	[2034]
Context type		Alluvium layers		
Phase/Date		Meso ?	R.B. ?	Med. ?
Sample volume - litres		0. 5	9	8
Flot fraction examined - %		100	100	100
Theodoxus fluviatilis	Prefers hard waters, rivers / streams, on stones	+		
Bithynia tentaculata (operculum)	Hard waters: quite rivers or still water, but not small habitats, e.g. ponds.	a (++)	- (+)	c (+)
Valvata piscinalis	Prefers soft, flowing water	++	-	
Valvata cristata	Hard and soft waters. Slow, muddy streams or stagnant waters		+	a
Lymnaea stagnalis	Prefers hard waters, slow moving or stagnant.	+		++
Lymnaea truncatula	Moist, marshy shallow waters		-	++
Lymnaea peregra	All types of freshwater habitats	+		
Planorbis planorbis	Hard waters, usually in small habitats	a	-	b
Planorbis carinatus	Hard waters, larger habitats than *P. planorbis*	+		
Anisus vortex	Hard, running water with water weeds	+		++
Anisus leucostama	Ditches, ponds, resists drying		++	
Armiger crista	All freshwaters, often amongst vegetation			+
Gyraulus albus	All freshwaters, often amongst vegetation	++	-	c
Bathyomphalus contortus	Most wet/damp habitats	+		++
Carychium minimum	Damp areas, under moss, logs, leaf-mould,…		+	
Succinea sp.	Damp, marshy areas	++	-	+
Cochlicopa lubrica / lubricella	Damp areas, moss, etc.	+	+	
Vertigo cf. *antivertigo*	Most moist and damp places	-		
Vallonia costata	Dry areas		++	
Ceciloides acicula	Blind burrowing snail			+
Trichia sp.	Various habitats	+	a	+
Discus rotundatus	Usually in leaf-mould, moss, under logs,…	-		
Pisidium sp.	Freshwater habitats	a		

Table 3: Molluscs and their habitats. Key: '-' 1 or 2, '+' <10, '++' 10-25, 'a' 25-50, 'b' 50-100, 'c' 100-500, 'd' >500 items.

Sample number		**219**	**202**	**201**
Context		[2051]	[2041]	[2034]
Context type		Alluvium layers		
Phase/Date		Meso ?	R.B. ?	Med. ?
Sample volume - litres		0. 5	9	8
Flot fraction examined		100	100	100
Hordeum vulgare sensu lato	Hulled Barley grain			1
Triticum spelta / dicoccum	Spelt or Emmer wheat		1	
Hordeum / Triticum	Barley or Wheat grain			1
Indeterminate cereal grain fragment			1	
T. spelta glume base	Spelt wheat chaff		1	
Poaceae culm node	Wild or Cultivated grass node		2	
Indeterminate Poaceae	Wild grass seed		2	
Lolium sp.	Rye-grass seed			1
Indeterminate wild plant seed				1
Charcoal				
>4mm		+	++	
2-4mm		-	c	++
<2mm		+	d	b
Vitrified / Coal?			a	++
Parenchyma – undifferentiated plant storage tissue			+	++
Fish scales (bones) – not charred		- (+)		
Characeae oogonia - not charred	Algae reproductive organ	a	+	a

Table 4: charred macro remains. Key: '-' 1 or 2, '+' <10, '++' 10-25, 'a' 25-50, 'b' 50-100, 'c' 100-500, 'd' >500 items.

Pollen assessment

By Dr. Steve Boreham

Introduction

This report presents the results of assessment pollen analyses from three samples of sediment taken from Medieval layer **[2034]** at Thompson's Lane, Cambridge. A 30cm monolith (sample **217**) was taken from this context, and was sampled at 5cm, 15cm & 25cm intervals for pollen. The basal part of the monolith (0-12cm) comprised dark brown clay with shells fragments and occasional charcoal. There was a diffuse boundary at 12cm into an upper brown clay unit (12-30cm) with patches of shells and shell fragments. This alluvial material was thought to be of Medieval age (c.1000 – 1400 AD). The three samples were prepared using the standard hydrofluoric acid technique, and counted for pollen using a high-power stereomicroscope. The percentage pollen data from these three samples is presented below in Table 5.

Pollen Analyses

Pollen concentrations varied between 58,735 and 91,661 grains per ml. For some samples, pollen counting was somewhat hampered by the presence of finely divided organic debris, and preservation of the fossil pollen grains (palynomorphs) was rather

variable. Assessment counts were made from single slides, although only one sample reached a main sum of at least 100 grains, and none reached the statistically desirable total of 300 pollen grains. As a consequence, care should be exercised in the interpretation of these pollen assessment results.

*Monolith **217** – Context **[2034]***

The basal sample from 5cm produced a pollen signal dominated by grass (Poaceae) (67.0%), with herbs including the cabbage family (Brassicaceae) (6.8%) and cow-parsley family (Apiaceae) (2.9%). Arboreal taxa were represented by pine (*Pinus*) (1%), privet (*Ligustrum*) (1%), juniper (*Juniperus*) (1%) and box (*Buxus*) (1%). The disturbed ground indicator strapwort plantain (*Plantago lanceolata*) (1.9%) was also present in the sample, as were fern spores (together 8.7%), bur-reed (*Sparganium*) pollen (5.5%) and spores of the aquatic mare's tail (*Equisetum*).

The sample from 15cm produced an impoverished assemblage (with abundant charcoal remains), dominated by grass (Poaceae) (68.4%) with herbs including the cabbage family (Brassicaceae) (6.8%) and strapwort plantain (*Plantago lanceolata*) (2.6%). No arboreal taxa were detected in this sample. Fern spores reached 15.8% and bur-reed (*Sparganium*) pollen was present at 7.3%.

The upper sample from 25cm, however, presented a somewhat different pollen signal. Although still dominated by grass (Poaceae) (34.5%), it contained pollen of arboreal taxa such as pine (*Pinus*) (1.8%), hazel (*Corylus*) (5.5%), juniper (*Juniperus*) (5.5%) and holly (*Ilex*) (1.8%), with herbs including the cabbage family (Brassicaceae) (9.1%) and strapwort plantain (*Plantago lanceolata*) (5.5%). Cereal pollen was present at 3.6%, together with a range of herb taxa. Undifferentiated fern spores reached 14.5%, and spores of the polypody fern (*Polypodium*) were present at 1.8%. Sedges (Cyperaceae) were present at 1.8% and bur-reed (*Sparganium*) reached (8.3%).

Discussion and Conclusions

The pollen assemblages from these samples have many similarities, with grass-dominated spectra and a paucity of arboreal pollen suggesting a post-clearance environment. Pteropsid spores are often taken as an indicator of post-depositional oxidation and modification of the pollen signal. Their relative abundance in the samples from 15cm and 25cm may indicate the onset of these processes. In general the pollen from these samples indicates an open environment with grassland, disturbed ground and tall-herb communities. The arboreal taxa (holly, juniper and box) from the 25cm sample suggest the development of low scrub of the type frequently associated with shallow chalky soils; there is even the slight possibility that these shrubs are associated with formal gardens. There is no evidence for arable activity from the two basal samples, although further pollen counting might correct this deficiency. The upper sample from 25cm clearly has an arable signal accompanied by evidence for the local development of hazel-juniper scrub. Shallow water conditions are indicated by marginal aquatics such as mare's tail and bur-reed, with nearby marshy ground supporting sedges.

The sediments investigated from Thompson's Lane are thought to have formed during the Medieval period. Care must be taken not to over-interpret these assessment counts, but the general patterns seen here are probably reliable indicators of the Medieval environment. Compared to pollen signals in samples taken from the King's Ditch further to the south at the Grand Arcade site (Boreham in Cessford 2007), the samples from Thompson's Lane have in general more grass pollen, less cereal pollen, and specifically less pollen of herbs such as the fat-hen family (Chenopodiaceae) and cabbage family (Brassicaceae), which were often present in proportions in excess of 20%. In addition, pollen of shrubs such as holly, juniper and box were almost absent in the Grand Arcade samples. It is possible that the Thompson's Lane deposits represent a parochial environment, away from the constant disturbance of Medieval central Cambridge; certainly the pollen assemblages suggest a more pastoral meadowland and water-edge environment with occasional scrub and a little arable farming. It must also be noted, however, that the Thompson's Lane samples are probably contemporary with only the very earliest deposits analysed from the King's Ditch. Therefore, temporal variations may also be a factor in the dissimilarity between the two datasets.

Recommendations

A sequence of seven monolith samples was taken from the Thompson's Lane site (see Figure 10), of which only one has so far been processed. Taken together, these samples represent the longest and most complete environmental sequence yet recovered from any site in Cambridge. Indeed, with the exception of the recent excavation at Grand Arcade, pollen analysis has only been attempted at one other site in the city centre, St. John's College, though unfortunately the deposits encountered here were found to be sterile (Dickens 1996, 111). The analysis of sample **217**, however, has clearly demonstrated the potential of the Thompson's Lane material to elucidate details of the surrounding environment potentially as far back as the Mesolithic period. It is therefore recommended that the six remaining monoliths be processed in the same manner, allowing the complete pollen sequence to be reconstructed.

Percentage Pollen Data

	Context **[2034]**		
	217		
Trees & Shrubs	5cm	15cm	25cm
Pinus	1.0	0.0	1.8
Corylus	0.0	0.0	5.5
Ligustrum	1.0	0.0	0.0
Ilex	0.0	0.0	1.8
Juniperus	1.0	0.0	5.5
Buxus	1.0	0.0	0.0
Herbs			
Poaceae	67.0	68.4	34.5
Cereals	0.0	0.0	3.6
Cyperaceae	1.0	0.0	1.8
Centauea nigra type	0.0	0.0	1.8
Asteraceae (Lactuceae) undif.	1.0	2.6	3.6
Chenopodiaceae	1.9	2.6	1.8
Cirsium	1.0	0.0	1.8
Brassicaceae	6.8	7.9	9.1
Filipendula	0.0	0.0	1.8
Fabaceae	1.0	0.0	0.0
Plantago lanceolata type	1.9	2.6	5.5
Rumex	1.0	0.0	0.0
Apiaceae (Umbelliferae)	2.9	0.0	3.6
Veronica	1.0	0.0	0.0
Lower plants			
Equisetum	1.0	0.0	0.0
Polypodium	0.0	0.0	1.8
Pteropsida (monolete) undif.	6.8	15.8	10.9
Pteropsida (trilete) undif.	1.9	0.0	3.6
Aquatics			
Sparganium type	5.5	7.3	8.3
Sum trees	1.0	0.0	1.8
Sum shrubs	2.9	0.0	12.7
Sum herbs	86.4	84.2	69.1
Sum spores	9.7	15.8	16.4
Main Sum	103	38	55
Concentration (grains per ml)	91661	81160	58735

Table 5: Pollen remains identified from **[2034]**.

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Project details

Project name	An archaeological investigation at 24 Thompson's Lane, Cambridge
Short description of the project	An archaeological investigation consisting of two trenches covering a combined area of 30m2 was undertaken in advance of redevelopment on a 610m2 area of land at 24 Thompson's Lane, Cambridge, a little to the north of the historic core of the city. A number of features relating to five distinct phases of activity were encountered. The earliest elements in this sequence comprised a series of alluvial deposits that formed from Prehistoric times up until the 14th century, and which included a distinctly drier episode during the Roman period. Then, from the 14th to the 16th centuries, the area was gradually 'reclaimed' by the introduction of numerous dump deposits before becoming incorporated into an area of widespread riverside development undertaken in the early 17th century. The route of the King's Ditch, the Medieval boundary to the city, appears to have been moved at least twice over the course of this period; having run at first adjacent to the southern perimeter of the site, it was apparently recut in the late 13th century along a new alignment parallel to the northern boundary of the area. Then, at some time between 1607 and 1609 (during a period in which St John's College owned the land to either side of the ditch), this recut was backfilled and the original route of the boundary re-established. Following this final reorganisation, any pre-existing structures on the site were demolished and a new series of buildings constructed. Although rebuilt, extended and modified several times - most notably when a series of brewers occupied the site between 1788 and 1902 - the layout of these buildings remained relatively unaltered until the early 20th century.
Project dates	Start: 29-07-2007 End: 12-08-2007
Previous/future work	No / Not known
Any associated project reference codes	TTL 07 - Contracting Unit No.
Any associated project reference codes	ECB 2615 - HER event no.
Type of project	Recording project
Site status	None

Current Land use	Industry and Commerce 1 - Industrial
Monument type	BUILDINGS Post Medieval
Investigation type	'Full excavation'
Prompt	Direction from Local Planning Authority - PPG16

Project location

Country	England
Site location	CAMBRIDGESHIRE CAMBRIDGE CAMBRIDGE 24 Thompson's Lane
Study area	610.00 Square metres
Site coordinates	TL 4480 5901 52.2098333052 0.119481339204 52 12 35 N 000 07 10 E Point
Height OD	Min: 6.40m Max: 6.90m

Project creators

Name of Organisation	Cambridge Archaeological Unit
Project brief originator	Local Authority Archaeologist and/or Planning Authority/advisory body
Project design originator	Alison Dickens
Project director/manager	Alison Dickens
Project supervisor	Richard Newman
Type of sponsor/funding body	Developer
Name of sponsor/funding body	The Glassworks

Project archives

Physical Archive recipient	Cambridge Archaeological Unit
Physical Archive ID	TTL 07
Physical Contents	'Animal Bones','Ceramics','Environmental','Glass','Industrial','Metal'
Digital Archive recipient	Cambridge Archaeological Unit
Digital Archive ID	TTL 07
Digital Contents	'Animal Bones','Ceramics','Environmental','Glass','Industrial','Metal','Survey'
Digital Media available	'Spreadsheets','Survey','Text'
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