Worcestershire Archaeology Research Report No.9

Archaeological Investigations at

CATHEDRAL SQUARE WORCESTER

Richard Bradley

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(WCM 102094)

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With contributions by Laura Griffin, Christopher Guy, Pat Hughes, Tania Kausmally, Elizabeth Pearson and Gaynor Western

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Front cover illustration: view of excavation in progress from Cathedral Plaza buildings

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Summary

Between March and August 2015, Worcestershire Archive and Archaeology Service undertook a programme of archaeological excavation and watching brief observation within the confines of the former roundabout at the junction of the High Street and College Street in the centre of Worcester (NGR SO 8505 5460). This took place prior to alteration of the road layout and the creation of a public square at the southern end of the High Street.

The redevelopment works were considered to have high potential to affect archaeological remains of significance, being within the central area of the Roman and Saxon town as well as the medieval and post-medieval city. The site also spanned an important historic boundary, with the cathedral precinct to the south and the residential and commercial centre to the north, separated by Lich Street which ran through the centre of the site.

The project was designed to mitigate the effects of construction and not to undertake unnecessary work. Numerous archaeological deposits were, therefore, left unexcavated and preserved *in situ* below the construction formation level; only limited investigation of deeper stratigraphy was possible. The archaeological investigation still revealed evidence of activity dating from the Roman to the modern period however, with, in particular, extensive evidence of structural remains dating from the later 18th until the early 20th century. These included a number of historic properties on either side of Lich Street. Detailed documentary research has made it possible in many cases to identify the individual properties and in whose ownership and/or use these were, often as far back as the medieval period. Some structures had been extensively rebuilt, others had no cellars, and in places earlier deposits and structures had survived despite numerous phases of redevelopment.

The earlier remains comprised Roman deposits dating from the 2nd century onwards and a series of features and deposits of medieval, late medieval and post-medieval date (11th to 18th century). On the south side of Lich Street, these included graveyard soils and *in situ* burials of the former cathedral lay cemetery, with later well-built sandstone wall foundations of medieval date cutting through. The structural remains represent the initial urban development of the edge of the burial ground, established by the cathedral to take advantage of commercial opportunities along the through-route of Lich Street. Pottery finds and stratigraphic relationships, as well as historical information on the construction of properties in this location, suggest that the burials pre-dated the late 13th century. To the north of the street, one property in particular (No. 5) exhibited an earlier deposit sequence, comprising medieval soil deposits and a construction trench packed with compacted rubble to provide the foundation for a substantial structure dating to the 11th to mid-14th century. In addition, close to the street frontage, a large pit contained the most significant group of finds from the site. The majority of these could be tightly dated to between the late 16th and early 17th century and included items imported from the continent and rare fine quality vessel glass, probably having been discarded from a high-status residence.

Complementary to the archaeological investigation, a wider component of this project was focused upon outreach and community engagement. The visibility of the site in a key area of the city centre and the nature of the remains (well-preserved brick building foundations and cellars for buildings fronting Lich Street), were of considerable interest to the community, being a rare opportunity for the public to engage directly with an archaeological project in the centre of Worcester.

Background

Richard Bradley

Reasons for the project

From March until August 2015, a programme of archaeological excavation and watching brief observation took place prior to alteration of the road layout and the creation of a public square at the southern end of the High Street in the centre of Worcester (Fig 1; NGR SO 8505 5460). Archaeological investigation covered an area approximately 900m² in size, within the confines of the former roundabout at the junction of the High Street and College Street (A44; Figs 2 and 3). This occupies a prominent position in the city centre and the completion of works represents a significant alteration to the existing layout of the area.

A proposal for a programme of archaeological works on the development site was prepared at the request of Lynsey Keir, Project Manager for Worcestershire County Council (WA 2015a). No brief was provided, but the project proposal (which included a detailed specification) was reviewed by James Dinn (Archaeological Officer, Worcester City Council). The planned construction works were considered to have high potential to affect archaeological remains of significance; the site is positioned within the central area of the Roman and Saxon town, as well as the medieval and post-medieval city. The site also spanned an important historic boundary, with the cathedral precinct to the south and the residential and commercial centre to the north, separated by Lich Street which ran through the centre of the site.

There had been an earlier plan to reconfigure this area and the archaeological potential was already identified (Halcrow 2002). This was supported by a series of archaeological evaluation trenches undertaken in 2003 and 2004 that revealed extensive remains of the infilled cellars of properties dating to the late 18th/early 19th century, which had existed on the site up until demolition in the mid-20th century (Deeks *et al* 2004). It was also demonstrated that despite truncation by these structures there were surviving pockets of medieval and earlier deposits.

The archaeological works were undertaken as a mitigation strategy, but as the proposed scheme had been designed to preserve important archaeological deposits *in situ* the need for detailed archaeological excavation was confined to the uppermost levels. The project also involved a watching brief during the removal of the existing road surfaces and kerbing around the edge of the roundabout, as well as the installation of new drainage and services. As this work was linked chronologically and spatially to the main excavation of the roundabout area, the results of the watching brief fieldwork could be integrated into the records of the main fieldwork stage. Throughout the site, the depth of excavation was dictated by the formation level required by the development; this varied slightly dependent on the nature of the elements in the final design.

The project conformed to the project specification outlined in the project proposal (WA 2015a) and the document *Statement of standards and practices appropriate for archaeological fieldwork in Worcester* (WCC 1999), as well as the wider industry guidelines *Standard and guidance: Archaeological excavation* (CIfA 2014a) and *Standard and guidance: Archaeological watching brief* (CIfA 2014b).

The event reference for this project, provided by the Worcester City Historic Environment Record (HER) is WCM 102094. This reference is used on all archival material associated with the project.

Aims and objectives

Richard Bradley

The project aimed to deliver an appropriate treatment of significant remains adversely affected by the proposed development, following a research-led project design. Primary archaeological objectives for the work were identified at an early stage, taking into consideration the published research priorities for the City of Worcester (WCC 2007). These were wide-ranging and extensive, something largely reflective of the position of the site within an historically important area of the city, as well as initial uncertainty over the precise extent of impacts from construction. Specific objectives focused on the location of the site within an Iron Age to Anglo-Saxon earthwork which defined the early settlement and all the subsequent evidence of occupation, including the definition of the cathedral precinct and its separation from the secular High Street (Anglo-Saxon), and the layout and development of Lich Street throughout the medieval and post-medieval periods.

At the outset of the project, the detailed research aims were expressed in two forms; those that were considered “most likely” to be useful drivers for the project (initial), and those which “may become” useful drivers (potential). These were outlined in the project proposal (WA 2015a). The former were general in their scope and the latter aimed at more specific aspects. During the fieldwork, it was apparent that the results of the archaeological project were limited in extent, mainly due to the careful design of the development, but also because of the nature of the remains surviving across much of the site area. This ensured that a large proportion of the site could be preserved *in situ*, with little requirement for detailed excavation. Consequently, during the post-excavation assessment work which led to the production of an updated project design, the aims and objectives were revised and refined to reflect this outcome (WA 2015b). These provided the framework for post-excavation analysis and research, and were comprised of the following:

- To produce a coherent narrative of the site, as far as possible in light of the available stratigraphic evidence, that includes results from the original evaluation trenching. Any detailed structural analysis and discussion will be focused on significant deposits (medieval and late medieval), and related to the existing and developing understanding of the City of Worcester. This will include consideration of the artefactual and environmental evidence where appropriate, as well as drawing on historical and cartographic information.
- To produce a detailed investigation into post-medieval and modern development of buildings, property ownership and land use along this part of Lich Street. This will require analysis of structural and artefactual data in comparison with historical and cartographic evidence.
- To produce a composite profile drawing detailing the site and survival of significant deposits, as well as the depths at which these would be expected to occur in the surrounding area.
- To make the results accessible by placing the archive report where it will be readily available via the internet, and through summary publication in local transactions.
- Compilation and secure deposition of the project archive.

It was, therefore, considered that the results of the project would provide information and develop knowledge relating to the following research priorities (RP; *cf* WCC 2007):

- Sampling of medieval backplot areas (RP5.12).
- Trade and imports — raw materials and finished goods (RP5.28).
- Medieval construction, materials and techniques (RP5.32).
- Medieval street frontages and the relationships of buildings with street surfaces (RP5.9).
- Housing of the urban poor — early post-medieval (RP6.3).
- Housing of the urban poor — later post-medieval (RP6.4).
- Identification of sites with long deposit sequences in the heart of the city (RP7.1).
- Late Anglo-Saxon material culture (RP4.17).
- The cathedral's lay cemetery (RP5.4).
- Identification and excavation of sites of high potential for the understanding of medieval society and social geography across the city centre (RP5.10).
- Material culture of the cathedral priory (RP5.18).

Public engagement

In addition to the archaeological research aims, a wider component of this project design was focused upon public engagement. There were a number of benefits and circumstances that suggested formal public engagement would be appropriate for the project. In particular, the visibility of the site in a key area of the city centre and the nature of the expected deposits (likely to consist of well-preserved brick building foundations and cellars for buildings fronting Lich Street), were considered to be of considerable interest to the community, presenting a rare opportunity for public engagement in the centre of Worcester.

Methodology

Richard Bradley

Personnel

The excavation, assessment and updated project design, and completion of the final report was led by Richard Bradley (MA; ACIfA). Specialist documentary research was completed by Pat Hughes (PhD).

Fieldwork was undertaken by Graham Arnold (MSc), Michael Nicholson (BSc (hons)), James Spry (MA), Andrew Walsh (MSc; ACIfA; FSA Scot), Jessica Wheeler (BA (hons)), Jamie Wilkins (BA (hons)) and Simon Woodiwiss (BA (hons); MCIfA). The watching brief was undertaken by Graham Arnold and Simon Woodiwiss. The project manager responsible for the quality of the project was Simon Woodiwiss, who also edited the report.

Finds analysis was undertaken by Laura Griffin (BA (hons); PG Cert; ACIfA), with specialist stone analysis by Christopher Guy, Worcester Cathedral Archaeologist (BA; MCIfA). Environmental processing and analysis was by Adrian Robins and Elizabeth Pearson (MSc; ACIfA).

Osteological analysis of human remains was undertaken by Gaynor Western (MSc) (Ossafreelance) and of animal remains by Tania Kausmally (PhD). Illustration was completed by Laura Templeton (BA; PG Cert; MCIfA) and Carolyn Hunt (BSc (hons.); PG Cert; MCIfA).

The outreach and engagement part of the project was led by Paul Hudson, with a team comprised of Rob Hedge, Justin Hughes, Su Vale, Ben Sheers, Andie Webley and Simon Woodiwiss. Volunteer assistance was also provided by Roz Ditchfield, Mary Emery, Steph Hart, Carol Irons, Luke Ricketts, Rita Taylor and Claire Tippins.

Fieldwork strategy

Fieldwork was completed in accordance with the strategy devised in the project proposal (WA2015a), as approved by the Archaeological Officer, Worcester City Council. Site progress and the fieldwork programme were monitored during regular visits by the Archaeological Officer, as well as the Project Manager and Project Engineer for Worcestershire County Council.

The site was excavated in stages, as determined by practicalities such as space for access and egress, storage of spoil, and the presence of underground services (Fig 4). The roundabout area was fenced to prevent unauthorised access. Services were located, and vegetation and installations (flagpoles, road signs) cleared, and traffic management was put in place. Deposits considered not to be significant were removed using a 13 tonne 360º tracked excavator, employing a toothless bucket and under constant archaeological supervision. Material was removed to either archaeologically significant deposits or construction formation levels, whichever was the higher. The site was excavated working from the north-west of the roundabout area to the south-east and, after temporarily being stockpiled to facilitate periodic removal, spoil was removed using lorries arriving within a closed portion of the highway. The material removed included topsoil, the made ground forming the mound of the roundabout, demolition deposits from the mid-20th century, and as much cellar backfill as could be safely

removed. In some instances the presence of numerous live service cables prevented full removal of deposits as this would have left them unsupported and at risk of failure/damage. Removal was only completed once provision had been made (in the form of supporting scaffolding) for maintaining a safe working arrangement. Likewise, when instances of unstable ground were encountered (such as an open well shaft), excavation ceased in the vicinity until the void had been backfilled. Where possible, cellars were emptied, photographed and recorded, before being partially infilled to a safe working depth.

It was initially anticipated that the entire roundabout area could be mechanically stripped in a single sequence of work, with nearby facilities to be made available by the project partnership that would include a site office and store, as well as housing a public display on the archaeological works. In the event, however, this did not materialise. Therefore, the site office and store had to be located within the roundabout itself, preventing full excavation in the first stage. These were later removed or relocated and a second phase of mechanical excavation took place using a smaller 6 tonne 360º tracked excavator in the south-east portion of the site, adopting the same strategy of deposit removal.

Following bulk soil removal, the exposed structures and deposits were recorded. Clean surfaces were inspected and where opportunities were presented selected deposits were hand excavated to retrieve artefactual material and environmental samples, as well as to determine their nature. This included recording of sections behind collapsed cellar walls, and within later service trenches, to record earlier deposits. Recording was undertaken following standard WA practice (WA 2012). To differentiate between stages of work and for ease of location, features and deposits recorded during the later watching brief were assigned context numbers separate from those issued during the excavation. Therefore, excavation contexts were assigned in sequence from 1000, watching brief contexts in sequence from 2000.

During the course of the site works it became apparent that for much of the site area, formation levels for construction were above the level at which significant deposits had survived. There was, therefore, little requirement to excavate by hand beyond what had been exposed during the removal of overburden and modern backfill. In the eastern part of the site, where a footway and pedestrian square were to be located, this formation level was specified as above 25m AOD. In the west, for the carriageway, the contours of the ground meant the levels were slightly variable, but all in the region of 24.50m AOD.

Reinstatement and preservation *in situ*

Upon completion of the archaeological works, reinstatement took place to prepare the site for construction. It was during this work that the watching brief was conducted. This was limited in scope as the objectives of the design ensured that for the majority of the area surrounding the roundabout the levels were raised and only the present hard road surfaces removed, with ground built up from there. It therefore focused on the removal of the existing road surfaces, kerbing and ground in a 0.5–1m strip around the edge of the roundabout, as well as the infilling of cellars and the installation of new drainage and services within the excavated area.

As many of the features on the site were identified below the formation level for the construction of the new road and public square, only the uppermost surfaces and the top 500mm of wall structures (where extending above formation level) were eventually removed to

create a level area for the construction phase. As such, much of the site could be persevered *in situ* without the need for further excavation. Walls, floors, and earlier deposits should still exist across the area for future investigation.

For two cellars (in the south-east corner of the site, 4 and 6 Lich Street) floors were kept intact and covered with a layer (50mm) of sand, before walls were protected with a foam board (Fig 5), covered in construction grade damp proof membrane, and the void filled with foamed concrete in maximum of 300mm lifts. The foam concrete was selected to facilitate future removal. Other cellars were filled with road stone and consolidated. These cellar walls and floors will survive in a good state of preservation. For all other cellars walls were left in situ and carefully refilled with soils from the site or road stone. These cellar walls are likely to remain in the good state of preservation.

Public engagement strategy

The strategy for public engagement consisted of numerous aspects and took place during the final three weeks of the excavation. It included escorted site tours conducted at regular intervals, supplemented by continually updated displays of map, photographic and finds information at a staffed position located at the southern end of the High Street, for five days a week. Publicity for this was created through regular updates from the Worcestershire County Council Communications Unit to local print and broadcast media, as well as via social media accounts operated by Worcestershire Archive and Archaeology Service. A project-specific blog was created that detailed news from the site and highlighted upcoming activities, which was linked to, and promoted by, the social media output. To complement this work, the blog and social media information offered the public the opportunity to get in touch and discuss their memories of the area, in particular of Lich Street, for which an oral history record was created.

A pop-up exhibition in nearby historic buildings was designed; this took place on three days, firstly during the course of the site works and latterly following completion of fieldwork.

Assessment and updated project design

Immediately after the completion of fieldwork, the site archive was ordered and checked. A project database of all contextual and artefactual evidence was created, as was a site matrix which was cross-referenced with spot-dating. All site plans were checked and tied into a geo-referenced base map of the area. The structural, artefactual and environmental evidence was then assessed for the potential for further analysis and how this could contribute to the identified research objectives for the project. The resulting post-excavation assessment was compiled and led to the production of an updated project design, which detailed the recommended work and analysis required to complete this full report on the archaeological investigations (WA 2015b).

Structural analysis

Analysis of the site records was expanded and continued in detail for the completion of this report, as well as being combined with additional artefactual analysis and specialist documentary research. The site database created at the assessment stage was updated and the site matrix was fully phased. Interpretation of the structural sequence was developed

further by combining contexts into associated elements as context groups (such as a series of dumped layers, or walls forming a single building) to form higher level interpretation units. These are denoted throughout the text as 'CG' followed by a reference number.

Artefacts

Laura Griffin

The finds work reported here conforms with the relevant sections of *Standard and guidance for the collection, documentation, conservation and research of archaeological materials* (CIfA 2014c;), with archive creation informed by *Archaeological archives: a guide to the best practice in the creation, compilation, transfer and curation* (AAF 2012), and museum deposition by *Selection, retention and dispersal of archaeological collections* (SMA 1993).

Artefact recovery policy

The artefact recovery policy conformed to standard Worcestershire Archaeology practice (WA 2012; appendix 2). This, in principal, determines that all finds, of whatever date, must be collected.

Method of analysis

All hand-retrieved finds were examined. They were identified, quantified and dated to period. A *terminus post quem* date was produced for each stratified context. The date was used for determining the broad phases defined for the site. All information was recorded on *pro forma* sheets.

Artefacts from environmental samples were examined, but none were worthy of comment, and so they are not included below, nor included in the tabulated quantification.

The pottery and ceramic building material was examined under x20 magnification and referenced as appropriate by fabric type and form according to the fabric reference series maintained by Worcestershire Archaeology (Hurst and Rees 1992 and www.worcestershireceramics.org).

Environmental remains

Elizabeth Pearson

Sampling policy

Samples were taken according to standard Worcestershire Archaeology practice (WA 2012). A total of seven samples (each of up to 10 litres) were taken from the site (Table 1).

Context	Sample	Feature type	Fill of	Period	Sample volume (l)	Volume processed (l)	Residue assessed	Flot assessed
1031	7	layer		medieval	8	8	yes	yes
1129	3	layer		medieval	2	2	yes	yes
1238	5	layer		Roman	10	10	yes	yes
1244	4	pit	1245	post-medieval	10	10	yes	yes
1273	1	hearth	1272	modern	10	10	yes	yes
1330	2	layer		modern	10	10	yes	yes
1382	6	layer		Roman	6	6	yes	yes

Table 1: Environmental samples

Method of analysis

The samples were processed by flotation using a Siraf tank. The flots were collected on a 300mm sieve and the residue retained on a 1mm mesh. This allows for the recovery of items such as small animal bones, molluscs and seeds.

At assessment, the residues were scanned by eye and the abundance of each category of environmental remains estimated. A magnet was also used to test for the presence of hammerscale. The flots were scanned using a low power MEIJI stereo light microscope and plant remains identified using modern reference collections maintained by Worcestershire Archaeology, and a seed identification manual (Cappers *et al* 2012). Nomenclature for the plant remains follows that in New Flora of the British Isles (Stace 2010).

The cell structure of all charcoal was examined under a low power microscope in order to distinguish between oak and non-oak charcoal.

As assessment showed only low levels of environmental remains, no further work was recommended, apart from radiocarbon dating charred remains from context (1238) to resolve dating issues. The assessment results were therefore presented in the archive report.

Human bone

Gaynor Western

The excavations at the site resulted in the retrieval of human remains from disturbed and truncated inhumated burials and an additional assemblage of disarticulated human skeletal material.

Osteoarchaeological analysis was undertaken to assess the condition and completeness of the human skeletal remains recovered, as well as to determine the age, sex and stature of the individuals present. Any non-metric traits, skeletal and dental pathologies were also recorded. Due to the small sample size and preservation of some of the skeletal remains, prevalence

rates of skeletal pathologies within the group were not calculated; any skeletal pathologies are recorded according to individual. However, the prevalence rates of dental pathologies were calculated.

The disarticulated human remains were identified and recorded individually on an MS Access database. The records contain information on the identification of each element, side, age and sex where possible. Any pathologies were also noted and recorded as described above. Each element recorded was given a unique identification number and recorded by context. In each instance, the identification, side and portion of the bone was noted, along with completeness, taphonomy and observable joint surfaces. Any metrics that would provide estimation of sex or of stature were taken where possible. The pelvic or skull bones were also analysed for sexually dimorphic traits where preservation allowed, using the criteria set out by Buikstra and Ubelaker (1994). Age determination was carried out using epiphyseal fusion, analysis of the pubic symphysis and of the auricular surface, where appropriate, and classified according to Brooks and Suchey (1990) and Lovejoy *et al* (1985). Age of sub-adults was assessed using dental development (Smith 1991) and eruption (Ubelaker 1989) as well as long bone lengths (Schaefer *et al* 2009) and epiphyseal fusion (Scheuer and Black 2004). The same methods of assessment were applied to the disarticulated as to the articulated assemblage so that fair comparisons could be made between the two samples.

The minimum number of individuals (MNI) represented by the assemblage was calculated according to the number of repeated elements, or parts of elements, in tandem with observations of age at death according to development.

The skeletal material was analysed according to the standards laid out in the guidelines recommended by the British Association of Biological Anthropologists and Osteologists in conjunction with the IFA (Brickley and McKinley 2004) as well as by English Heritage (2002).

Recording of the material was carried out using the recognised descriptions contained in *Standards for data collection from human skeletal remains* by Buikstra and Ubelaker (1994). The material was analysed macroscopically and where necessary with the aid of a magnifying glass for identification purposes. Where relevant, digital photographs have been used for illustration. The material was analysed without prior knowledge of associated artefacts so that the assessment remained as objective as possible.

Comparison of the results was made with published osteological data from contemporary skeletal populations, in particular the skeletal assemblage from the Chapter House, Worcester Cathedral, analysed by Waldron (2011), which dated to the late Saxon period.

Animal bone

Tania Kausmally

The animal bone was identified using a comparative osteological reference collection at the Institute of Archaeology, UCL and Schmid (1972) and Hillson (1996). Neonates were identified according to Prummel (1987).

This assemblage was recorded identifying the zones of each element present based on Dobney and Rielly (1988) for mammals and Cohen and Serjeantson (1996) for birds, in order to produce a fragment count based on the number of identifiable fragments (NISP). In order to identify the relative distribution of body parts within each species a minimum number of

elements was recorded (MNE) which was calculated from the sum of the most frequent portion of an element present. A minimum number of individuals (MNI) was produced based on the single most frequent element of each species identified, taking fusion into account, within each of the phases rather than by context due to the limited number of bones available for the analysis. Bones that could not be identified to species were assigned size categories: Large (cattle-size); medium (sheep/goat/pig size); and small (cat/rodent size). Where possible post cranial elements of sheep and goat were distinguished using the criteria of Boessneck (1969), Prummel and Frisch (1986) and Zedar and Lapham (2010). Cranial and mandibular distinction between sheep and goat was assessed using criteria established by Payne (1985), Halstead *et al* (2002), Zedar and Pilaar (2010) and Gillis *et al* (2011). Taphonomy was recorded to identify fragmentation in 20% intervals. Surface preservation was divided into four categories following the York system (Harland *et al* 2003). Modifications to the bones, such as carnivore gnawing, chop marks and knife marks were recorded and location on the bone noted. Helical breaks were recorded as present or absent. Burning was recorded and the level of burning identified by colour following Lyman (1994).

Fusion for pigs was based on Zeder *et al* (2015) and for all other species on Sisson and Grossman (Getty 1975). Ageing by tooth wear was in this instance omitted due to the very limited numbers present and the lack of dentition preserved in the mandible.

Where possible, measurements for mammals were carried out following guidelines by von den Driesch (1976) and for birds following Cohen and Serjeantson (1996).

The archive

The project archive is intended to be placed at the City Museum and Art Gallery. The contents of the archive is summarised in Appendix 2.

The application site

Richard Bradley

Location, geology and topography

The site covered an area of approximately 900m² within the confines of the former roundabout located at the southern end of the High Street. It was effectively defined by the current route of College Street (A44), and access to the 1960s Lychgate Centre (now Cathedral Plaza). The site is situated on the gravel terrace to the east of the River Severn that forms a ridge upon which the historic core of the city of Worcester lies; the surrounding area is known to contain prehistoric and Roman deposits that relate to the settlement origins, as well as later remains that represent the development of the city throughout subsequent periods. Upstanding buildings in the immediate surrounds also provide a complex setting for the site, including the cathedral (Grade I listed building; Historic England List Entry 1389728) and Georgian buildings along the High Street. Prior to the excavation, the roundabout area formed a grassy mound at approximately 25.50m AOD.

Geologically, the site is located on bedrock geology of the Sidmouth Mudstone Formation, overlain by sand and gravels of the Worcester Terrace (BGS 2015).

Archaeological and historical context

Settlement at Worcester probably originated in the prehistoric period, although it has long been recognised that despite the apparent suitability of the gravel terrace there is only limited evidence for prehistoric occupation. The form and character of prehistoric activity in the area of the historic city and its suburbs remains poorly understood.

At present, based on a small number of find spots, activity appears to have been widely dispersed; a limited range of Bronze Age and Iron Age artefacts and features were recorded during the Deansway excavations (Dalwood 2004a, 36–9) for example, while to the south of the city centre, excavations at Bath Road revealed Mesolithic pits and an Iron Age enclosure ditch on a ridge overlooking the River Severn (Rogers 2014).

Perhaps some of the most comprehensive evidence for prehistoric activity comes from the vicinity of the site, though many of the deposits identified as such remain tentative. The excavations prior to construction of the Lychgate Centre in the 1960s produced small-scale evidence for early prehistoric occupation in the form of Bronze Age pottery, but also identified a large ditch dated to the Iron Age (Barker 1969, 44–62; WCM 100284). It is therefore possible that the site is within an Iron Age rampart and ditch (presumably enclosing a settlement) and Cunliffe (1991, 174) has previously proposed that this may have taken the form of a political centre for the Dobunni tribe, the Iron Age inhabitants of the region. Also in close proximity to the site (*c*15m north), pieces of Iron Age briquetage (vessels relating to salt production in Droitwich) were found during watching brief work during the Lychgate Centre construction (WCM 101162). Further indications for prehistoric activity have recently been revealed beneath the site of the later Norman castle, 280m to the south, with the important discovery of a palisaded rampart dated to the 7th to 5th centuries BC (Napthan 2014). This sealed artefacts of Neolithic to Bronze Age date, suggesting that there is the potential for the survival of similar deeply buried deposits elsewhere in the city.

Excavations since the 1960s, prior to major redevelopment of the historic core of the city centre, have provided an insight into the subsequent urban development of Worcester and demonstrated intensive occupation and activity throughout the Roman period (Fig 6). A fairly extensive civil settlement appears to have developed during the late 1st century, with an economy based on both agriculture and some ironworking (Dalwood 2004a, 42), but the early settlement is less well understood than the more extensive occupation of the 2nd century onwards. At present, the evidence for Roman occupation is focused on the level top of the gravel terrace, although there is some indication of activity on the floodplain (eg at Newport Street and The Hive; Davenport 2015; Bradley *et al* forthcoming). Ironworking during this period is widespread in the form of production areas for iron smelting, as well as evidence for smithing and large waste dumps of iron slag, attesting to the scale of the industry (Jackson 2004, 100). It is clear that very large quantities of iron slag were dumped on the floodplain close to the Roman settlement area (Davenport 2015, 234), and slag has also been found on the floodplain west of the river (at Worcester Arena; Daffern 2016).

The nature of the Roman town in the area of the site is uncertain but if the Iron Age enclosure was in existence it is likely to have provided the focus for early Roman occupation. It is possible that there was a fort established here, although as yet no convincing structural or artefactual evidence has been recorded (Dalwood 2004b, 13). The alignment of the Roman road to Alcester may continue into the site, and it is possible that the High Street follows the route of a pre-existing Roman road (Fig 6). Various Roman artefacts have been recorded in the vicinity of the site; these include a 4th century bronze chi-rho device (WCM 100861), possibly from Lich Street but not securely located, and coins found during construction (adjacent to the site) of the new St Michael in Bedwardine Church in the 1840s (WCM 100772 and WCM 100773). A number of medieval deposits from the earlier evaluation of the site contained residual Roman artefacts (Deeks *et al* 2004, 14; WCM 101135).

The extent and intensity of post-Roman occupation of Worcester remains unresolved, but a range of evidence has been argued for continuity of settlement between the 5th and the 7th centuries and then on into the medieval period (see Carver 1980, 2–7; Dalwood 2004b, 19–22). There is no definitive evidence for Anglo-Saxon occupation in the immediate vicinity, but it is likely that this area was occupied given its proximity to the cathedral (which has Anglo-Saxon foundations) and other features of the medieval town that have origins in this period. Documentary sources (Hooke 1985) clearly indicate that from the time of the formation of the episcopal see and the establishment of the diocese of Worcester in 680, Worcester constituted an important ecclesiastical centre. Construction of the burh defences is recorded from the late 9th century and these were identified 280m to the north-west during the Deansway excavations (Dalwood 2004a, 55-61). During the site evaluation, a single deposit was tentatively dated to the late Saxon period, found beneath later medieval graveyard soils (Deeks *et al* 2004, 12 and 16; WCM 101135).

In the medieval period Worcester (Fig 7) expanded beyond the earlier defensive circuit, which was probably levelled by the 13th century, and a growing intensity of occupation may have led to episodes of settlement planning. The site is at the heart of the medieval city, which lay largely within stone walls, and is bisected by the cathedral precinct boundary (Fig 7; WCM 96350). This is shown on the 1886 Ordnance Survey mapping (1:500) aligned down the middle of Lich Street (Fig 8; WCM 96278) and dates from at least 1460, although it could be of pre-Conquest origin. What form it took in this area is not known, but as there were once gated entrances it is likely that there was an entire precinct wall (Baker and Slater 1992, 54). College Grates formed a main gate to the cathedral (Figs 7–8; WCM 96352) and the Lich

Gate (Figs 7–8) acted as a gateway for the passage of burials between the city and the cathedral precinct; the remains of this gate that survived until demolition in the 20th century are reported to have been 16th century in origin (WCM 96353). South of Lich Street, within the precinct, was the lay cemetery (Fig 7; WCM 96385), which provided a burial ground for a large proportion of Worcester's population from at least the 11th century until the mid-17th century. An excavation at 5a College Yard (Fig 7; Smith 1993; WCM 100299) directly to the west of the site demonstrated that surviving burials are very dense and complex, though considerable ground reduction is also known to have taken place in 1865–6 (Deeks *et al* 2004, 11).

Tenements fronting onto Lich Street were developed by the cathedral to generate rents and date from the 13th century. These probably truncated and directly abutted the cemetery (WCM 96350; Baker and Holt 2004, 159). Disarticulated human remains were recovered from one medieval deposit from the evaluation trenching in this area (Deeks *et al* 2004, 12 and 16; WCM 101135). The lay cemetery also contained several ecclesiastical buildings immediately to the south of the site, comprising the church of St Michael in Bedwardine, the parish church for this part of Worcester (demolished 1841), the bell tower or clochium (demolished 1755; WCM 96359) and the charnel chapel of St Thomas (WCM 96384). Of the roads that lead to the site, the High Street and what is now Deansway (but only at the junction with the High Street, where it was formerly Bishops Strete; Baker and Holt 2004, fig 6.6) have medieval or earlier origins.

In the early post-medieval period the cathedral precinct was still used as a cemetery, although it was less important as by this time most of the parish churches in Worcester mostly had their own churchyards (Deeks *et al* 2004, 10). The precinct remained as a distinct area, physically separate from the city. In the late 18th century St Michael's Church was still standing near the cathedral and a number of houses had been built adjacent to the church. The street pattern north of the Cathedral Close was unchanged from the medieval period and the main through route followed High Street, Lich Street and Sidbury.

Major changes took place in the site area from the late 18th and early 19th century (see Fig 8), with the construction of College Street (WCM 96321) that entailed the demolition of College Grates and the reduction of the area of the cathedral precinct. This road linked the southern end of the High Street to Sidbury, thereby bypassing the sharp turn into Lich Street, with new buildings constructed along the north side of College Street that backed onto the existing properties of Lich Street. The separation between the city and the cathedral precinct was removed at this point. Following this, the medieval St Michael's Church (WCM 96050) was also demolished in 1841 and the new church constructed, just to the north (Fig 9; WCM 98583). The Lich Gate continued in use but was effectively only used for passage between Lich Street and College Street, having lost the link to the cemetery.

The buildings either side of Lich Street continued to develop, and are most clearly shown on a Board of Health map of 1870 and the 1st edition Ordnance Survey map of 1886 (Fig 8). The site area is entirely occupied by Lich Street and the properties to the north and south (this includes those fronting College Street on the south side, numbered 1–5 from the west moving eastwards). At this point the property numbers started at No. 1 on the north side of Lich Street and went eastwards in sequence, before continuing westwards up the south side of the street. No. 1 to No. 5 Lich Street were, therefore, the northern side properties and No. 34 to No. 36 Lich Street, plus No. 1 to No. 5 College Street, the southern properties within the site area. At the beginning of the 20th century the numbering system was changed, but only on Lich Street, and the property numbers went to alternate opposites. Thereafter, the more modern

numbering system has No. 1, 3, 5, 7, 9 on the north side of the street within the site area, and No. 2, 4, 6 on the south side, still with No. 1 to No. 5 College Street. The later system is principally used throughout this report, although earlier numbers are referred to for additional clarity where necessary.

Further change during the 20th century extensively altered the character of the area to the north of the cathedral. Deansway was laid out as a new street in the 1930s, providing a route from the College Street/High Street junction in front of the cathedral to Bridge Street to the west. There was extensive alteration and demolition of buildings both east and west of Deansway, just to the west of the site, and new buildings were built on either side. The southern end of the High Street was further transformed in the 1950s and 1960s. The Lychgate Centre was constructed in the 1960s, but demolition and clearance in the area had commenced before the 1930s with buildings on Lich Street and College Street raised and Lich Street itself also covered over. The 1st edition Ordnance Survey 1886 1:500 gives a very detailed record of the area before this occurred, then subsequent Ordnance Survey mapping through the 20th century shows the transition, which is also detailed in a series of photographs from archival and public sources (see below). A number of stages of demolition can be identified and it is apparent that this commenced from the west end of Lich Street.

Possibly the first Lich Street property to be taken down was on the southern side of the street, immediately to the west of St Michael's Church (No. 6 Lich Street, formerly No. 34). This was demolished in 1923, when it was 'in a complete state of dilapidation, with accumulation of refuse etc on each floor and infested with rats… the premises are the harbour for the rats in the neighbourhood' (see section 6.4). Sometime prior to 1940 and probably related to the construction of Deansway starting in the 1930s, two further properties (No. 1 and 2 College Street) were removed. The 1940 1:2,500 Ordnance Survey does not show these buildings and a photograph (Fig 10; also published in Haynes and Adlam 1978, 22 top, but incorrectly dated to *c* 1955), shows the extant gable end of No. 2 Lich Street and No. 3 College Street supported by props.

During summer 1951, No. 2 and No. 4 Lich Street, which backed onto No. 3 and No. 4 College Street respectively, were all demolished (visible in Haynes 1996, 125 middle) and these properties, along with No. 5 College Street directly to the west of the church, had been fully removed by the mid-1950s (Fig 11 and see Harrison 2011, 54 and Haynes 1996, 124 top). This part of the street became a low walled garden and car park with what appears to be a tourist information panel.

By 1960, possibly in 1957, St Michael's Church, No. 6 College Street (home of Henry Handley the violin maker) and No. 8 Lich Street to the east had been demolished, as well as the adjoining Lich Gate (see Meadows and Hopcraft 1995, 40 top). The Punch Bowl public house and the properties on the northern side of Lich Street appear to be untouched at this point, but by 1963 the demolition was extensive across both sides of Lich Street (Meadows and Hopcraft 1995, 40 bottom). This included No. 3, 5, 7, 9, and 11 on the northern side of Lich Street, all of which are within the site area. Aside from No. 1 High Street (conjoined with No. 1 and 1A Lich Street), located at the western corner where the High Street joined Lich Street, and the low walled garden, the whole of the area of demolished buildings either side of the road was used as unsurfaced car parking. Ordnance Survey mapping shows that by 1964 the site was cleared for redevelopment and in 1965 the Lychgate Centre was under construction, with all remaining buildings having been demolished (Haynes 1996, 124 bottom). The new development was opened in 1968.

Previous work on the development site

There has been a limited amount of previous archaeological investigation of the roundabout area. This included a watching brief on CCTV installation in 2001; there were no significant results from this, though only a very small area was observed at the western boundary of the roundabout (Lockett *et al* 2001; WCM100833).

The archaeological evaluation trenches undertaken in 2003 and 2004 prior to the current programme of archaeological work (Deeks *et al* 2004) occupied the southern half of the roundabout area. The fieldwork was supplemented by extensive documentary research and in the initial stage (WCM 101135) four trenches were located on the basis of historic maps to target the location of former buildings and Lich Street itself. Subsequently non-intrusive fieldwork took place, comprising a ground probing radar survey of the roundabout and nearby road section to the west (Stratascan 2003; WCM101191). This was undertaken in order to provide a better understanding of the survival of structures, particularly the possibility that part of the gatehouse into the cathedral precinct (College Grates) might survive beneath the A44. Thereafter, a second stage of trenching was carried out in 2004 and was located to investigate an area of potential significance identified through geophysical survey within the present road (WCM 101216). The evaluation trenches revealed extensive remains of infilled cellars, part of structures that correlated with the 19th century cartographic evidence of the site. A number of the structures were cut through medieval deposits, although no absolute evidence of medieval structural remains was identified within the limits of the evaluation trenches. The trench targeted on the geophysical anomaly demonstrated that no remains of the gatehouse were present within 1m of the road surface (Deeks *et al* 2004, 13).

A ground probing radar survey undertaken for engineering purposes immediately prior to the excavation of the roundabout (Subsurface Geotechnical 2015) did not add any information of archaeological significance.

Structural analysis

Richard Bradley

The investigations covered a number of historic properties, including those either side of Lich Street, the rear elements of properties fronting the southern end of the High Street, and others that faced onto College Street. As noted above, the numbering system for the Lich Street properties changed at the beginning of the 20th century, whilst the other streets remained consistent, but it has still been possible to identify individual properties and in whose ownership and/or use these were, using historic mapping, leases, ecclesiastical surveys, trade directories and census information. The buildings exposed within the site area therefore comprise, on the north side of the street, No. 1 Lich Street down to the western side of No. 11 Lich Street (formerly No. 1 to No. 6) and the backs of No. 1/1A/1B to No. 2 High Street. On the south side of the street were No. 2 to No. 6 Lich Street (formerly No. 36 to No. 34) and No. 1 to No. 5 College Street (Fig 8).

In relation to the medieval period onwards, the road and the boundaries of each property have been used to define areas of archaeological deposits, as well as to correlate the historical documentary evidence, throughout post-excavation analysis. For the Roman period, during which the later Lich Street and properties along it had no relevance, this subdivision by property is not included.

As the site was only excavated down to archaeologically arbitrary defined formation levels for construction, significant and extensive archaeological deposits have survived undisturbed. The levels varied across the site, but are not a major factor in the different date of the deposits reached at equivalent levels across differing properties; each had an individual history of development that is reflected in the visible remains. Some had been extensively rebuilt, others had no cellars, and in places earlier deposits and structures had survived despite numerous phases of redevelopment.

Site period and date	Character
Period 1: Roman, 2nd century	Deposits containing Roman pottery and iron slag, observed below later brick structures. Scientifically dated to the 2nd century AD.
Period 2: Medieval, late 11th to late 14th/15th century	Cathedral lay cemetery graveyard soils with burials, truncated by sandstone foundations for 13th to 14th century buildings.
Period 3: Late medieval, 15th to early 17th century	Stone foundations for a small building, soil deposits under former Lich Street and occupation deposits built up against earlier sandstone foundations.
Period 4: Post-medieval, early/mid-17th to late 18th/early 19th century	Earlier cellar foundations, drainage, yard soils and large early 17th century pit with vessel glass, tin-glazed ware and Frechen drinking jug.
Period 5: Modern, 19th to late 20th century	Cellar walls, staircases, floors, drains and well structures alongside Lich Street, College Street and the back of the High Street, as well as Lich Street itself. Demolition deposits and later 20th century services.

Table 2: Site periods

The evaluation, excavation and watching brief stages comprised extensive evidence of structural remains dating from the later 18th until the early 20th century. Additionally, however, there was limited evidence for the survival of Roman deposits dating from the 2nd century onwards, including a series of features and deposits of medieval, late medieval and post-medieval date (11th to 18th century). These, in part, comprised elements of the former cathedral

lay cemetery located on the south side of Lich Street. Two areas in particular exhibited preservation of a long sequence of deposits due to a lack of truncation by later cellars. Therefore, the archaeological sequence was divided into five main periods (summarised in Table 2)

Period 1: Roman (2nd century AD)

A series of dark greenish-grey Roman soil deposits (CG71; Figs 12 and 13) were identified beneath later cellar walls, particularly in the area of No. 3 on the north site of Lich Street and No. 3 and No. 4 College Street to the south. Although not all of these contained artefactual material, their stratigraphic position and character suggested they could be similarly bracketed as Roman in date. Three contexts included 2nd century pottery, as well as slag and tile, and one (1238) was also scientifically dated. The radiocarbon measurement returned was 1853±29 BP, giving a calibrated date of 80–240cal AD, which correlates well with the 2nd century date of the pottery. None of the deposits were excavated and all were only visible in small areas, but these represent a surviving horizon of Roman archaeology that is preserved below medieval and later occupation deposits, despite truncation by numerous structural remains. Roman deposits to the north of Lich Street were identified at a level of 22.68m AOD, to the south at 22.78m AOD (Fig 13).

Period 2 onwards

Lich Street

The route of Lich Street ran across the centre of the site, aligned west to east, and with a noticeable change in height across the area (24.84m AOD at the west end, 24.04m AOD at the east). The surviving version of this street was modern (Fig 14), but it is clear from historic mapping that the route had been consistent in this location along the edge of the cathedral precinct for many centuries.

Late medieval (15th to earlier 17th century)

Beneath the surface of the street, specifically below the paving on either side, earlier soil deposits (CG7) were observed following removal of kerbing. These consisted of moderately compact greenish brown silty clay and included pottery dating from the 14th to early 17th century, but were extensively truncated by later services.

Modern (19th to late 20th century)

The edges of the surviving street were of earlier origin (although this had been re-laid) and comprised indurated light greyish brown rubble hardcore, with a gutter of granite setts (90x90x90mm) bonded with a light grey sandy mortar (CG6).

Numerous services had disturbed the middle part of the street during the later 19th and early 20th century (CG5), some of which undoubtedly related to the insertion of sewers and other drainage in an attempt to improve sanitary conditions. Two of these pipes are marked along Lich Street on the 1870 Board of Health map. Overlying the services were the latest elements

of the surviving road; worn tarmacadam in the centre with concrete kerbstones and concrete slabs forming pavements to either side (CG4). The road was only 2.40m wide at the western end of the street.

North side of Lich Street

No. 1 High Street and No. 1/1A Lich Street

This property occupied the corner between Lich Street and High Street (Fig 15). Historically, the boundary of this space and the buildings within it were subject to numerous changes and alterations, something reflected in the difficulty of correlating house numbering (and re-numbering) with historic mapping and the buildings themselves (see section 6.3).

Modern (19th to late 20th century)

The earliest surviving walls for this property were dated to the 19th century (Fig 16; CG66), with the lack earlier structural remains probably a result of a sequence of redevelopment that is identifiable in the documentary sources (see section 6.3).

The main east-west aligned brick foundation walls of No. 1 were connected by a north-south wall that post-dated the earlier phase of No. 3 Lich Street to the east. Within the space identifiable as the cellar of 1A Lich Street was an addition of an arched fireplace (CG62) that still retained the metal fittings, including an iron pot hanger (Fig 17). Further dividing walls added within No. 1 suggested an increasing subdivision of space within this property.

No. 3 Lich Street

No. 3 Lich Street included a number of phases of rebuilding. These truncated Roman deposits below and medieval deposits that survived in the adjacent No. 5 Lich Street property.

Post-medieval (early 17th to late 18th/early 19th century)

A sandstone wall foundation (running east to west) was built upon a rubble and clay levelling layer (Fig 12; CG75) and dated from the late 17th century to the late 18th century. This survived at ground level and formed what appeared to be the original rear (northern) wall of this property. There was no indication of the superstructure of the building, but these foundations could have supported a timber-framed structure, perhaps forming part of the stable that is identified in documentary sources as existing on this property in the later 17th century (section 6.3).

Also within the space defined as this property, but closer to the street frontage, were a group of earlier foundations. These comprised small sections of brick floor and walls related to the insertion of a cellar, which included a well in the south-east corner (Fig 12; CG68). The bricks were dated to the 18th century and it is possible that this is associated with rebuilding undertaken in this property during the later 18th century, when a separate dwelling was created and an encroachment fine paid to the city (section 6.3).

Modern (19th to late 20th century)

The main surviving elements of this property dated to the 19th and early 20th century. This included replacement brick walls for the cellar (Fig 12; CG67), forming a space 4 x 2.20m in size, and a replacement floor cut down through the earlier surface (CG64) to create more room. The post-medieval well had been infilled and capped off and the new cellar floor patched in this location (CG63), suggesting this may have been a secondary phase of the rebuilding/ repairs. A staircase had also been inserted along with the new walls, abutting the western side of the cellar, which incorporated some fragmentary ecclesiastical stonework in the infilled space beneath the stairs (Fig 18; CG65; section 7.9).

To the north of the cellar space, were further 19th century additions. These were at ground floor level and included levelling deposits upon which a fireplace and a brick floor surface had been built (Fig 12; CG76). This could have been a small extension, or just refurbishment of a room, but this probably relates to mid-19th century alterations taking place within this property (section 6.3).

No. 5 Lich Street

No. 5 Lich Street did not have a cellar, probably because it was originally a stable attached to No.2 High Street and later a storehouse (section 6.3). This lack of deep foundations ensured the survival of a sequence of earlier deposits, features and structural remains that had otherwise been truncated by the surrounding properties.

Medieval (late 11th to late 14th/early 15th century)

A series of dark brownish-green soil deposits were revealed within the southern half of the property (Fig 19; CG72). These were not excavated, but cleaning recovered 12th–14th century pottery, as well as residual Roman material. They were cut by medieval and later structural remains, which indicated that these soils were probably 12th to 13th century in origin.

The most substantial of the medieval remains cut through the earlier soils and was probably a construction trench (2.12 x 0.84m; Figs 19 and 20; CG73) packed with compacted yellowish limestone and green sandstone rubble in a reddish orange sand matrix, to provide the foundation for a substantial structure. It appeared to continue under the later pavement of Lich Street. Pottery from the sand packing was 11th to mid-14th century in date. Similarly dated material was recovered from some thin soil deposits (CG74) overlying the wall foundation, suggesting that it was most likely to date from the middle part of this date range.

Around 2.6m to the north of the foundation trench were the partial remains of a 1.4m wide pit (Fig 19; CG100) and a small posthole (CG99). These both cut the earlier medieval soils, visible in section beneath later deposits and structural elements, and dated to the 14th to 15th century.

Late medieval (15th to early 17th century)

Another foundation trench also cut the medieval soils, and this formed the original back (northern) wall of a building at No. 5 Lich Street. The 0.55m wide trench (Figs 19 and 21; CG98) survived for a length of 2.33m, but was truncated at both ends by later features. The trench was packed with five green sandstone blocks (Fig 21) that were clearly re-used

from an earlier structure; all were shaped and well-finished with fine tool marks. The silty soil surrounding the stones contained 13th–16th century tile. These foundations could have supported a timber-framed structure, perhaps forming the back part of the stable that, as was the case with the adjacent No. 3, existed on this property in the 16th, 17th and 18th centuries (section 6.3).

Post-medieval (early 17th to late 18th/early 19th century)

A possible drain had been added at the rear of the property (Fig 19; CG97) and external to the building. This ran for 2.25m parallel to the northern wall foundation and partly cut the edge of the construction cut. It was lined with orange bricks placed on edge.

Another drain was located inside the footprint of the building, built with a single course of parallel brick walls, 0.39m wide. The walls survived for 2.78m in length (Fig 19; CG92). The fill of brownish-grey silty sand included late 18th century pottery and represented disuse of this feature.

The bricks of both the internal drain and the northern wall foundation were post-dated by two soil deposits located in the northern half of the property (Fig 19; CG93). These were light greenish brown in colour and contained occasional rubble. It is possible that they represent waste material or levelling layers from the use of the stable.

Within the southern half of the property, close to the street frontage, was a substantial pit (Figs 19 and 22; CG69). The pit was partly truncated by the construction trench for the 18th century walls of the adjacent No. 3 Lich Street, being visible in section as well as in plan. It was oval in shape (1.86 x 1.46m, and 0.79m in depth), and contained three greyish-brown silty sand fills, one of which was particularly rich in wood charcoal. Finds from the upper two fills represented a tightly dated group and suggested that the infill of the pit occurred in the early to mid-17th century, or possibly the very latest 16th century. These included items imported from the continent and rare fine quality vessel glass, probably having been discarded from a high-status residence nearby (see section 7.8).

Modern (19th to late 20th century)

A drainage trench ran along the rear of the property and just inside its eastern edge (Fig 19; CG 15). It included a manhole built with blue engineering bricks. The manhole was accessed at the rear of the property and the drain pipes ran below the floor of the building to join up with those under the surface of Lich Street.

No. 7 Lich Street

This property had partly survived at ground floor level, but also included a cellar that had, in part, truncated the medieval soils and features surviving in the footprint of the adjacent No. 5 Lich Street.

Modern (19th to late 20th century)

The surviving elements of this property were dated to the 19th and 20th centuries; no earlier phases were visible, although these could exist at a lower level. The main brick walls (Fig 23; CG89) formed a building 7.79 x 4.32m in size, with the cellar space comprising the front

half. The rear (northern) wall of the cellar was defined by a wall running east-west across the central part of the building, with access steps (Fig 23; CG87). In the cellar, a fireplace (or perhaps a structural support for a fireplace on the ground floor above) had been inserted (Fig 23; CG86), and at the front of the property were the remnants of a threshold (Fig 23; CG 85).

The back half of the property included a brick floor surface on a bedding layer of sand (Fig 23; CG88). This was the ground floor from which the cellar steps descended (Fig 23; CG23). Finds of 20th century date were recovered. Part of the floor (the north-east corner) had been built over by a further brick structure, at a 45º angle. It was not clear as to the exact function of this, but it is possible it was the base for a staircase leading to an upper floor, or a corner fireplace.

No. 9 Lich Street

A similar structural arrangement was present in No. 9 Lich Street, located directly to the east of No. 7, although the property was longer and narrower. Again, no earlier phases of structural remains or deposits were visible.

Modern (19th to late 20th century)

The front half of this property comprised a brick cellar (5.11 x 3.68m; Fig 24; CG82), into which a staircase located in the north-west corner provided access (Fig 24; CG83). A coal chute had been built into the front (southern) wall that could be used from Lich Street (Fig 24; CG84).

The rear half was defined by a compacted but roughly built rubble surface, or perhaps a bedding for a brick, tile or stone floor surface that was no longer present (Fig 24; CG16).

South side of Lich Street

No. 6 Lich Street

This property, surviving as a well-preserved cellar, was located at the eastern edge of the area of excavation, adjacent to the plot occupied by the 19th century rebuild of St Michael's church. There were two phases of construction visible that truncated earlier soils.

Medieval (late 11th to late 14th/early 15th century)

A single dark blackish-brown silty sand soil deposit (context 1031) was identified behind the original walls of the cellar. This was dated to the 13th or 14th century and was probably a surviving pocket of the cathedral graveyard soils.

Post-medieval (early 17th to late 18th/early 19th century)

The main walls of the cellar (4.96 x 3.18m; Fig 25; CG58), were constructed from well-finished green and red sandstone blocks, interspersed with brick and tile levelling courses. Sample tiles were dated as later than the 15th century and other finds suggested a 17th to late 18th century date of construction. Much of the sandstone appeared too high quality to have been originally intended for use in a cellar; it included a piece of probable vault rib, likely to be medieval ecclesiastical masonry (Fig 26 and visible to right of scale in Fig 27 and Fig 62), and medieval

tool marks were also visible (see section 7.9.1). It is, therefore, probable that the stone blocks had been reused from elsewhere, perhaps from demolition or re-ordering of buildings in and around the cathedral, or even becoming available after alterations in the cathedral itself. Many of the stones appeared weathered, as though they had previously been used externally. Part of the wall truncated the earlier soil (Fig 25; 1031) and included a fragmentary element of a neonate between the blocks (1029; see section 8.3.8 below).

Modern (19th to late 20th century)

The cellar had a brick floor laid on a charcoal-rich rubble bedding layer (Fig 25; CG57) as well as a number of later brick additions forming a second phase of construction dating to the 19th century (Fig 25; CG56). These included a coal chute in the front (northern) wall, accessed from Lich Street, a doorway knocked through the eastern wall and an area of repair on the western side.

No. 4 Lich Street and No. 4 College Street

These buildings, as surviving below ground, backed onto each other but were effectively a contiguous property. Doorways allowed passage between the cellar spaces, although it is presumed that it may once have been possible to close these off. As with No. 6 Lich Street, there were earlier foundations identified.

Post-medieval (early 17th to late 18th/early 19th century)

The main property wall on the eastern side, as well as a contemporary internal division, included foundations built from green and red sandstone blocks (Fig 28; CG52), similar to No. 6 Lich Street. These were again suggestive of re-use. The wall on the western side of the property (Fig 28; CG44) was comparable, but also incorporated brick and tile levelling courses. Pottery and a copper alloy stud indicated that these were built after the late 16th century. As the main foundations, these walls are probably a continuation of earlier property boundaries in these locations.

Modern (19th to late 20th century)

The cellar at the northern half of the property, No. 4 Lich Street, appeared to have been added (or at least reconfigured) during the 19th century and was 3.96 x 5.10m in size (Fig 28; CG53). This included a brick floor laid on a charcoal-rich silty sand bedding layer (Fig 28; CG54). A number of additions had been made at the front, including a coal chute (Figs 28 and 29; CG55) accessed from Lich Street, of similar 19th century date to those added to No. 6. Parts of the timber shuttering for this had survived.

The southern half of the property, No. 4 College Street, had a cellar (Fig 28; CG45) that had been repeatedly subdivided (Fig 28; CG46), reducing the open space. These had truncated part of an earlier cobbled yard (Fig 28; CG43), which survived at ground floor level in a small patch (1.72 x 0.74m). A diagonal bracing wall (Fig 28; CG51) had also been added to support the back wall of No. 4 Lich Street. Within the divisions two fireplaces (Fig 28, CG 47) had been inserted back to back, probably to share a chimney, with one still containing part of an iron pot hanger. Concrete flooring (Fig 28; CG49) had been laid over the top of earlier brick floors (Fig 28; CG48). All of these additions were of 19th and early 20th century date and suggest a change in use within the cellar, from storage to occupation space.

Truncating part of the floor in the space between the two cellars, and accessible from both, was a sub-circular feature 1.70m in diameter (Fig 28; CG50). Although unexcavated, this had been backfilled with 19th century material and was probably a well.

No. 2 Lich Street and No. 3 College Street

These buildings did not directly back onto each other, but the western external wall continued the length of the entire property. There also appeared to be a yard in between that may have been shared access. This area, in the space behind the two frontages, did not have a cellar and therefore earlier deposits and foundations had survived.

Medieval (late 11th to late 14th/early 15th century)

Behind the back wall of the cellar for No. 2 Lich Street, and partly below a brick surface, there were a number of silty sand soil deposits (Fig 30; CG37) that in some cases contained disarticulated human remains. They were cut by a number of graves with *in situ* bone (this was not disinterred as it was below impact depth). One of these burials contained a fragment of medieval pottery. Despite extensive truncation it is apparent that this is a surviving pocket of the cathedral lay cemetery. Two partially articulated, but heavily disturbed burials (recorded as context 2016 but now termed 2016a and 2016b; see section 8.3), were also recovered between walls at the front of No.3 College Street, further into the former cemetery area. They were positioned with the heads to the west and were sealed by a soil deposit dated to the later 15th century, which was probably a late medieval graveyard soil (context 2015).

In addition, the soil deposits behind No. 2 Lich Street were cut by a 1.21m long remnant of well-finished red sandstone wall, constructed upon a rough foundation of large green sandstone blocks which survived for 3m in length (Figs 30 and 31; CG36). Pottery recovered from the backfill of the construction trench for this was also dated as medieval, 11th to 14th century, suggesting that the burials may be from the earlier end of this date range. This is probably a surviving element of the first residential structures that encroached onto the cemetery area from the 13th century onwards, developed by the cathedral to generate rents along the commercial frontage of Lich Street (see section 4.2 above).

Late medieval (15th to earlier 17th century)

Numerous soil deposits and lenses of rubble 0.5m in total depth (Fig 32; CG35) had accumulated against the medieval sandstone wall. These included pottery of 15th century date, both supporting the dating of the earlier wall and suggesting that surviving deposits here relate to a continuity of occupation in the tenements within the cathedral precinct. Within this, part of an inhumation burial had been incorporated amongst some sandstone building rubble (context 1151; see section 8.3 below), probably disturbed by construction within the cathedral cemetery. A single small posthole, dated to the 15th or 16th century, was cut through the upper soil deposits (CG34).

Post-medieval (early 17th to late 18th/early 19th century)

The main western property boundary of No. 3 College Street, as well as part of the back wall of the cellar, was built from large red and green sandstone blocks with brick and tile levelling courses (Figs 30 and 34; CG24). Medieval tool marks were visible on the stonework and part of re-used tomb base had been included within the wall (see section 7.9.1 item 15). Earlier

sandstone wall courses also formed the foundations for the cellar at the Lich Street end of this property, which was 5.80 x 3m in size (Fig 30; CG38). Although there was no dating evidence to confirm this, the similarity of build of these walls with the earlier phases of the other properties on this side of Lich Street suggests that these may also be of post-medieval date.

A single blackish-brown sandy clay soil deposit (Fig 30; context 1110) had survived in the yard space between the two frontages; this contained mid-17th to 18th century material.

Modern (19th to mid-20th century)

In the cellar of No. 2 Lich Street the earlier sandstone foundations were post-dated by a number of brick walls dating to the early 19th century (Fig 30; CG39), into which a brick staircase descended from the ground floor (Fig 30; CG31). This staircase had truncated the later medieval soil deposits and posthole found in this area. It was accessed along a possible corridor, which had survived as a small area of brick flooring (Fig 30; CG32), and from the back yard. Inside the cellar, the main brick floor (Fig 30; CG40) had been considerably altered at the eastern end, where numerous additions included a small 0.90m wide arched structure, possibly a cupboard or shelving (Fig 30; CG42).

Two late 19th or early 20th century drains descended from the back yard and had been inserted through the back wall of the cellar, one of which was encased in concrete (Fig 30;CG41). It is likely that these were once connected to a toilet/privy; this survived to the rear as a brick structure (1.80 x 1.21m) with associated metal water pump (Fig 30; CG30). The toilet/privy had been built on top of the medieval wall foundations found in this location. Above the post-medieval soil in the yard, and adjacent to this building, were a number of patches of burning, rubble and waste deposits dated to the 20th century (Fig 30; CG29).

The cellar of No. 3 College Street included an access staircase, with timber treads still partially surviving on the brick steps (Fig 30; CG25). This staircase had been built at the same time as a cupboard, probably a cold pantry or larder, in which slate shelving was present (Fig 35). The main brick floors of the cellar appeared to be divided into segments, possibly of different building phases, although a lack of dating evidence and clear change in brick form made this difficult to determine (Fig 30; CG27). At the eastern end of the cellar, the flooring post-dated the insertion of a large fire place (1.80m wide; Fig 30; CG26).

No. 1 and No. 2 College Street

This property was located at the south-western edge of the site area and comprised a large brick cellar with multiple subdivisions. The construction of these walls can be closely tied to the redevelopment of this location in the late 18th to early 19th century (see section 6.4), although structural elements had survived that may be from earlier buildings.

Post-medieval (early 17th to late 18th/early 19th century)

The eastern boundary, shared with No. 2 Lich Street and No. 3 College Street, was built from large red and green sandstone blocks with brick and tile levelling courses (Fig 36; CG21), following the pattern that suggests the later properties on this side of the Lich Street occupied previously defined and consistent plots. A dark blackish brown silty clay soil layer below later floors (Fig 36; 1090) probably also dated to this period.

Modern (19th to late 20th century)

The main cellar space of No.1 College Street (Fig 36; CG20), closest to Lich Street, was 5.50 x 5.25m in size and constructed with substantial brick walls extending out from the earlier sandstone eastern wall. On the northern edge a void may have once been a window light or coal chute but this had been built over with paving slabs along Lich Street. A doorway in the southern wall previously provided access into the continuation of the cellar under No. 2 College Street; this had been blocked up in the 20th century (Fig 36; 1053). Built against the main eastern wall of the property was a large 2.10m wide fireplace (Figs 36 and 37; CG17). Part of the main cellar floor (Fig 36; CG19) post-dated this fireplace. In the north-east corner the floor had been altered, with a drain inserted (Fig 36; CG18).

Very little of the cellar for No. 2 College Street was observed, though a later dividing wall (Fig 36; 1082) had clearly been inserted. This was built on top of an earlier floor, a mixed flagstone and brick surface (Fig 36; CG22).

High Street

No. 1A/1B High Street

Although truncated by a modern service trench (Fig 38; CG2), which obscured the relationship between, it is thought that the partly visible walls and steps of a cellar at the back of 1A High Street (Fig 38; CG 61) were near contemporary with those of No. 1 High Street/No. 1 Lich Street. These walls were dated to the early 19th century. Similar walls formed the rear of No. 1B High Street, just to the north (Fig 38; CG59), but were again truncated by 20th century services (CG2).

Surviving in small patches to the east of the back walls of the cellars of 1A/1B High Street were two areas of brick surfacing at ground floor level (Fig 38; CG60). These were at the western extent of a larger area of worn surfaces that clearly consisted of two phases. The earlier elements comprised sandstone and brick walls with an expanse of worn red bricks on edge (Fig 38; CG78). Built into this was a small firebox (Fig 38; CG81), adjacent to two small areas of brick yard surface (CG80). All of these structural remains pre-dated a group of brick surfaces forming a repair, constructed using blue engineering bricks and including an inserted concrete and metal drain (Fig 38; CG79). The wear on this area was noticeably less than on the earlier floor. It is probable that this group of flooring represents the rear part of the 1A/1B High Street property, potentially part of a 19th century kitchen or pantry space.

No. 2 High Street

Modern (19th to late 20th century)

Along the northern edge of the site was a substantial wall, part of a surface and some steps that formed the southern side of a large property (Fig 39; CG102). These structural remains are probably part of No. 2 High Street, but the numbering is not certain in this area due to the numerous changes of layout at the southern end of the High Street (No. 1/1A/1B etc). Although only a small part of this was observed, there was no dating evidence to suggest the survival of any pre-19th century phases of this building.

Yard space and outbuildings

Also in the northern area of the site, to the rear of the properties fronting Lich Street but probably accessible from the back of properties fronting on to the High Street, were numerous structures of 19th and 20th century date. These occupied part of a space clearly visible as a yard on historic mapping.

Post-medieval (early 17th to late 18th/early 19th century)

The later structures either truncated or were built upon an extensive mid grey brown clayey silt soil deposit (Fig 39; 1201), probably a former garden soil. Finds recovered were of 17th to 18th century date.

Modern (19th to late 20th century)

Immediately to the rear of No. 7 Lich Street, and probably accessed through No. 1A/1B High Street, were the remains of two small brick outbuildings (Figs 39 and 40; CG 90 and CG 91). The larger of the two, separated by a small gap from the back of No. 7, was 2.28 x 1.88m in size with a squared brick floor; it is possible that this was a small store (CG91). Abutting this and extending to the north was a smaller building 1.44 x 1.02m in size (CG90). Both were infilled with demolition deposits (CG13).

Slightly to the west of these buildings, also within the property of No. 1A/1BHigh Street, were two wells located 2.5m apart. These were cut through the post-medieval garden soil. The eastern of the pair was sub-circular in shape, around 1.2m in external diameter, and had been built with bricks dated to the early 19th century (Fig 39; CG101). This had been infilled with late 19th to 20th century material. The western was circular, 1.10m in diameter, and built with unbonded bricks (Fig 39; CG96). This had not been capped or infilled, though it was filled with gravel prior to construction commencing. It still included an iron pipe that was part of a pump and water was visible in the base, 10m from the surface. This well is denoted by a ‘p’ (pump) on the 1st edition Ordnance Survey 1:500. To the south was a small surviving area of brick surface on sand bedding (Fig 39; CG105), and to the east was a set of steps (Fig 39; CG95).

North of the wells, a wall had previously divided the yard in two (Fig 39; CG103). Adjacent to this was a partially surviving yard surface of blue-grey flagstones laid on a brick rubble bedding deposit (Fig 39; CG104). A concrete path ran along the edge of this surface.

Mid to late 20th century activity across the whole of the site

Demolition deposits from the levelling of the area in the mid-20th century had infilled all of the cellars, some of which can be more specifically dated from documentary and photographic information (see section 4.2 above; CG8, 9, 10, 11, 12). There was some survival of hardcore deposits associated with the use of the site as a car park in the 1960s before the construction of the roundabout. Numerous later 20th century services also crossed the site (CG2). In amongst the demolition and made ground were a series of both decorative and functional architectural fragments that appeared to have come from nearby ecclesiastical buildings (CG3).

Documentary evidence

Pat Hughes

This section presents the documentary evidence for the history of individual properties along Lich Street, the occupants and their occupations, broadly following the order of the structural narrative above to allow for cross-referencing. Information on the medieval street and the social status of the inhabitants has also been detailed. Where possible, property ownership has been tabulated and combined with pictorial and photographic evidence to create a reconstruction of the street frontages in the medieval and the post-medieval to modern periods (Figures 41–7).

In the sections dealing with individual properties, primary sources used for research are presented together at the beginning so as to avoid excessive and intrusive break-up of the text.

Introduction and background to the research

It might be thought that the identification and documentation of a handful of houses in a minor street in the city, would be a simple task, particularly so in this case where most, if not all of the houses belonged to a single known landlord, the Dean and Chapter of Worcester. Where leases are concerned, this does not take into account the complexities of inheritance, intermarriage, mortgagees and subtenants. In the case of copyhold tenure, where 'lives' were added to the original holding, originally to secure the property for the widow and children, the matter can become even more obscure. By the 18th century the 'life in reversion' was often granted outside the family and sometimes sold by the recipient. It is particularly frustrating to find that in the late 18th and early 19th centuries the manor court which granted the copyholds was totally uninterested in the people who actually lived in the property and this fact accounts for some of the gaps in occupancy at that period. In all these situations the unravelling of who was actually occupying the property is difficult and sometimes impossible.

In Lich Street these problems are complicated by the intrusion of College Street in the 1790s. This improved the traffic flow to the city, avoiding the sharp turn from Sidbury into Lich Street, but resulted in the demolition of the great stone gateway, the gateway which led from High Street to the cathedral, College Grates (note that the name College Grates, not Gates, has been used from at least the 17th century — origin unknown). It also resulted in the complete rebuilding and re-aligning of the south-west end of Lich Street. Further difficulties are presented by at least three numberings and re-numberings of the streets over the years. The two properties next to the demolished cathedral gateway were renumbered as part of College Street and the name College Grates, quite arbitrarily, became attached to No. 106 High Street.

From this maze of information two clear reference points emerge; the first is contained in the survey made in 1862 by the Ecclesiastical Commission after they took over the Dean and Chapter property, which positively identifies ownership of No. 6 and No. 4 Lich Street in relation to St. Michael's Church (Church Commissioners, Dean and Chapter of Worcester St. Michael's Survey 32371 map 9923 E; St Helens Survey map 9895 E). The second is found in the deposit of title deeds for Nos. 1 and 2 College Street and No. 4 Lich Street in the archives at The Hive, when these houses where purchased for demolition by the City Council (WAAS 496.5 BA9630 Cab 11/31 and 32). These documents provide fixed positions for, and also information about, the adjacent houses. Since all the houses on the south side of Lich Street

and many of the houses on the north side belonged to the Dean and Chapter, theoretically they can be traced back using the Dean and Chapter archives. Most of these are in the cathedral library but some, for historical and bureaucratic reasons, are in The Hive.

Medieval Lich Street

College Grates

The excavation site covers the west end of Lich Street, taking in the plots later known as Nos. 1 and 2 College Street and extending east as far as the 19th century St Michael's Church. The western boundary coincides with the eastern wall of the stone gateway, later known as College Grates which, until 1794, stood at the end of High Street, giving access to the cathedral from the city through the lay cemetery. It was similar in scale to the surviving Edgar Tower. Associated with the gateway was a flight of steps, the Cemetery Stairs (*scalaria cimiterii*), which led up to churchyard level. At some stage, unspecified but possibly in the 1200s, the gate was added to the steps; the first mention of the gate appears in 1326 (Worcester Cathedral Library B1665a). Sometimes the gate appears in the deeds and sometimes the stairs, which suggests that the gate was a relatively unimportant structure when first built, perhaps just an archway in the cemetery wall (compare Worcester Cathedral Library B1665, B1668).

The south side of the gate, which can be seen in a James Ross pen and wash drawing (Fig 48), was probably a late 14th–15th century addition, but at the north end a round arch suggests a much earlier structure, while the square opening beyond may be a timber framework for gates or doors. The gate provides a marker for assessing the 14th century documents relating to the area. The Lich Gate, just off the site to the east, provides another marker. This gate is regularly mentioned by name (eg Worcester Cathedral Library B1249, B1304).

Houses on the cathedral side of Lich Street

In 1359 the Prior and Convent leased to John the Goldsmith 'a house with 4 shops at the end of the High Street with a certain plot of the cemetery adjacent with free ingress and egress to the said house etc, extending from the said stairs of the cemetery towards the Lychegate'. This plot of John the Goldsmith is described as 41 feet broad by 43 feet wide and thus equates with the area later designated as Nos. 1 and 2 College Street (Fig 41). Twenty shillings of the rent was paid to the sacrist for his own upkeep and that of his office.

John the Goldsmith let some of the property to tenants; twenty six years later he sublet to William More, his wife Agnes and his son John, 'a shop below his chamber (solarium) and a house between the said shop and the house held by John le Fuster from the sacrist in width between the street called Lychestrete and John's own house' (Worcester Cathedral Library B1248).

John was not the first goldsmith on the site. In 1302–3 a fugitive seeking sanctuary in the cathedral was drinking at the house of the goldsmith (possibly father or grandfather of John) who had a house in the cemetery. It looks as though this had access to the cemetery from the rear of the property — the ingress and egress of the 1359 lease — towards the cemetery. The guards who were keeping an eye on him barred the exit to the churchyard and the bailiffs

advised the townspeople to ill-treat him and put him in irons (Worcester Cathedral Library B1249; B1308; B1309; see also Willis Bund, ed. *Registrum Sede Vacante*. (WHS 1893) p.38 B. Ronchetti assumed that the gate in question was the one on the site of College Grates but since it is not mentioned in the later deeds that is debateable).

Before 1326 a gate of some sort had been built on the site of the cemetery steps, but the steps still seem to be used to define property position. A perambulation of the bounds of the cathedral sanctuary made in 1460 described how the boundary ran from the 'gate of the Bishop's palace as far as the house in which John Smith now inhabits called *JohanniSmethishws* divided from the said cemetery or of our said church Sanctuary by another King's highway called Lych Street in the city of Worcester and includes all buildings and houses from the said great gate as far as the said house of the aforesaid John Smith'. John Smith's house is likely to have been near the south-east corner of Lich Street marking the corner where the boundary turned.

This implies, as does a quick perusal of the deeds in the Cathedral Library, that at least most of the cemetery side of Lich Street was built up by the mid-15th century. Unfortunately, not only have no deeds been found before the beginning of the 13th century, but most of the 15th century documents are also missing. Apart from the evidence summarised in Figure 41 there is little material before the late 16th century (although due to necessities of funding, the manor court rolls have not been searched). Despite this poor survival of medieval deeds it has been possible to put together some 14th century documents to suggest a plan for the west end of Lich Street. The available information implies that by the early 14th century not only had the Lich Street frontage been built up with dwelling houses and some shops but there had also been further encroachment on the churchyard behind the houses.

Other information found in the deeds indicates that, in the first half of the 14th century, John de Pidele had a large plot which was 39 feet along the street frontage, between the Lich Gate and the house of John le Rutone. It backed on to William Sallow and John Frend's property. Edmund of Elmley, mason, took the house after Pidele left it. Later measurements suggest that it might cover the area occupied by the 19th century rebuild of St. Michael's Church. As already mentioned, the only other medieval measurement available for this part of the street was John the Goldsmith's 41 foot plot, with his house and four shops, at the extreme west end next to the Cathedral Gate, the later College Grates. The length between these two plots on which there were at least two other houses was therefore approximately 30 feet (see Fig 41).

Another property about which something is known is one on which John Wynnemore and his wife Elizabeth had two houses, one in their own possession and one tenanted by Richard Skryven. When the Prior leased the property to the Wynnemores in 1494, he stipulated that they were to rebuild it with carpentry work and tiling and to maintain and repair it inside and outside. This then was a timber-framed house with a tiled, not a thatched, roof (Worcester Cathedral Library B1259). It is a reasonable assumption that this property, part of the sacrist's holding at the west end of Lich Street, was the same as that leased in 1539 to John Matthew's pewterer, which lay between the houses of John Frynde and John Scryvener.

As has been identified, the house near the Cathedral Gate had a rear plot with access to the churchyard in 1303, and in 1322 Henry of Sallow also had a plot of land, next to Reginald the Taverner, behind Richard Frynde's house (Worcester Cathedral Library B1303, B1306). It is shown in Figure 41 that the Frend/Frynde family retained their interest in this house for more

than 200 years and such connections were not rare. According to his will (WAAS will 1542/31) the John Frynde who held the property in 1539 was a priest, who asked his brother priests to sing mass for his soul in St. Michael's Church and rewarded them for doing so.

It is possible that a 15th century John Taverner, whose probate inventory is illustrated (Fig 49), was the descendant of Reginald the Taverner by the Lich Gate. The inventory implies that the 'sete' or settle, which seems to have been part of the hall, was next to the churchyard.

Individual properties on the north side of Lich Street

No. 1 High Street and nos. 1, 1A and 3 Lich Street (20th century numbering)

Primary references for this property are as follows:

- Bentley's Directories
- Church Commissioners, Dean and Chapter of Worcester St Helens Survey map 9895 E
- Grundy's Directories
- Littlebury's Directories
- WAAS BA 9630 Cab12/9
- Will — Jakeman Rea, St Michael's Peculiars, 008.7 BA 3538/779/96
- Worcester Cathedral Library B1665

  B1265

  D1340

  Add Mss 178

  BA 2602/8 15 Chas II
- Worcestershire Historical Society Parliamentary Survey

  Hearth Tax Collectors' Book

This was the corner property between Lich Street and High Street. It is possible that, in the early 13th century, it was the house of William Springefeld, situated before the gate of the cemetery, for which 4s was paid by Gunnbern the vintner. No other medieval information can be identified for this property.

In 1557 it was the property of Richard Dankes, joiner (Fig 42). He held it from the Dean and Chapter of Worcester. It seems to have been occupied by joiners for the next 200 years although they may not all have lived in the property.

When John Biddle held the lease in 1649 the house consisted of a hall, shop and kitchen with three rooms over (Fig 42). At that time the long narrow plot, running down the side of Lich Street, measured 55 x 12ft and must have included Nos. 1 and 3 Lich Street. The area of what became No. 3 is identified as a stable. He is recorded as developing his plot, having 'lately

set aside' land for an extra dwelling, with a 'low roome, a chamber and top loft'. This probably became No. 1 Lich Street. John Biddle's widow passed the property to her daughter, Joanna Frank.

The next grant was made to John Jackman or Jakeman in 1662/3 and, by 1678, when the Hearth Tax lists were made, Jackman's widow Mary (Fig 42) had sublet to Edward Jones. Jones' wife took exception to the Hearth Tax Assessors; 'Called me knave' is noted in the Collectors Book.

Jakeman Rea, joiner, was the next occupant (Fig 42). There must have been some link between his family and the unusually named Jakeman family (in the 18th century surnames were often used as Christian names as a mark of respect to relatives or friends). By the time he died in 1755 he must have retired from business and was living in College Yard. He left his High Street/Lich Street property to his brother Philip, also a joiner, and then to Philip's son, Francis. It is recorded in his will as 'my messuage … being in the High Street (called or known by the name of the Old Coffee House)…'. He seems to have made a good thing out of being a joiner for he had land in the county and other houses in St. Michael's parish. He left the other property in the city and county to his three nieces, Susanna, Mary and Margaret, Philip's children, and in addition he left to Mary, 'that oak chest of drawers that parts in the middle that is in my room'. Perhaps he made it and Mary admired it.

In 1768 Jakeman's brother Philip was the tenant (Fig 42), but he also had property in College Yard. Between 1768 and 1799 John Scott held No. 2 and 3 High Street with Mary Newton as copyholder for the corner house to the south. She also held No. 3 Lich Street although it is not clear whether it was still in use as a stable.

At this point a problem arises in the records. In later numbering the corner house remains No. 1 High Street but there were three houses built on the yard behind in Lich Street, nos. 1, 1A and 3 Lich Street. One of these was the house built by John Biddle in the 17th century when the plot was 55 feet long, by 12 feet wide. 19th century dimensions are given as 46 feet by 13 feet 6 inches. The most likely explanation for the discrepancy is that when both houses were rebuilt, probably in the 18th century, the jetty was under built thereby extending the buildings by 1 foot 6 inches and that after the rebuilding Biddle's 'low roome' became a separate dwelling, with its own lease. A change in the encroachment fine paid to the city in 1769 may suggest that rebuilding was taking place at the time. There is no direct information as to when, or in what order, the rest of the yard was infilled. This affects the numbering at the west end of the street.

Extrapolation from Grundy's 1794 directory (which uses a different numbering system; Fig 43), puts John Scott a tailor as trading from No. 1 High Street, the corner house. Charles Mitchell, staymaker, was in No. 19 Lich Street (No. 1) and separated from John Hare at No. 15 Lich Street (later No. 9) by three houses, including No. 16 (7), the house of John Bluitt, salesman, and No. 17 (5) occupied by Charles Yarnold, a glazier. No name is given for No. 18 (3). This implies that by this date the properties between the corner and No. 5 were complete.

At the time of the 1841 (Fig 43) census a shoemaker, John Cole, was at No. 3 and he remained there for at least another 10 years. He and his wife Martha took in a series of lodgers. In 1852 the Ecclesiastical Commissioners recorded the corner site as the shop held by James Darke and 4 years later by his widow. The occupant was a Mrs Bury. It was then three storeys high at the back entrance, built of brick and tile in fair repair. It had been rebuilt 14 years previously.

When a lease of the property was made in 1852 the corner house was recorded as extending 46 feet east as far as the premises of John Cole shoemaker, that is as far as the 20th century No. 3, implying that Lich Street numbering in censuses and directories in the mid-19th century may have started at No. 3, which they called No. 1. This is very confusing. It certainly indicates that, prior to the first part of the 19th century, two more houses were built on the plot that had once belonged to John Biddle, completing the street frontage, and that yet another renumbering had taken place.

To resolve it one must start further down the street (Fig 44), and work backwards starting with George Rose, a builder at No. 9 which ties up with the Ecclesiastical Commissioners survey. It also fits with the deeds for No. 11, which at the end of the 19th century, place George Rose's property to the west of William Marshal, a dairyman who occupied No. 11 well into the 20th century.

No. 2 High Street and No. 5 Lich Street (20th century numbering)

Primary references for this property are as follows:

- Bentley's Directories
- Church Commissioners, Dean and Chapter of Worcester St Helens Survey map 9895 F
- Littlebury's Directories
- WAAS 009: 1 BA 2602/25, 61
  899.77 BA 8004/2
- Will — Elizabeth Parton, WAAS BA 3585 1574/102
- Worcester Cathedral Library A 184 Book of Houses
- Worcestershire Historical Society Parliamentary Survey

John Parton was the wealthy tenant of No. 2 High Street. His frontage on the High Street was 11 yards and his ground stretched back parallel with Lich Street for 30 yards. Part way down, he had an access to Lich Street, a yard on which a stable was built. This became No. 5 Lich Street (Fig 42).

John died in the influenza epidemic of 1558; no will or inventory has been found for John himself but his wife Elizabeth left a probate inventory, listing the items in her house in 1574 (Fig 50). These included large numbers of 'pots' of all kinds in her kitchen and buttery and luxury goods in a shop.

In 1649 the tenant was another wealthy man, William Child (Fig 42). The entry in the Parliamentary Survey expressly mentions the stable in Lich Street and 'the backside' leading to the said stable. Child was followed by John Belson and Gerrard Thurston, both wealthy men; Thurston was a Doctor of Physick. Mary Thurston rebuilt the High Street house after her husband's death.

In 1782 Edward Lowe, a mercer, had the High Street house, including the former stable. In 1799 the tenant of the whole plot was John Scott and he held it together with a tenement

'formerly demised and described as a stable', then in the occupation of Ann Rouse, which lay between Mary Newton's property on the west and that of William Moore, excise officer, on the east (Fig 43).

In 1830s John Norman, a stone mason lived in No. 5 Lich Street (Fig 43). He seems to have had no son to inherit his business so that when he died he stipulated in his will that his foreman, John Hiron, should have the option of buying his scaffolding and tools at a fair price. The census records imply that John Jennings, another stone mason, was there in 1841. His household consisted of his wife, Sarah, and four children, Prudence, John, David and Sarah Reece, perhaps his wife's children from an earlier marriage. Another stone mason, James Dance, and his wife Betsy also lived on the premises.

By 1885 No. 5 was taken over by Dr Woodward, whose house and clinic were on the other side of the road, and used as a stable. His successor in the practice, Dr Till had the stable in 1900. It then became part of the stores for A O Mainwaring's grocery business. Apart from a brief occupation as Mrs Parsons cycle stores in 1922, it seems to have been empty for much of the early 20th century (Fig 44).

No. 7 Lich Street (20th century numbering)

Primary references for this property are as follows:

- Bentley's Directories
- Grundy's Directories
- Littlebury's Directories
- WAAS b009:1BA 2601 /9, vols 97944 p2, 97946
  b496.5 BA 9360 B10
  899.77 BA 8004/2
- Worcestershire Historical Society Hearth Tax Collectors' Book

No occupants have been found for this plot prior to the 1649 Parliamentary Survey which places a John Jewkes on the site. He was followed 30 years later, first by Richard Adney, who paid for 2 hearths in 1678 and then by Richard Hunt (Fig 42). By this time the plot behind No. 7, originally a garden, had been built on and was occupied by Richard Shakell and other tenants.

Nothing more is known of the plot until the mid-18th century when a glover, George Mence, held the property. Joseph Yarnold, a glazier, one of a family of glaziers who lived in the area, seems to have held the lease in 1776 but another glover, John Smith, appears to have been his tenant, paying the city for a step and a projecting window. He was followed by a third glover, John Palmer, who lived there in 1782. According to Grundy's directory the next occupant, in 1794, was John Bluitt, a salesman.

At this point the property came into the hands of William Moore another salesman (Fig 43), possibly by a mortgage (before banks were in regular use, traders often borrowed money using the house as security). Moore was also an excise officer. He probably lived further down the street.

During the first half of the 19th century the property was held by a shoemaker John Lewis (Fig 43), but by 1865 when the Ecclesiastical Commission surveyed it, the tenant was Frederick Wadley. There were two rooms on the ground floor of the house and four upper rooms. It was, though built of brick and tile, very old and in very bad repair.

No. 9 Lich Street (20th century numbering)

Primary references for this property are as follows:

- Bentley's Directories
- Church Commissioners, Dean and Chapter of Worcester St Helens Survey map 9895 F
- Grundy's Directories
- Littlebury's Directories
- WAAS 009:1 BA 2602/25, 61, 82
- Will — John Hare, WAAS Will 14th Feb 1789
- Worcester Cathedral Library A 184 Book of Houses
- Worcestershire Historical Society Parliamentary Survey

No. 9 Lich Street can be accurately identified by the unusual measurements, 4½ x 16 x 3⅝ yards. They appear first in the Parliamentary Survey and then in the Book of Houses, an abstract of all property held by the Dean and Chapter in the city in the 1760s and 70s, and finally in the survey made by the Ecclesiastical Commissioners in 1865. A good run of deeds also survive for No. 11 Lich Street and this provides sufficient information in the form of abuttals to fill in the gaps for No. 9.

In 1649 Jane Buller held the copyhold (Fig 42). Typically, no subtenant was named. The house itself was tiny, consisting of 'one room below and another above'. Often such descriptions can be augmented from information about adjoining houses, but in this case this was only one of several properties, some of them adjacent to each other, that the Bullers and their neighbours the Streets held in the area.

In the first part of the 18th century the lessees were the Taylor family and the abuttals for No. 11 show that, in the 1720s, they had sublet to a glover, George Mence (Fig 42). He was followed by Jeremiah Rhodes and then there is a big gap in the sequence until, in 1768, John Hare took the lease. In 1768 John Hare married and presumably settled the house on his wife Mary. The trustees for the settlement, who appear in the lease, were Timothy Bevington and James Fell, both prominent members of the Society of Friends. It is therefore likely that John Hare was also a Friend.

John Hare was a 'salesman' (Fig 43), probably a wholesale dealer; such men travelled the country buying goods not available in the city and selling items produced in Worcester. His will, made in 1780, when he claimed he was 'of sound and disposing mind', stated that he left his 'dwelling house with outbuildings, yard and backside garden and other appurtenances… in Leech Street to 'his present wife' Mary and then to his daughter Sarah'. Sarah had married a Joseph Adams of Birmingham, further evidence that John Hare had interests outside

Worcester. The house was 'now in my own Possession held by virtue of a lease granted by the Dean and Chapter of Worcester'. Sources give the measurements of the property as 4½ yards on the Lich Street front, 16 yards in depth back to front, and 3⅝ yards at the north end. It is surprising to note that despite his extensive business interests Hare signed his will with a cross. Perhaps he was too ill to write his name: if he was, he recovered and lived until 1789 when his will was probated. His wife probably continued the business as Hare is still listed in Grundy's directory as occupying the property in 1794.

In 1856 No. 9 was leased by a Joseph Burden, but, by 1865, when the Ecclesiastical Commissioners made their survey, the lease had been taken by George Rose (Fig 43), a builder who owned several properties in the area. At first he seems to have rented it out and it was then described as an old tenement with 5 rooms up and 2 down, brick and tile, in bad repair. Sometime before 1881, George had moved into No. 9 and in 1881 was living there with his wife, Sarah, an unmarried daughter, Mary, who was a schoolmistress, and an 18 year old son, Harry, described as a mason. It is to be hoped that, between them, repairs on the house were effected. The Rose family were not there long: George and his wife were already in their 60s and he died in 1885. In 1900 John Starkey, a shoemaker, traded from No. 9 (Fig 44). The same year James Hill, an engine driver, moved in. After that it seems to have gone downhill with a charwoman (1905) and a waiter (1912) in the property.

Individual properties on the south side of Lich Street

No. 1 and No. 2 College Street (19th and 20th century numbering)

Primary references for this property are as follows:

- WAAS BA 3585/815/2814
  496.5 BA 9630 Cab 11/31
- Will — Thomas Lewis St. Mich. 21st May 1668
- Will — Alexander Cameron, salesman, 1776, WAAS 705.745 BA 6119
- Worcestershire Historical Society Parliamentary Survey
  Hearth Tax Collectors' Book

The earliest information about these properties dates from 1649 when Thomas Lewis rented a house on the plot that became No. 1 College Street, next to Philip Tinker at No. 2 Lich Street (Fig 45). He was probably the Thomas Lewis, a cordw, who died in 1668 leaving a will dated May of that year. According to the Parliamentary Survey his property only measured 12 x 30ft and it may well have been only part of the plot. His house consisted of four rooms, with kitchen and shop downstairs and two chambers upstairs. Despite the small size of his property it was comfortably furnished with curtained beds, cupboards and coffers. He had 21 pairs of boots in the shop and a number of skins. He left all this to a kinsman, Stephen Lewis of Redditch.

Nevertheless, the Hearth Tax places a Peter Lewis, perhaps Stephen's son, in the corresponding position in 1678 (Fig 45). Peter held the copyhold of No. 1, and probably No.1a and passed it to his sons Thomas and Theophilus. A tenant, John Hatchman, lived at No. 1 and Peter himself occupied No. 1a. In 1704 it went to Thomas, son of Theophilus and his wife Mary, and he had the property in 1712. After Mary's death the copyhold was granted to Samuel Malpas, a whitesmith, who lived opposite, but Thomas continued to have a stake

in the property, a ‘reversion’ which considerably complicates the tracing of ownership. The Lewis’s probably let the house to tenants and we have no knowledge of these families apart from a William Rawlins and a William Gwill, both of whom had once held the house.

In 1735 Malpas sold the copyhold to David Morgan (Fig 46), a tailor, who rebuilt the property. He and his wife Jane had a son Joseph and a young cousin of Jane’s, Ann Jarvis was living with them when he died in 1739. In his will he left the house to his son, an annuity of £2 to Ann and to his wife, 40s, the best bedstead, a chest and a looking glass, a table and six chairs, linen and cooking utensils, enough ‘other necessaries’ to furnish a room ‘as she shall choose’. It appears she was to have her own room in Joseph’s house. Other documents suggest that David Morgan had property elsewhere in Lich Street and possibly in Edgar Street.

Joseph Morgan was a salesman and tailor — a salesman was probably a ‘dealer’, not only making clothing in his workshop and selling his own products to other retailers but buying items not available in Worcester for other customers. Joseph Morgan had three daughters, Ann, born 1750, Mary in 1753 and Letitia, in 1754. He seems to have done well out of his trades, holding a number of properties which he left to his daughters. He was also able to leave £400 to each of the elder two girls. Ann was to get his great silver tankard, Mary was to receive the lesser silver tankard, and Letitia his silver pint and his watch. His wife Elizabeth got the rest of the estate. She out lived him by 20 years and seems to have carried on the tailoring business. She dealt with a number of wholesalers, ordering materials, such as linen, Dowlas and Cordureen, which were sent to her at Lich Street. The American Wars of Independence interrupted trade and made shipping hazardous. Baker, Griffin and Baker, Bristol shippers, were unable to fulfil her order from the Americas ‘for want of convoy’.

In 1777, Archibald Duncan, who ‘travelled’ in hops for a William Dowding in St. Nicholas Parish, employed Elizabeth Morgan to mend a great coat, to make him two linen waistcoats and a pair of corduroy breeches with pockets, and a ‘suite’ of blue cloth. Duncan also bought a second hand grey suit from a cousin of Elizabeth’s mother in law, Ann Jervis, who lived next door in one of the houses attached to College Grates. The contact was fruitful in more ways than one. The following year Archibald Duncan married Ann Morgan and two years later the Dean and Chapters court baron granted the family property to Duncan as his wife’s inheritance.

The property was subsequently sold to George Gillam who left it to his wife Phoebe and their son Timothy, and it was at this point that the property was pulled down as part of the road scheme for improving the access to the city. This was proposed and organised by the Commissioners for the London and Upton on Severn Turnpike, who bought up the houses on either side of the entrance from the High Street to the cathedral, the College Grates, pulled down the ancient gateway and redeveloped the ground on either side.

The redeveloped houses, advertised in a poster (Fig 51, upper), on the east of the old gateway were in place by 1807 and were known as Nos. 1 and 2 College Street, although they were contiguous with No. 1 Lich Street. No. 1 was the home and shop of Samuel Pettifer, grocer, and had at the rear a 16 x 18ft parlour, a large kitchen and five large bedrooms. The site continued as grocery and provisions premises for another 100 years. No. 2 was tenanted first by a Mrs Bough and then by a Mrs Marks, both milliners. It was a more modest house with three bedrooms, a ‘neat’ dining room and a stone paved kitchen and two upper floors containing bedrooms.

By 1839 Henry Bennett had this house and the adjacent houses. When the lease was next sold in 1867 No. 1 was empty and No. 2 was offices belonging to solicitors (Fig 51, lower).

No. 2 Lich Street (20th century numbering)

Primary references for this property are as follows:

- Bentley's Directories
- Littlebury's Directories
- Will — Elizabeth Moreton, 008.7 BA 3585 23rd March 1771
- Worcester Cathedral Library — A 184 Book of Houses; 496.5 BA 9360 Cab 11/31; 009:1 BA 2636/7
- Worcestershire Historical Society — Parliamentary Survey; Hearth Tax Collectors' Book

In 1649 No. 2 Lich Street was a copyhold property leased to Rev Philip Tinker, the cathedral precentor (Fig 45). He had a house on College Green, so must have leased this house to tenants. Like Thomas Lewis's house next door it was small: a little shop, a kitchen, two chambers and a little yard. The plot was tiny, only 11x 30ft and cannot be related to later mapped plots at this end of the street. Probably like the Lewis house it was only part of a larger plot.

According to a tax roll in the Bishop's archives James Moreton was Philip Tinker's tenant in 1692. By 1712 George Scarret was the lessee and a James Moreton still lived there (Fig 45). He was a tailor, one of a number of tailors who traded from this row of houses in the 18th century. He was followed by a series of copyholders and then, in 1752, by another Moreton, Thomas, who apparently lived in the house and who left the property to his widow, Elizabeth (Fig 46). By this time the house had been subdivided, with a John Harris, a barber, living in the part next to the churchyard.

Elizabeth died in 1771, leaving her house, the lease of which had been assigned to her, to her married daughter, Elizabeth Stevenson. No. 2 Lich Street was part of the redevelopment of the west end of the street and information about the property at the end of the 18th century is not available.

In 1839 the leases of No. 2 Lich Street and Nos. 1 and 2 College Street were granted to Henry Bennett (Fig 47), theatre manager of the Theatre Royal, as part of an investment package

Before 1841 the consortium, which included Henry Bennett, rented No. 2 Lich Street to John Hope (Fig 47), a shoemaker who employed two journeymen. He continued to live there until his death and was followed by his widow Ann. In 1871 the house fronting Lich Street was tenanted by a Mr Griffiths, having formerly been inhabited by George Harper. These seem to have been brief tenancies for by 1874 the house was occupied by a painter, Benjamin Jones. By 1884 Dr Woodward was living in No. 4, and No. 2 was Public Vaccination Rooms, presumably part of his surgery. Both these properties became part of Mrs Parsons Refreshment Rooms.

No. 4 Lich Street (20th century numbering)

Primary references for this property are as follows:

- Bentley's Directories
- Church Commissioners, Dean and Chapter of Worcester St. Michael's Survey 32371 map 9923 E
- Littlebury's Directories
- WAAS 496.5 BA 9630 Cab 11/32
  009:1 BA 2602 68
- Will — William Higgins 8th May 1762
- Worcester Cathedral Library A 184 Book of Houses
  A 146 Book of Maps
- Worcestershire Historical Society Parliamentary Survey
  Hearth Tax Collectors' Book

At the time of the Parliamentary Survey the copyhold for this house was held by Thomas and Francis Smith (Fig 45). It was then described as having a shop, a kitchen, with two little chambers over, a loft and a coal yard on a plot that measured 11 x 30ft. Like the two properties to the west this seems very small; later information, and particularly a plan of 1752, suggests that the measurements are not for the complete property. The copyhold was then granted to Daniel Hughes, a lawyer, who was the cathedral steward (Fig 45).

By 1712 it seems that Matthew Boulton, one of the series of tailors trading in the area in the 18th century, was living in the house and in 1728 it was described as 'lately divided' and tenanted by Thomas Clark and Thomas Wright. By that time the property had come into the hands of a John Pitt, whose son in law, John Callow, inherited the property when he married Pitt's daughter. Figure 52 shows the property divided between Mr Higgins (Lich Street) and Mr Callow (churchyard) in 1753.

In 1752 the property was described as a yard, occupied by Joseph Mitchell, staymaker (Fig 46). In 1766 the Callows, absentee landlords who lived in Banbury and Bristol, surrendered the lease to Edward Wheeler. In that lease the measurements of the messuage yard and backside, still in the tenure of Joseph Mitchell, are given as 10 x 6ft 8in, but the frontage on the churchyard side as 19ft 4in and the sides as 14ft 6in.

William Higgins, who died in 1762, was the father of Thomas Higgins who lived at No. 4 in 1766 Fig 46). William was a 'salesman' and left 'his stock in trade' and his horse, a telling touch, suggesting his travelling lifestyle, to his granddaughters Ann, Elizabeth and Charlotte. John Harris, the barber who in 1762 lived behind Elizabeth Moreton at No. 2, had married Elizabeth Higgins, 'the girl next door'. She and John were William's executors. William left his house to his son, Thomas, and his silver watch to John Harris. Ann Higgins who was Thomas' widow continued to hold the house at least until the beginning of the 19th century.

Ann probably died by 1809 when the lease was granted to a John Leaborne Hopkins of London. His tenant was Thomas Skinner. Joseph Mitchell, staymaker, occupied the house to the south.

Before 1853 this yard 19 x 14ft 6in had been converted into a kitchen, leased to a Thomas Hyde and sublet to a Mr Wollons. Nine years later it was described as a brick and tile built house containing a kitchen and one room downstairs and three over, in fair repair. The house on the north (Lich Street) side was then leased separately to John Hill Clifton, the Cathedral Steward, who sublet to George Rose, builder, who rented it out in his turn.

In 1870 Dr Woodward took the property (Fig 47), perhaps related to the copyholder of No. 6 (Thomas Woodward) and set it up as public vaccination rooms (also No. 2). It continued to be used as such until the 1920s when it was rebranded as 'Mrs Parson's Refreshment Rooms'.

No. 6 Lich Street (20th century numbering)

Primary references for this property are as follows:

- Bentley's Directories
- Church Commissioners, Dean and Chapter of Worcester St. Michael's Survey 32371 map 9923 E
- Littlebury's Directories
- WAAS 496.5 BA 9630 Cab 11/32
  716.02 BA3306
- BA 2602/10a passim, 25
- Will — William Higgins 8th May 1762
- Worcestershire Historical Society Parliamentary Survey
  Hearth Tax Collectors' Book

For many years only the copyholder appears in the documents, and this leaves huge gaps in the record. In 1649 the copyholder was Henry Gonderton (Fig 45), who also held a house in Edgar Street. He was followed by various members of the Blurton/Cooksey family who lived at the White Ladies and held a number of houses in Lich Street. It was occupied in 1660 by Bernard Hopkins and afterwards, in 1693, by John Butler, but it is not known whether either of these lessees actually lived there. There is some indication that Hopkins actually leased the house next door on the east.

In 1752 the property came into the hands of Rev Thomas Thomas and by 1762 was described as two tenements (Fig 46), now Mr Thomas, occupied by John Hare, and Samuel Pembridge. Samuel Pembridge was allowed to occupy part of the property in his capacity as lay clerk; John Hare was a 'salesman' who subsequently moved across the road to No. 9. Sometime after that the property was held by John Green.

In 1841 a Mrs Lillington and a Thomas Woodward of Ledbury took the copyhold of No. 6 (Fig 47), then still described as between Daniel Hughes' west, and Quirenius Wynnen east (the abuttals for this site in the late 17th century). This extraordinary anomaly, despite causing initial confusion, has allowed the property to be traced back to the earlier period. Throughout

this time the Cookseys continued to have a stake in the property. The cathedral authorities were only interested in their lessees who paid the actual rent for the property and it has proved impossible to find the actual inhabitants for the late 18th/early 19th century.

When the Ecclesiastical Commissioners took a survey in 1862 the house was described as old, of indifferent repair and built of brick and tile. By this date the property was divided with Thomas Fisher in the house facing the churchyard and William Hughes, a shoemaker employing two men, in the Lich Street property (Fig 47).

From 1884 to 1912 No. 6 was the dwelling of William Teague, a woodturner, and it then became the back entrance to the Faithful City Café (Fig 47), the main building declining into a warehouse.

In 1923 a City Health Department official wrote of No. 6 Lich Street: 'I found that an old warehouse in Lich Street immediately next to the Diocesan Registry (St Michael's Church) was in a complete state of dilapidation with an accumulation of refuse etc, on each floor and is infested with rats … the premises are the harbour of the rats in the neighbourhood.' A builder, Joseph Wood, offered £20 for the property to take it down and remove it.

Social status in Lich Street from the 13th to 20th century

Although little is definitely known about the 13th/14th century houses on Lich Street something can be deduced from the measurements of the houses given in the deeds. One property in the hands of John Pidele was 39ft long and extended along the street frontage from the Lich Gate, while the property of John the Goldsmith was 41ft on the street frontage. On this plot he had a house and four shops. If the shops, as one would expect, faced the street, each would have been about 10ft wide, like the shops which at the time stood in front of the Guildhall (WAAS BA 9360 Cab 14/42; see also the authors report on the Guildhall for Worcester City Council 2005). Other goldsmiths had property in the area so it seems that in the 14th century this was an affluent neighbourhood. It is noteworthy that they and other trades in the area, Andrew the painter in Lich Street, John Lord the glazier in Palace Yard and Henry de Bredford, mason, would probably have benefitted from the proximity of the cathedral (Worcester Cathedral Library B1020, B1310).

In later centuries, particularly the 17th century, the houses were mostly small, 18–20ft wide and, where such details are available, with two rooms downstairs and several upper rooms, arranged on either one or two floors above.

The Parliamentary Survey identifies three houses which were particularly small, two 12 x 30ft and a third 11 x 30ft. These are apparently on the site of what became Nos. 1 and 1a College Street and No. 2 Lich Street. The dimensions suggest a terrace of three very similar houses and it is difficult to fit the measurements into the later street scene. Nevertheless the documentary evidence is clear that these three properties lay at the south-west end of Lich Street and the names of occupants are totally consistent with the later deeds. We are forced to assume that the measurements only apply to part of the plots. Deductions based on measurements alone can be very misleading.

Sometimes, particularly when the wife was widowed, the back part of the house was leased out, as in the cases of Elizabeth Moreton and John Harris at No. 4, and Elizabeth Morgan and

Ann Jarvis, both running tailoring businesses at No. 1 College Street. With a timber-framed house this was structurally easy. It did not necessarily, at least in the 18th century, imply poverty.

Most of the people who lived in the houses on the south side of the site seem to have been tradesmen working for themselves and comfortably circumstanced; the Morgans at No. 1 College Street and the Moretons at No. 4 Lich Street were tailors; the Higgins at No. 6 were 'salesmen'. All left wills. Joseph Morgan in particular was quite affluent, holding other property which he let out and leaving substantial sums to his daughters. He also had other income, working as a salesman like a number of other men in the area. A salesman at this date seems to imply a dealer who travelled, selling his own or other people's manufactured goods and buying materials not available in the city. See BA6119, a deposit that records the winding up of Alexander Cameron's drapery sales business on his death in 1776. Cameron bought cloth of all kinds, some from abroad, and sold to the tailors in Lich Street.

The north side of the site (Nos. 1 High Street, Nos. 1, 3, 5, 7, 9 Lich Street) in St Helen's parish was slightly different. John Biddle's long thin property (described in 1649) on the corner with High Street, with the stable at the east end, was gradually developed to produce a continuous frontage on that part of Lich Street. The evidence suggests that the process was not complete until the 19th century, probably because the Rea's 18th century joinery business which occupied the property needed the space. There were two other stables and yards to the east of Biddle's. Both belonged to houses in High Street and they too were developed between the late 17th and 19th centuries.

Although there is evidence of poverty in 17th century Lich Street — Stephen Beck, who lived at the east end of the street claimed exemption from the 1678 hearth tax on the grounds that he was a 'very poore man, and hath a great charge of children' (Worcestershire Historical Society E179/201/317/1 Volume 1/118) — it seems to have been a mixed area, both socially and economically. The end adjoining the upper part of High Street and College Yard probably contained the most affluent residents.

This began to change at the start of the 19th century, and by the middle of the century many of the houses were described in the survey made by the Ecclesiastical Commission as in poor repair. Even No. 6 Lich Street, where William Hughes shoemaker employed two journeymen, was described as old, brick and tile built and in 'very indifferent repair'. It is probable that the small tradesmen, tailors, shoemakers and glovers, working for themselves, the traditional tenants of these houses, were being driven out of business by factory made goods. Nos. 1 and 1a College Street had been rebuilt in the early 19th century however, in the wake of the introduction of College Street, and were large and 'modern' structures, occupied by a grocer and a solicitor.

Artefacts

Laura Griffin

The assemblage recovered from the site totalled 894 finds weighing 48.22kg (Table 3). In addition, 18 pieces of stone building material, too heavy to weigh, were also retrieved and are reported on as a group below (section 7.9). The majority of material could be dated to the medieval period and later, but with small amounts of Roman and late Saxon material also identified. The level of preservation was good, with finds displaying low levels of surface abrasion.

Period	Material class	Object specific type	Count	Weight (g)
Roman	ceramic	pot	53	806
Roman	ceramic	oven	1	135
Roman	ceramic	tile	1	8
Roman	stone		1	115
Roman	iron	nail	1	3
Roman	iron	object	4	1
Roman	slag		46	2063
Roman	glass	cullet	1	26
?Roman	glass	vessel	3	2
late Saxon/early medieval	ceramic	pot	3	55
medieval	ceramic	pot	102	1374
medieval	ceramic	floor tile	1	528
medieval	ceramic	roof tile(flat)	40	2378
medieval	ceramic	ridge tile	5	115
medieval	ceramic	roof tile (undiag)	3	8
late medieval/early post-medieval	ceramic	pot	60	2078
late medieval/early post-medieval	ceramic	floor tile	1	274
late medieval/early post-medieval	ceramic	roof tile(flat)	24	5478
late medieval/early post-medieval	ceramic	roof tile (undiag)	5	247
late medieval/early post-medieval	ceramic	tile	1	1016
late medieval/early post-medieval	bone	antler	2	36
late medieval/early post-medieval	glass	vessel	21	190
late medieval/early post-medieval	glass	window	1	11
late medieval/early post-medieval	copper alloy	?stud	1	1
late medieval/early post-medieval	copper alloy	buckle	3	19
late medieval/early post-medieval	shell	mussel	2	8
late medieval/early post-medieval	shell	oyster	2	24
post-medieval	ceramic	pot	72	1853
post-medieval	ceramic	brick	2	3000
post-medieval	ceramic	clay pipe	50	122
post-medieval	ceramic	marble	1	6
post-medieval	glass	object	1	1
post-medieval	bone	spoon	1	3
post-medieval	?pewter	?lid	1	17

Period	Material class	Object specific type	Count	Weight (g)
post-medieval	copper alloy	thimble	1	1
post-medieval	copper alloy	coin	1	13
post-medieval	copper alloy	fitting	1	5
post-medieval	iron	?hinge	1	1
post-medieval	iron	nail	1	51
post-medieval	lead	object	2	2
post-medieval	lead	window came	1	15
post medieval/modern	ceramic	?drain	1	202
modern	ceramic	pot	119	3453
modern	ceramic	roof tile	1	10
modern	ceramic	roof tile(flat)	1	270
modern	ceramic	tile	7	1092
modern	ceramic	brick	6	13750
modern	ceramic	drain	2	
modern	ceramic	insulator	2	58
modern	ceramic	object	1	38
modern	concrete	roof tile	1	206
modern		mortar	1	11
modern	glass	marble	2	14
modern	glass	pyrex	1	6
modern	glass	vessel	99	5522
modern	glass	window	1	5
modern	copper alloy	badge	1	7
modern	copper alloy	coin	1	2
modern	copper alloy	object	1	4
modern	copper alloy	pins	6	1
modern	copper alloy	fitting	1	8
modern	iron	hook	2	148
modern	iron	nails	81	154
modern	iron	object	2	11
modern	iron	spacer	1	6
modern	tin	lid	3	18
modern	metal	bottle top	1	3
modern	metal	misc	3	339
modern	plaster	mould	2	462
modern	plastic		1	1
modern	plastic	bead	1	1
modern	rubber	bottle stopper	2	40
undated	fired clay		1	8
undated	slag		1	90
undated	shell	mussel	1	1
undated	shell	oyster	6	89
undated	shell	oyster	3	57

Period	Material class	Object specific type	Count	Weight (g)
undated	lead	strip	2	33
undated	copper alloy	stud	1	1
undated	copper alloy	tube	1	1

Table 3: Quantification of the assemblage

Roman

Material of Roman date amounted to 109 finds weighing 3,132g. The majority of this was residual, but four contexts (1229, 1238 1326 and 1382, part of context group CG71) could be assigned a Roman *tpq* date.

Pottery

Roman pottery amounted to 53 sherds (806g), the majority of local Severn Valley ware production (fabrics 12, 12.1 and 12.2) but supplemented by smaller amounts of other wares, including samian (fabric 43), Black-burnished ware I (fabric 22) and early micaceous ware (fabric 21.3). In addition, a single sherd of Dressel 20 amphora (fabric 42.1) was also identified. The sherds were particularly notable for the high level of preservation, being extremely hard with finely burnished surfaces (Table 4).

Diagnostic sherds indicated the Roman assemblage to be 2nd century and later. Identifiable forms primarily consisted of jars, all in Severn Valley ware fabric and of narrow-mouthed form. In contrast, all diagnostic Black-burnished ware I appeared to come from bowl/dish forms, although due to the small size of the assemblage, it is not possible to draw any meaningful conclusions from this. One Severn Valley ware jar rim was highly fired and warped (Fig 53, 1), indicating a possible waster (ie from production). Due to the warping being confined to the rim, it may be that this vessel was still usable and, therefore, representative of domestic use rather than the presence of a production site in the vicinity.

Fabric code	Fabric name	Total	Weight (g)
12	Severn Valley ware	28	376
12.1	reduced Severn Valley ware	4	78
12.2	oxidised organically tempered Severn Valley ware	4	219
21.3	early micaceous ware	5	19
22	black-burnished ware, type 1 (BB1)	8	46
42.1	Dressel 20 type	1	53
43	Samian ware	2	2
43.2	central Gaulish samian ware	1	13

Table 4: Quantification of the Roman pottery by fabric type

Glass

Vessel glass

A small fragment of fine pale blue/green vessel glass was identified as Roman in date, although residual within the fill of a post-medieval drain (context 1317, CG92). A further two fragments were retrieved from an environmental sample (context 1382, CG71; sample 4).

Glass production waste

A lump of fused glass fragments identified as a probable cullet was also thought to be Roman in date (context 1311, CG98). Similar material was identified within the assemblage from nearby Deansway, where there was evidence for glass working during the 2nd–3rd centuries (Cool and Jackson 2004, 449). The material from that site was found in both blue/green and colourless glass and it is possible that the cullet from Cathedral Square relates to this industry.

Other finds

Remaining Roman material consisted of fragments of tap slag (from smelting) and one fragment of preformed oven material.

Late Saxon

Although no contexts of Late Saxon date were identified, three sherds of unstratified pottery were retrieved and attest to activity of this date in the vicinity (Table 5).

Pottery

Two sherds of Stafford-type ware (fabric 48) cooking pot and one sherd of glazed Stamford-type ware (fabric 46.2) were identified. The Stafford-type ware included a large piece of well-preserved rim typical of the ware-type, being decorated with a band of diamond-shaped roller-stamping (Fig 53, 2). Both the rim and the body sherd in this fabric have discoloured and blackened external surfaces, most likely resulting from use over a fire. An almost identical form was retrieved from the Deansway excavations, dated late 9th–mid-11th century (Bryant 2004, 316). A base sherd from a glazed Stamford-type jar was also burnt. Vessels of this fabric from Worcester are commonly dated to the 10th–11th century.

Fabric code	Fabric name	Total	Weight (g)
46.2	Glazed Stamford type ware	1	6
48	Stafford-type ware	2	49

Table 5: Quantification of the late Saxon pottery by fabric type

Medieval

Material of medieval date totalled 151 finds weighing 4403g and could be dated between the late 11th and early 15th centuries. The majority of these finds (88%) were from stratified contexts, and 48% came from contexts securely dated to the medieval period (see Table 3). The assemblage almost entirely comprised pottery and ceramic building material.

Pottery

A total of 102 sherds weighing 1374g were identified as being of medieval date, accounting for 25% of the pottery assemblage (Table 6). As with the Roman assemblage, the level of preservation was good, with low levels of abrasion even amongst the unstratified sherds and those retrieved from disturbed contexts.

Due to the small size of the excavated area and restrictions to depth of excavation, phasing of this site is confined to relatively broad periods in comparison to those of similar date across the city. However, despite these limitations, the assemblage can still be seen to broadly fit the general patterns for pottery supply and consumption in medieval Worcester.

The assemblage was of a standard domestic nature with a relatively narrow range of forms and fabrics identified. The vast majority of the assemblage consisted of locally produced Worcester-type (fabrics 55 and 64.1) and Malvernian wares (fabrics 56 and 69). Other fabrics identified in small amounts included Cotswolds limestone-tempered ware (fabric 57), Brill-Boarstall ware (fabric 63) and a single fragment of imported Saintonge ware (fabric 120).

Locally produced wares

Pottery of this period was dominated by locally produced wares, primarily of Worcester-type and Malvernian fabrics. In total, 95% of the medieval assemblage analysed comprised four local fabric types: unglazed Worcester-type ware (fabric 55), unglazed Malvernian ware (fabric 56), sandy glazed Worcester-type ware (fabric 64.1) and oxidised glazed Malvernian ware (fabric 69). All of these fabric types have been described, dated and discussed at length by Hurst and Rees (1992; Upwich, Droitwich), and by Bryant (2004; Deansway, Worcester). The range of forms identified was narrow, with cooking pots dominating the group.

Worcester-type sandy unglazed ware (fabric 55)

Sherds of Worcester-type sandy unglazed ware (fabric 55) formed the largest proportion of the medieval pottery analysed (48%). Diagnostic sherds were all from thickened, everted rim cooking pot forms (Deansway type 55.3; Fig 54, 3). Typologically, this is the latest cooking pot form of Worcester production, with examples from Deansway indicating production from the start of the 12th century until the mid-14th century and a definite peak in supply during the 13th century. The marked decrease in the number of these vessels identified with deposits of the mid- and late 14th centuries in both Worcester and Droitwich is thought to result from the increase in availability and popularity of metal cooking pots at all levels of society (Le Patourel 1968; Bryant 2004, 290). A large number of the sherds displayed blackening and soot deposits characteristic of this type of vessel.

Glazed Worcester-type sandy wares (fabric 64.1)

Sherds of this fabric formed 13.7% of the medieval pottery assemblage. All had a dark green glaze characteristic of vessels this fabric, and a number of sherds also displayed roller-stamping and/or incised decoration. Although small and largely undiagnostic, the group included two sherds thought to come from relatively unusual forms. The first of these was a sherd with a white-slipped interior surface and green glazed exterior decorated with diamond-shaped roller stamping. The slip indicated the sherd to have come from a bridge-spouted

jug (unstratified; Deansway type 64.1.4.2) of 13th–14th century date. Sherds of this form have been found nearby in deposits relating to Worcester Cathedral crypt, where they were given a *terminus ante quem* of 1250 (Bryant 2004, 296).

The other sherd of note was a thick base sherd in a very coarse fabric reminiscent of medieval roofing tile of Worcester production (context 1103, CG29; Fig 54, 5). The sherd had a dark olive green glaze to both surfaces, including underneath the base, and was decorated with a roughly scored linear chevron pattern which extended to the very bottom of the vessel walls. The underside of the base was distinctive, not only for being glazed but also for a use-wear pattern which indicated it to have been repeatedly moved against another surface. The interior glaze also displayed some wear. All of these above features appear to be consistent with this base being from a ceramic mortar form (MPRG1998, form 10.22). If this base is indeed from a mortar, it is of particular note due to this being a rare ceramic form nationally, with this type of vessel usually being of stone or metal. It is certainly the only known example of Worcester production. Unfortunately, as the sherd was residual, it is not possible to date this object any more closely than the 12th–15th century.

Remaining sherds were undiagnostic but included body sherds thought to come from jug, jar and pitcher forms, as well as a heavily sooted base tentatively identified as coming from a dripping dish (unstratified).

Unglazed Malvernian ware (fabric 56)

A total of 15 sherds (14.9%) of this fabric were identified, ten of which came from a single vessel. All were from cooking pot forms and, as in the case of the Worcester-type cooking pots, displayed external sooting and blackening. Two forms could be identified; the first being a common short everted folded rim type (Deansway type 56.3; context 1128) of mid-13th–14th century date. The other (context 1031) was more unusual, having a slight lid seat similar to those more commonly seen on Worcester cooking pots (Fig 54, 4). The closest parallel for this vessel came from the Upwich assemblage (Hurst and Rees 1992, fig 71, 15) where it was dated 13th–14th century.

Oxidised glazed Malvernian ware (fabric 69)

Just 19 sherds (18.6%) of this fabric could be dated to the medieval period, with the majority retrieved being more typical of later medieval/early post-medieval production (see section 7.4 below). This follows a pattern seen in assemblages from across the city and clearly reflects the decline of the Worcester potting industry in the mid-14th century and the resultant dominance of Malvernian wares.

Very few diagnostic sherds were present within this earlier group, consisting primarily of handles thought to come from jug forms of 13th–15th century date (contexts 1112, CG29; and 1204, CG15) and the base of a bowl dated late 13th–14th century (Deansway type 69.1; unstratified). All sherds were decorated with a glossy glaze (usually speckled but sometimes green throughout) characteristic of this fabric type.

Non-local wares

Only a small number of non-local sherds were identified and were of fabric types previously identified within medieval assemblages from Worcester. The earliest of these sherds was a

highly abraded, residual fragment from an early 11th–12th century Cotswolds unglazed ware cooking pot (fabric 57; context 1330, CG93). Further non-local sherds of definite medieval date consisted of two jug sherds, one of Brill-Boarstall ware (fabric 63; context 1201) and the other of Saintonge ware (fabric 120; context 1313, CG97).The Brill-Boarstall was decorated with an applied strip characteristic of this ware type and could be dated 13th–14th century. The Saintonge ware was highly abraded but displayed a thin yellowish glaze and traces of red slip and is thought to come from a jug of late 13th–14th century date. This type of pottery was produced in south-west France, and presumably linked to the trade in wine. This ware has previously been found in small quantities on other sites in Worcester (Bryant 2004, 322).

Fabric code	Fabric name	Total	Weight (g)
55	Worcester-type sandy unglazed ware	49	567
56	Malvernian unglazed ware	15	177
57	Cotswolds unglazed ware	1	2
63	Brill/Boarstall ware	1	9
64.1	Worcester-type sandy glazed ware	14	226
69	oxidized glazed Malvernian ware	20	635
99	miscellaneous medieval wares	2	11
120	Saintonge ware	1	20

Table 6: Quantification of the medieval pottery by fabric type

Ceramic building material

Roof tile

A total of 46 fragments of medieval roof tile were retrieved from the site falling into three main fabric groups; common sandy type (fabric 2a), coarse sandy type (fabric 2b) and Malvernian type (fabric 3). The first two of these fabrics were produced in Worcester, the majority being in fabric 2b, with just five fragments of Malvernian tile present (Table 7).

Fabric number	Fabric name	Count	Weight (g)
2a	Worcester common sandy type	11	505
2b	Worcester coarse sandy type	29	1655
3	Malvernian type	5	150
0	unidentified	1	1

Table 7: Quantification of the medieval roof tile by fabric

The dominant tile fabric 2b amounted to 63% of the assemblage, thereby following a pattern noted from a number of other medieval assemblages from the city, including at Friar Street (Griffin 2002), City Arcade (Griffin 2004a) and Deansway (Fagan 2004). However, although 2b is the dominant fabric type, it is clear that it is closely allied with fabric 2a both in provenance and date, with evidence pointing to tiles of both fabrics being contemporary and produced on a range of kiln sites across the city between the 13th and 15th centuries. The group was too small, however, to make any meaningful comment on diagnostic features in relation to fabric type. Examples of square peg holes were recorded in both fabric types (context 1313; CG97 and

unstratified) and no nibs were identified at all. All examples of both fabric types were sanded and ranged between 13–18mm in thickness. No pieces were complete enough to provide a measurement of full length or width.

Tiles of Malvernian fabric consisted of three ridge tile fragments (contexts 1300; 1311, CG98; and 1313, CG97) and one piece of flat tile (context 1311; CG98). As typical for tiles of this fabric type, all had a thin green glaze on the upper surface, were unsanded and thinner than those of Worcester production, ranging between 10–15mm thick.

Residuality for the medieval roof tile was low and those which were largely came from contexts dated between the later 15th and 17th century. However, it should be acknowledged that this pattern is largely a result of the small size of assemblage recovered.

Medieval buildings were represented on site by a small number of surviving wall foundations but the low quantity of medieval roof tile on the site does not necessarily indicate that these were thatched rather than tiled. Indeed, the finds assemblage from the 1965–66 Lich Street excavations included a roof finial in the form of a hunting dog (Dunning 1968, 51), indicating the presence of at least one tiled roof during the 13th–14th century. The shortage of medieval roof tile could have been the result of the post-medieval redevelopment along Lich Street.

Antler

Lucet

A piece of worked fallow deer antler, (identification by Terry and Sonia O'Connor, pers comm), was identified as a possible lucet (context 1110). The object was in two adjoining pieces but measured 155mm in length. The antler tine had been cut to make a double prong and had a small hole drilled further down the shaft, 15mm below the base of the 'Y' (Fig 54, 6).

A lucet is an implement used for the making of square-sectioned braids/cords. Such cords served a variety of purposes during the medieval and post-medieval periods but were particularly useful for securing garments in the absence of later fastenings such as hooks and eyes, the closure of bags and purses and for suspending a variety of everyday objects such as pomanders, from the waist, as was common in the medieval period and later (Groves 1973).

Examples of lucets from archaeological contexts are rare but they are known from Anglo-Scandinavian and medieval levels at Coppergate (Walton-Rogers 1997, 1790), and there is an Anglo-Saxon example from Thetford (Rogerson *et al* 1984). Another possible example from York, fashioned from an antler, was identified as a lucet because the tips of the tines appear to have been worn (MacGregor *et al* 1999). This was heavily decorated in a 9th to 10th century style.

Examples take a variety of forms, with it being noted that 'almost any two-pronged object can be used as a lucet to produce a square-section braid' (Walton-Rogers 1997, 1790; Hald 1970, 42–3), and this may well account for the shortage of published archaeological examples and the tentative identifications. What evidence is available suggests that lucets were at a peak in the earlier medieval period, with use decreasing in the later 12th–13th centuries. However, it would appear that there was a renewed popularity in their use during the 17th century, with examples still fairly commonplace in the Georgian and Victorian periods (Barrett nd).

Dating the example from Cathedral Square is, therefore, not that straightforward. The object itself is from a layer dated mid-17th–18th century by associated finds, which would tie in well with the purported increase in lucet use in the post-medieval period. However, this layer was largely unexcavated, with the antler coming from the surface of it; given the high levels of residuality on the site it could well have been made earlier and redeposited in a later context.

Late medieval/early post-medieval

Material of late medieval or early post-medieval date totalled 123 finds weighing 9,382g (Table 3) and could be dated between the late 15th and mid-17th centuries. The majority of these finds (75%) were from stratified contexts, but nearly all the pottery was residual. The assemblage was made up almost entirely of pottery and ceramic building material. Included within the assemblage for this period were a number of well-preserved, relatively high-status finds from contexts associated with a pit (contexts 1244 and 1333, CG69) at No. 5 Lich Street, possibly in a stable or yard area. All could be dated between the late 16th and first half of the 17th century and are discussed in more detail below (see section 7.8.4).

Pottery

A total of 81 sherds weighing 2410g were identified as being of late medieval/early post-medieval date, accounting for 19.8% of the pottery assemblage (Table 8). Once more, the level of preservation was generally good with low levels of abrasion, even amongst the unstratified and residual sherds.

Composition of the group was similar to that seen in the medieval period, with locally produced wares still dominating, albeit all of Malvernian production by this date. In contrast to earlier material, the non-local and imported wares are made-up almost entirely of more specialised forms/table-wares, with cups dominating the diagnostic sherds in the group.

Locally produced wares

Oxidised glazed Malvernian ware (fabric 69)

The high proportion of oxidised glazed Malvernian wares in this group (62%) reflects the regional dominance and expansion of this industry during this period, with distribution stretching as far afield as the south of Bristol and along the coast of South Wales by the early 17th century (Vince 1977, 286). Despite the high number of sherds in this fabric, the range of forms was relatively narrow, with flared bowls (Deansway type 69.9; contexts 1128, CG30; 1201; 1333, CG69; and unstratified; Fig 55, 13) being the most common, supplemented mainly by jars/bunghole jars (Deansway type 69.8; contexts 1313, CG97; and unstratified; Fig 56 10). However, the wider variety of more specialist forms produced during this later period of production can be seen in the presence of two cups (Deansway type 69.11; unstratified) and two chafing dishes (Deansway type 69.12; unstratified).

Non-local wares

Southern white ware including Tudor Green and Border ware (fabric 70)

A total of eight sherds were identified as Southern white ware. Diagnostic sherds indicated there to be three lobed cups of 15th to 16th century date (contexts 1147, CG34; and 1330, CG93). Sherds of this ware-type are regularly identified in small amounts in assemblages from across Worcester, with lobed cups being the most common form-type.

Brown glazed speckled ware (fabric 72)

A total of 27 sherds of this fabric were identified within the assemblage. This fabric is a distinct variation of the more common post-medieval red ware (fabric 78) and as the name suggests is characterised by a high-fired red fabric and glossy brown glaze with white speckles. Examples from elsewhere in Worcester have indicated the range of forms produced in this fabric to be narrow, consisting primarily of tygs and cups, supplemented with smaller numbers of other forms such as jars and jugs (Jacobs 2015, 122). Vessels of this fabric type appear to have a narrow date range of late 16th–17th century: for example, a two-handled tyg (context 1244, CG69), and with the majority of body sherds being from drinking vessels (context 1379 and unstratified).

In addition, a very unusual example a chafing dish was also identified (context 1049, CG31; Fig 56, 9). Chafing dishes are rare in this fabric type with the only other examples found locally coming from Hereford (fabric A7D; Vince 1985). This particular rim was also unusual for being of a form more commonly associated with vessels of oxidised glazed Malvernian ware, where they are dated late 16th–early 17th century (Bryant 2004, fig 188, no11).

Post-medieval red ware (fabric 78)

This is a long-lived fabric type commonly found on nearly, if not all, post-medieval sites in Worcester, and ranging in date from the late 16th–late 18th/early 19th century. Earlier examples of this range are similar in form to those seen in brown glazed speckled ware (fabrics 72), and are characterised by a highly fired fabric and a lustrous black glaze. It includes the rim of a lobed cup similar to those more commonly identified in Tudor Green ware (context 1108, CG44).

Anglo/Dutch tin-glazed ware (fabric 82)

Two well-preserved but small sherds of tin-glazed ware were retrieved from a closely dated pit at No. 5 Lich Street (fabric 82; context 1333, CG69; Fig 55, 12). They were thought to be from an *albarello* (drug jar) (Duncan Brown, pers comm), and displayed decoration similar to that seen on vessels of South Netherlands production (Allan 1999, 164). However, although sherds of Dutch production have been previously identified in Worcester (Bryant 2004, 328), they are very rare. It is, therefore, more likely that these two sherds are examples of early English tin-glazed ware, coming from Bristol or London (Duncan Brown, pers comm).

Imported wares

Frechen stoneware (fabric 81.10)

The only definite continental import from the site was a Frechen stoneware globular jug (context 1244, CG69). This form is the most commonly identified type seen in Britain and can be dated 1550–1650. This example was in excellent condition with over half of the vessel surviving intact to give a complete profile (Fig 55, 11). It was decorated with a brown salt glaze on the external surface and wire marks on underside, both of which are features characteristic of this ware type.

Fabric code	Fabric name	Total	Weight (g)
69	oxidised glazed Malvernian ware	37	1475
70	southern white ware	8	22
72	brown glazed speckled ware	27	378
78	post-medieval red ware	4	98
81.10	Frechen stoneware	2	421
82	tin-glazed ware	2	15
99	miscellaneous medieval wares	1	1

Table 8: Quantification of the late medieval/early post-medieval pottery by fabric type

Ceramic building material

Roof tile

A total of 30 fragments of late medieval/early post-medieval roof tile were retrieved from the site. All were of Worcester grog/pellet type fabric (fabric 2c), a distinctive fabric are known to have been produced in Worcester from the late 15th century onwards (Miller *et al* 2004). The fabric of these tiles clearly represents a change in the source of clay for the industry during the later medieval period (Fagan 2004). This change also coincided with an expansion of the roof tile industry in the city relating to a 1466 ordinance which required all houses within the city to have tiled roofs (VCH IV, 387). Tiles of this fabric continued to be produced until at least the first half of the 17th century, as evidenced by the excavation of a kiln on the St Martin's Quarter site (Griffin 2014).

Where surviving, all flat tiles in this later fabric type were nibbed. This is consistent with evidence from other assemblages in Worcester, including known production sites such as that on The Tything (Griffin 2004b) and at St Martin's Quarter (pers obs) and in contrast to the acknowledged development of tile forms, with nibbed tiles having been superseded by peg tiles across most of the country by 1500 (Drury 1981, 131; Fagan 2004, 345). All examples were sanded and thickness was extremely variable, ranging between 12–23mm. The most complete tile within the group measured 168mm in width.

As with the earlier group of roof tiles, the small size of this assemblage may reflect the redevelopment of properties along Lich Street in the post-medieval period. It is also possible, however, that it is a product of site strategy involved machine excavation of the majority of cellar infill, most of which contained a considerable amount of tile. As mentioned above, the ordinance of 1466 required roofs within the city to be tiled from this point onwards. It would

seem that this was slow transformation, with further ordinances issued in 1496 and as late as 1584 (Dyer 1973, 206) but nonetheless, it is clear that a far larger number of late medieval/ early post-medieval roof tiles would have been used on the site than is reflected in the excavated assemblage.

Floor tile

In addition to roof tile, two fragments of floor tile were retrieved from the site (unstratified and context 2015). Both were from decorated tiles with identifiable designs and could be dated to this period.

The first was identified as a Canynges-type design (Eames 1980, design no2973) having parallels in the well-known Canynges Pavement which now resides in the British Museum. The tile measured 23mm thick, had a worn upper surface, slightly bevelled edges and a sanded base (Fig 56, 8). Canynges-type tiles have been found across the county both *in situ* in churches and within excavated assemblages.

Petrological analysis by Alan Vince in the 1980s indicated that they were produced in Worcestershire and most probably Worcester itself, which was then just starting to be considered as having had a significant tiling industry (Vince 1984, 298). Since then, evidence of this production has been found in the form of a number of kilns excavated on various sites across the city and, most significantly, a kiln at 9–10 The Tything (Miller *et al* 2004) which produced two waster fragments of tiles with a Canynges design. Archaeomagnetic dating of the kiln structure, as well as analysis of the fabric of the many roof tiles from which it was made, indicated that this production site was in use during the later 15th century; a date which would tie in with that of the Canynges pavement. Therefore, this discovery would indicate that Vince was correct in his assumption that Canynges tiles were indeed produced in Worcester, and their production can now be specifically associated with this site on The Tything between 1440 and 1480.

The design of the other tile (context 2015) has parallels from Hailes Abbey, which would indicate it to be of either Gloucestershire or west midlands production (Eames 1980, design no2770). As with the above example, the upper surface was abraded, the edges were bevelled and the base was sanded (Fig 56, 7). There were also traces of mortar on the base and around the sides indicating use in a pavement. When complete, the tile would have measured 135 x 135mm and 28mm thick.

There is little that can be said about the original location of the floors that these tiles were derived from. However, the stratified fragment came from a late medieval graveyard soil in what was the lay cemetery and within the cathedral precinct, so it may have come from either the cathedral itself or the original parish church of St Michael in Bedwardine.

Vessel glass

All of the vessel glass of this date was retrieved from the pit associated with 5 Lich Street (CG69; see section 7.8.4). It consisted of 21 shards, which appeared to be from four individual vessels. All could be dated between the 16th and the first half of the 17th century. Such an assemblage is very rare for Worcester, with little vessel glass of this date previously identified. The fact that it was found in a pit alongside a number of well-preserved pottery vessels makes this a highly important group of finds.

Globular flask with optic-blown vertical ribs (Fig 57, 15)

Two pieces of this vessel were identified; the neck and rim and the base. They were found in separate contexts within the pit (context 1244 and 1333) but were clearly from the same vessel. This vessel was made of potash glass and was heavily patinated. The base was a simple push-up form with an obvious pontil scar. As per the form name (Willmott 2002, type 20.2), the neck was decorated with optic-blown vertical ribs and the rim was everted. The base sherd indicated that the vessel was ovoid rather than rounded in horizontal profile.

These vessels are one of the most commonly found types in the 16th to mid-17th century and show a continuation in form from the late medieval period into the early post-medieval. They are thought to have been used as containers for all types of liquids, including wine in the absence of specialised wine bottles (Willmott 2002, 79).

Plain pedestal flask (Fig 57, 16)

Seven shards of very fine, blown ?soda glass (context 1244) were identified as coming from a plain pedestal flask (Willmott 2002, type 22.1). Fragments included a complete folded pedestal base and the neck and rim of the flask which, although very fine, was unevenly formed. A further nine very small fragments retrieved from an environmental sample (sample no4) are also thought to be from this vessel.

Vessels of this form are widely distributed across England and come from a variety of domestic sites. They are generally 16th to early 17th century in date, although if this example is indeed made of soda rather than potash glass, that would push the dating of this particular example back to the early 16th century (Willmott 2002, 82).

Undiagnostic globular flask (Fig 57, 17)

A further push-up base shard and with a pontil scar was also identified as coming from a globular flask form (context 1244). This was also in potash glass and almost identical to the base of the example described above but more rounded in profile.

?Small flask or phial (Fig 57, 18)

This small base was in a bluish potash glass with a sharp kick (context 1244).

Window glass

In addition to the vessel glass, a fragment of green potash window glass was retrieved from the same pit (CG69; Fig 57, 19). The fragment was roughly triangular, possibly shaped for use in a leaded window. Some faint linear marks could be observed but as with the potash vessel glass, this piece was heavily patinated, obscuring the original surface, and therefore it was not clear whether these were decorative or resultant from deterioration of the glass.

Post-medieval

Material of post-medieval date totalled 135 finds weighing 5,089g, dating to between the 17th and 18th centuries. Once again, the majority of these finds (71%) were stratified and 30% came from contexts securely dated to the post-medieval period.

Pottery

A total of 72 sherds weighing 1,853g were identified as being of post-medieval date, accounting for 17.6% of the pottery assemblage (Table 9). In contrast to the medieval and late medieval/early post-medieval assemblages, only a very narrow range of fabric types were identified and all were non-local.

North Devon gravel-free ware (fabric 75.1)

A total of 10 sherds of this fabric type were identified. Sherds of North Devon gravel-free and its closely allied gravel-tempered variant are found within most post-medieval assemblages from Worcester, albeit in fairly small amounts and a restricted range of form types. Three forms could be identified within this assemblage: a barrel-shaped jar (context 1379, CG43; Fig 58, 20), a flared bowl (unstratified) and the base from a heavily sooted cooking pot (unstratified). All were glazed internally. A similar range of forms were identified at Newport Street, Worcester, where they were dated 17th to early 18th century (Jacobs 2015, 122).

Post-medieval red ware (fabric 78)

This is the most commonly identified post-medieval fabric type in Worcester, where it often comprises as much as 70% of the post-medieval assemblage. Vessels of this ware were largely utilitarian and produced in a wide range of forms between the late 16th and late 18th/ early 19th centuries. Post-medieval red wares were produced at a number of production sites across the country. However, the most likely sources for those found in Worcester are Wednesbury and Stoke-on-Trent (Staffs).

This ware type accounted for 65% of the post-medieval assemblage from the site. Although the majority of sherds were undiagnostic, a variety of forms could be identified, the most common being large bowls/pancheons (contexts 1012, CG8; 1298, CG88; 1319, CG94; 1401, CG9; and unstratified). These were supplemented by a small number of jars (context 1023, CG9; and unstratified) and a well-preserved butterpot (context 1201) similar to an example identified at Newport Street, Worcester (Jacobs 2015, fig 5.8, no12). All were decorated with a dark brown/black glaze characteristic of this ware type. In addition, sherds of a press-moulded dish form with inlaid slip decoration were also present (context 2002, CG5), predominantly late 17th to 18th century in date.

Post-medieval buff wares (fabric 91)

Forms of this fabric type are closely associated with those of the later 17th–18th century post-medieval red wares. Once more, this fabric is a common component of post-medieval assemblages from Worcester, albeit in a smaller quantity than the red wares. Frequently identified forms include flared bowls/pancheons, jars and press-moulded dishes. Although just six sherds were identified within this assemblage, all but one were diagnostic and included two press-moulded dishes with slip decoration (context 1110 and unstratified) and a flared bowl with a dark brown/black internal glaze (context 1103, CG29).

Tin-glazed ware (fabric 82)

Two sherds from tin-glazed dish were identified as being of 17th century date and most likely of English production (context 1276, CG13). The sherds had painted blue decoration and the glaze had a pinkish tinge. Sherds of this fabric have been previously identified in a small quantity, as here, from a number of sites in Worcester.

Fabric code	Fabric name	Total	Weight (g)
75.1	north Devon gravel-free ware	10	413
78	post-medieval red ware	33	974
82	tin glazed ware	2	17
91	post-medieval buff ware	6	117

Table 9: Quantification of the post-medieval pottery by fabric type

Ceramic building material

Ceramic building material of post-medieval date consisted of two bricks. Both were samples taken from structural remains and included one from a well (context 1234, CG68) and another from a construction cut (context 1237, CG68), both associated with No.3 Lich Street. These were dated to the 18th century, with the first measuring 4.5 x 2in and the second 4.5 x 2.25in. The latter also had a cat's paw print impressed into the surface.

Clay pipe

A total of 50 fragments of clay pipe were retrieved. All but two fragments were undiagnostic stems and datable only to the general post-medieval period. However, two spurred bowl fragments could be more closely dated. The first was 1660–80 (context 1356; Oswald 1975, Fig 4, G, 18) and the second was of the same form but slightly earlier dating 1640–70 (unstratified; Oswald 1975, fig 4, G, 17). There were no stamps within the group.

Pipemakers are recorded in Worcester from the second half of the 17th century (Peacey 2015, 182) and it is, therefore, highly likely that a number of the examples retrieved from this site were produced locally. Records show that this local industry continued well into the mid-19th century and, therefore, some of the 48 stem fragments from this site are possibly post-18th century in date.

Metalwork

Metalwork dated to this period consisted of a lead window came (unstratified), an illegible copper alloy coin (context 1012, CG8), a copper lock plate furniture fitting (unstratified), a small brass thimble and dressmaking pins (context 1273, CG81), and a cast ?pewter vessel lid (unstratified).

This latter object was the most interesting, having traces of moulded decoration and looking similar in form to 17th–18th century examples identified elsewhere (see https://finds.org.uk/database/artefacts/record/id/205161). The size of this example at approximately 50mm in diameter might indicate that it originally came from a lidded drinking vessel.

The thimble was a closed type and measured just 12mm tall and approximately 35mm in circumference at the base. The small size would suggest it was for use by a small child. The indentations as very fine, indicating use with a fine gauge needle and, although the crown is more heavily corroded, it also appears to have indentations, indicating a post-medieval date (Holmes, nd). Six copper alloy dressmaking pins were retrieved from the same context. Unfortunately, this context contains a mix of burnt material in a firebox and it is not possible to identify that these objects relate to the people such as the Morgans at No. 1 College Street or the Moretons at No. 4 Lich Street, who were recorded as running tailoring businesses during the mid-18th century (see section 6.5).

Other finds

Bone spoon (Fig 58, 21)

A complete bone spoon (?18th century) was retrieved from the cellar backfill of No.2 Lich Street (context 1032, CG9). The object is nicely formed, but small at 120mm long, with a shallow oval bowl (40 x 17mm) and a thin sub-rectangular handle tapering to a flattened expanded terminal. The bone itself appears finely worked with highly polished surfaces.

Spoons made out of organic materials were used instead of silver spoons at a lower social level, particularly during the later post-medieval period (https://finds.org.uk/database/artefacts/record/id/278563).

Glass object

Glass of post-medieval date consisted of a small green glass bead with a copper alloy loop threaded through the middle (unstratified); this was either part of a bead necklace or a small, decorative button.

Modern

Modern finds formed 39% of the assemblage, totalling 352 finds weighing 25.63kg. A large proportion of these finds was stratified (83%) and could be dated between the late 18th and 20th centuries.

Pottery

Pottery totalled 119 sherds (3,453g), largely retrieved from backfill deposits in structural features such as cellars. Although the assemblage has been fully recorded, it was not analysed in detail but used primarily to inform the site phasing and dating of individual features. Fabrics and forms were recorded to broad types, a summary of which is provided below. The bulk of the group consisted of modern glazed wares (fabrics 83, 84 and 85) in a variety of common tableware forms including cups, dishes, plates, bowls and jugs.

Only a small amount of creamware (fabric 84), totalling five sherds was identified. Diagnostic sherds came from plate/dish forms and included one with moulded decoration around the rim (context 1375, CG50) and another with a dark blue, scalloped edge characteristic of this ware type (context 1317, CG92). Creamware was at its height in the second half of the 18th century with the potteries of Staffordshire, most notably Wedgewood, producing the ware

in large quantity. However, a number of smaller production centres are known; this includes Kidderminster, where the recent discovery of biscuit-fired waters and possible saggar material indicate production in the vicinity of St Mary's Church (Williams 2014, 23).

The porcelain (fabric 83) assemblage amounted to 25 sherds, once more in a variety of commonly identified forms including cups, plates and dishes. The group included biscuit-fired sherds from the nearby Royal Worcester Porcelain factory (fabric 83.1; contexts 1292, 1306, 2004). These included sherds which appeared to have been glaze test pieces, similar to examples previously identified within the assemblage from St Martin's Quarter, Worcester (pers obs). A large piece of white plaster, thought to be a mould for porcelain, was also identified (context 2004, CG5). The earliest vessel in this group was a fine tea bowl, hand-painted oriental-style design (context 1029, CG58). It was thought to be of Worcester production and dated mid–late 18th century.

Modern china (fabric 85) formed the largest group. Vessels of this fabric were generally of white body and decorated in a variety of colours and patterns, the majority being transfer printed rather than painted. The most interesting sherds in this group included a sherd of mocha ware with characteristic dendritic decoration (context 1298). Vessels of this type were at the height of their popularity between the late 18th and mid-19th centuries.

A near complete 'Horlicks' mixer jug was retrieved from the cellar backfill of No.3 College Street (context 1098, CG9). The jug had instructions for mixing the drink printed on the front and small dots to indicate proportions of powder to liquid on the internal surface. This particular example is thought to be roughly contemporary with the demolition of Lich Street in the mid-20th century.

As well as tablewares, there was also a small amount of more utilitarian porcelain in the form of a roughly formed candlestick (context 2004, CG5), a biscuit fired disc with a conical profile and central perforation possibly used as an insulator (also context 2004, CG5), and a rectangular insulator marked 1952 (context 1171, CG11).

In addition to the modern glazed ware, there were also 15 sherds from stoneware bottles, jars and ink bottles. Most were unmarked and therefore grouped as miscellaneous (fabric 81.4) but one had a mark indicating it to be of Dulton Lambeth production (unstratified) and a small number had glossy salt glazed characteristic of Bristol production (Table 10).

Fabric code	Fabric name	Total	Weight (g)
81.3	Nottingham stoneware	1	71
81.4	miscellaneous late stoneware	13	658
81.5	white salt-glazed stoneware	1	10
83	porcelain	13	235
83.1	Worcester porcelain	16	298
84	creamware	5	93
85	modern china	51	1,644
101	miscellaneous modern wares	19	444

Table 10: Quantification of the modern pottery by fabric type

Ceramic building material

Building material included four bricks sampled from modern walls and two from the infill of a well shaft (contexts 1206 and 1211, CG101). Those from walls include one from a later addition to No. 2 Lich Street (context 1045, CG39) and three from cellar walls in No. 4 Lich Street (context 1030, CG53), No. 3 College Street (context 1094, CG23) and No. 1A High Street (context 1178, CG61). However, although the dating of these walls places them firmly in the modern period, it doesn't necessarily date the bricks themselves, with the dimensions similar to those of definite 18th century date, indicating that they may well have been reused.

Tile included Victorian encaustic floor tiles (unstratified) and glazed wall tiles with relief decoration and marked 'S.F.Co.' which were retrieved from the demolition deposit of No. 3 College Street (context 1098, CG9), and possibly originate from a nearby public house.

Vessel glass

Modern vessel glass comprised 99 pieces, including a number of complete or near-complete examples. The group was dominated by bottles, with a small number of jars and other domestic vessels present.

Bottle glass

A total of 86 pieces of bottle glass including 12 complete examples were retrieved. A number of these complete bottles were late 19th–20th century drinks bottles, labelled with the contents and/or name of the bottler. These included examples from the 'Bromsgrove Mineral Water Co.', 'Bennetts Dairy' and 'Radford Hall Brewery'. The earliest example in this group (early 19th century; unstratified) was a dark brown bottle base with a high kick and pontil mark.

In addition to bottles, there were three marbles thought to be from Codd bottles and a small number of stoppers. These stoppers included two from beer bottles, one marked 'H.E.THORNLEY, LEAMINGTON' (unstratified) and the other 'Allsopps Burton on Trent' (context 1012, CG8). There was also a distinctive bluish green glass stopper with a ground shank (unstratified) which would have allowed a good tight fit and indicates that the vessel for which it was made would have contained liquid. There were also two cosmetic bottles, one in colourless glass with moulded decoration, probably for perfume, and a small square bottle of green glass with a sheared rim (both unstratified).

Other vessels

Other vessel glass consisted of two pieces of jar, including the lid of a kilner jar marked 'KILNER BROS LTD MAKERS', which could be dated late 19th–20th century (context 1023, CG9).

There was also a moulded glass jelly ramekin, which had a registered number 872703 on the bottom (context 1112, CG29). They were decorated with facets around the sides and a 'Tudor Rose' design in the base. It was probably one of a set and would have held 150ml of jelly. The registered number of this object dates it to 1954–55 and, therefore, it would have belonged to one of the last inhabitants of Lich Street. A cut glass punch glass from the same area of the site would be of similar date (context 1103, CG29).

Metalwork

An assemblage of 95 metal objects was retrieved from modern contexts, the majority being fragments of iron nails and coming from a single context, the infill of a firebox (context 1273, CG81).

Copper Alloy

The copper alloy objects consisted of a small chain link (unstratified), a George V farthing (context 1098, CG9) and a military badge (unstratified). Although unstratified, this badge was very well preserved and identified as being a Military Police 'Redcap' badge dated 1936–46, so-called because the cap of this corps was scarlet in colour (Fig 58, 22. In addition, two gas lamp fittings were also thought to be of either copper alloy or bronze (context 1023, CG9).

Iron

The majority of iron objects were nails or parts of nails, with 75 coming from a single context identified as the fill of a firebox (context 1273, CG81). These nails have been grouped as modern due to the fill of this feature being largely made up of demolition debris. However, a small number of more diagnostic finds were identified as post-medieval, including the thimble discussed above, and, therefore, it is highly possible that some of the nails are of earlier date. Other iron objects included two large hooks (context 1098, CG9) with pointed ends.

Aluminium

This group was made up of some of the latest objects to come from the site. It included an aerosol can and a bottle top (context 1098, CG9) and two 'Jiffi Jelli' peel-off lids and a small tin of 'Fresh'n-up cosmetic pads' (context 1112, CG29). These latter two items were both popular around the time that Lich Street was demolished.

Other finds

The bottom section of what appears to be a highly decorated Victorian stoneware toilet was also retrieved (context 1379, CG43) and is thought to have originated from either one of the public houses known to have stood on Lich Street or the café located at No. 5 College Street.

Catalogue of the illustrated artefacts (Figs 53–8)

Roman

1. Jar in oxidised Severn Valley ware (fabric 12), *cf* Webster 1976 type 4, 2nd–4th century. Unstratified.

Late Saxon

2. Jar in Stafford-type ware (fabric 48), *cf* Deansway fig 194, 7–9, 10th–11th century. Unstratified.

Medieval

3. Cooking pot in Worcester-type sandy ware (fabric 55), *cf* Deansway type 55.3, 12th–mid-14th century. Context 2001, context group CG7.

4. Cooking pot in unglazed Malvernian ware (fabric 56), cf Upwich fig 71, no15, 13th–14th century. Context 1031.

5. ?Mortar in glazed Worcester-type sandy ware (fabric 64.1), no identified parallels, ?13th–14th century. Context 1103, CG29.

6. ?Lucet made of fallow dear antler, no identified parallels, ?medieval. Context 1110.

Late medieval/early post-medieval

7. Decorated floor tile, *cf* Eames 1980, design no 2770, 14th–15th century. Context 2015.

8. Decorated floor tile, *cf* Eames 1980, design no 2973, late 15th century. Unstratified.

9. Chafing dish in white speckled brown glazed ware (fabric 72), *cf* Deansway type 69.12, late 16th–17th century. Context 1049, CG31.

10. Jar/bunghole jar in oxidised glazed Malvernian ware (fabric 69), *cf* Deansway type 69.8, 15th–16th century. Unstratified.

Group of finds from No.5 Lich Street (CG69)

11. Globular jug in Frechen stoneware (fabric 81.11), *cf* Gaimster 1997 fig 3.53, no 804, AD1550–1650. Context 1244, CG69.

12. Body sherds from ?albarello in Anglo-Dutch tin-glazed ware (fabric 82.3), no direct parallels, early–mid-16th century. Context 1333, CG69.

13. Flared bowl in oxidised glazed Malvernian ware (fabric 69), *cf* Deansway type 69.9, late 15th–early 17th century. Context 1333, CG69.

14. Cup/tyg in white speckled brown glazed ware (fabric 72), early–mid-17th century. Context 1244, CG69.

15. Spout and base of a potash glass globular flask with optic blown vertical ribs, *cf* Willmott 2002, type 20.2, 16th–mid-17th century. Contexts 1244 and 1333, CG69.

16. Spout and folded pedestal base of a soda glass plain pedestal flask, *cf* Wilmott 2002, type 22.1, 16th–mid-17th century. Context 1244, CG69.

17. Base of a ?globular flask in potash glass, 16th–mid-17th century. Context 1244, CG69.

18. Base of a ?conical vial in blue potash glass, 16th–mid-17th century. Context 1244, CG69.

19. Fragment of potash window glass. Context 1244, CG69.

Post-medieval

20. Barrel-shaped jar in North Devon gravel-tempered ware (fabric 75.1), *cf* Evans 1979, no45,

mid–late 17th century. Context 1379, CG43.

21. Bone spoon with a shallow oval bowl and a thin sub-rectangular handle tapering to a flattened expanded terminal, ?18th century. Context 1032, CG9.

Modern

22. King George VI Military Police cap badge, 1936–46. Unstratified.

Discussion of the artefacts by period

Period 1: Roman

A limited number of Roman deposits were identified, but these provided a good range of material.

The pottery of this period indicated a 2nd century date for the deposits. Although the pottery assemblage was small, the fabric types identified broadly followed the established pattern for Worcester with locally produced wares dominating.

Period 2: Medieval (late 11th–late 14th/15th century)

Just over 33% of the medieval assemblage came from contexts within Period 2, clearly reflecting the high levels of residuality seen in the assemblage as a whole. The majority of finds came from medieval soils but a small group of pottery came from contexts associated with No. 5 Lich Street (CG 73 and 74).

The group was made up of 55 sherds of pottery and 17 fragments of roof tile, all of local production. Due to the level of disturbance across the site and the small excavation area, any meaningful interpretation of this material is limited.

The pottery of this period is dominated by sherds of Worcester and Malvernian cooking pot, though with just two glazed vessels being identified. Worcester unglazed cooking pot sherds made up 61% of the pottery from this period, reflecting a peak in the production and dominance of this ware between the 12th and 13th centuries. The absence of any non-local wares within Period 2 contexts is thought to be a result of the issues raised above. Although usually only making up a small proportion of the total pottery, non-local wares are a consistent feature of 13th–14th century assemblages both in Worcester and other towns in the county. Overall, therefore, the identified patterns of medieval pottery deposition are consistent with medieval assemblages from the city at large.

All roof tile was of Worcester production and of the two earlier sandy fabric types (fabrics 2a and 2b). This included one ridge tile (fabric 2a; context 1322).

A small group of residual Roman material consisting of pottery and tap slag was also retrieved from contexts in this period.

Period 3: Late medieval/early post-medieval (late 15th–early 17th century)

Just 18 finds were identified within contexts of this period, including residual sherds of Roman samian ware (context 2015) and medieval cooking pot (context 2001, CG7). The remaining group is far too small for any useful interpretation, although the presence of oxidised glazed Malvernian ware (fabric 69) and Southern white ware (fabric 70), alongside Malvernian ridge tile (fabric 3) and Worcester flat roof tile (fabric 2b and 2c), make this a typical, albeit small assemblage for this period.

Period 4: Post-medieval (early 17th to late 18th/early 19th century)

A total of 183 finds were identified as coming from contexts of post-medieval date, the greater part of which (61%) was not residual. The group was typical of the period with a range of pottery fabrics which clearly illustrate the decline of the Malvernian industry around the mid-17th century (fabric 69), the increased use of non-local glazed earthenwares (fabrics 78 and 91) through the mid-17th and 18th centuries, and the appearance of refined glazed wares in the form of creamwares (fabric 84), porcelain (fabric 83), and china (fabric 85) at the very end of the phase.

Likewise, the ceramic building material also follows the established pattern for Worcester with the dominance of Worcester grog/pellet type fabric (fabric 2c). Other finds characteristic of this period included fragments of clay pipe.

In addition to the general observations, this is also the first period for which artefacts can be related to specific buildings and in some cases, even specific people or businesses. The finds from the area of No. 5 Lich Street are of particular interest.

No.5 Lich Street

The finds relating to No.5 Lich Street were some of the most significant within the assemblage. They were excavated from a pit (contexts 1244 and 1333, CG69) within the plot and formed a group of 62 artefacts, the majority of which could be tightly dated to between the late 16th and early 17th century. Although the finds themselves cross the late medieval–early post-medieval date range, stratigraphically, they could have been deposited at any point between the late 16th and 18th century and so the feature has been dated to the post-medieval period of activity on the site.

The group included the well-preserved glass flasks, the fragment of potash window glass, the Frechen stoneware drinking jug (fabric 81.11), the near-complete black-glazed tyg/cup (fabric 72) and the fragments of Anglo-Dutch tin-glazed ware (fabric 82.3). Other less unusual finds from the pit included sherds of oxidised glazed Malvernian ware flared bowl (fabric 69), a fragment of North Devon gravel tempered ware (fabric75), various sherds of black glazed post-medieval red ware (fabric 78) and fragments of roof tile. Imports and finely made glass, clearly more expensive and luxurious than your everyday cooking and tablewares, appear to have been kept until they were discarded wholesale at some point during the 17th century. These indicate a degree of wealth or status for their owner. Although we cannot be certain who owned these objects, one possibility is Elizabeth, widow of John Parton (see section 6.3), whose 1574 probate inventory lists large numbers of ‘pots’ in her kitchen and buttery, as well as ‘luxury goods’ in a shop. It is tempting to consider whether the glass flasks and imported pottery might be classed as some of these luxury goods and so might represent accidentally

damaged stock. This would correlate well with the late 16th century to early 17th century for a lot of the material, else, otherwise, they were discarded quite soon after their acquisition, which seems a less likely scenario. Unfortunately there is a gap in the records following the death of Elizabeth and the next known tenant of the house is William Child in 1649. He cannot be ruled out as having given rise to this group of finds, though in this case the group might be expected to have contained additional pottery more typical of the mid-17th century, such as Midlands yellow ware (D Hurst pers comm).

Phase 5: Modern

A total of 390 finds were retrieved from contexts of modern date, of which just 28% were residual. A large proportion of this assemblage related to the demolition of Lich Street, being retrieved from the infill deposits of cellars and wells and waste deposits in yard spaces. Therefore, much of the domestic material recovered relates to the latest period of inhabitation on the site and gives an insight into the material culture of this part of Worcester in later 19th–mid-20th century. It is thought that the finds from the various cellar infill contexts are likely to relate to the particular buildings above or adjacent.

The range of pottery was typical of the later 19th–20th century, with a variety of tablewares in the form of porcelain, modern china, the bulk of which was transfer decorated, and a small quantity of creamware. These refined wares were supplemented by a selection of more utilitarian stoneware jars and bottles.

This was the first phase to have significant quantities of vessel glass, mainly in the form of bottles. These were predominantly beer and wine bottles but a small number of medicine and/or cosmetic bottles were also identified. Remaining vessel glass included domestic table wares in the form of an individual jelly mould and a cut glass punch cup, both of which date to the very latest years of occupation along the street.

Other interesting finds relating to the latest occupation included gas lamp fittings and the decorative tiles and decorative stoneware toilet bowl thought to have originally come from one of the pubs which once stood on Lich Street.

There is evidence that Lich Street was falling into some disrepair from the mid-19th century onwards and that the small businesses being run out of the houses were starting to disappear (see section 6.5). While the finds assemblage in many ways is standard for the period, with the exception of occasional fragments of locally produced porcelain, it notably lacks the occasional higher quality items seen in the earlier phase. Therefore, it could be argued that the material culture charts at least some decline in social standing when viewed in a wider perspective.

Architectural and other stonework

Christopher Guy

A substantial amount of stone was recorded in cellar foundations, as well as in demolition deposits and made ground. This included a number of apparently reused pieces of architectural stonework. Items which could be lifted and safely removed from site were retained for analysis and illustration, but other pieces were left *in situ* and have only been analysed based on the information in the site records (drawings, context records, photographs).

Catalogue of stonework (illustrated (Figs 59–62) and non-illustrated)

1. Limestone, c280 x 165 x 90mm
   Fragment of worked limestone probably from a medieval monument. Much of the detail is obscured by mortar from its re-use as infill beneath stairs (context 1222). The decoration is possibly leaf or ball-flower but too badly damaged to be sure. There are no clear tooling marks.
   Registered artefact 1, context 1224, CG65: Figure 59.

2. Limestone, *c*260 x 90 x 80mm.
   Fragment of worked limestone with slight traces of limewash on the worked face. The tooling would suggest a medieval date. It appears to form the rebate for a door.
   Registered artefact 2, context 1224, CG65: Figure 59.

3. Sandstone, *c*190 x 180 x 125mm
   Fragment of worked sandstone. Probably the chamfered jamb of a window. The survival of lime wash on the chamfered face would suggest an internal location. The tool marks would indicate a medieval date. Registered artefact 3, context 1224, CG65: Figure 59.

4. Sandstone, c310 x 200 x 170mm
   Fragment of attached roll moulding with vertical flat fillet down front of roll. Roll 115mm in diameter, fillet 12mm wide. There were originally additional roll mouldings to either side of the surviving roll but these are now missing. The width of the flat fillet would indicate a 13th century date. A comparable moulding may be found on the wall shafts in the quire and Lady Chapel of Worcester Cathedral. Registered artefact 4, context 1001, CG3: Figure 60.

5. Limestone, *c*200 x 190 x 50mm
   Fragment of limestone slab 50mm thick. Good edge on one side but other edges damaged. Remains of a drilled hole originally 25mm in diameter at one end. Mason's setting-out lines on one surface and tooling marks on opposite face. May have been part of a monument. Probably of post-medieval date. Registered artefact 5, context 1001, CG3: Figure 60.

6. Sandstone, *c*230 x 170 x 165mm
   Fragment of attached roll moulding with vertical flat fillet down front of roll. Roll 170mm in diameter, fillet 35mm wide. The roll has been damaged and apart from the bottom bed of the roll no original faces of the block survive. The width of the fillet would suggest a 14th century date. A similar moulding can be found on the piers on the north side of the nave of Worcester Cathedral. Registered artefact 6, context 1001, CG3: Figure 60.

7. Sandstone, *c*330 x 260 x 160mm
   Irregular fragment of sandstone with no surviving worked faces. Registered artefact 7, context 1001, CG3: Figure 60.

8. Limestone, *c*310 x 260 x 175mm
   Part of the head of a perpendicular window or screen. The tracery is badly damaged and no evidence of a glazing slot survives. A mason's scribe line on the top of the block marks the dividing line between the lights. One side of the top of the block has been cut to take a metal cramp to hold this and the adjacent block together. Probably 15th century in date. Registered artefact 8, context 1001, CG3: Figure 61.

9. Limestone, *c*1000 x 450 x 450mm
   Section of octagonal shaft with slightly concave faces. Setting-out lines on one end. Probably part of a pier within the 19th century church of St Michael. Registered artefact 9, context 1001, CG3: not illustrated.

10. Limestone, c.770 x 600 x 600mm
    Section of octagonal pinnacle. Gable on each face containing blind trefoil tracery. Setting-out lines on base with possible saw marks from the cutting of the block. Socket c140mm square on top face to allow for securing next section of pinnacle. Much of the detail is badly damaged. Probably from 19th century church of St Michael. Registered artefact 10, context 1001, CG3: not illustrated.

11. Sandstone, c555 x 330 x 300mm
    Sandstone block, possibly originally part of a weathering course. Good face on one side with remains of medieval tooling marks. Similar marks on one end of block. Other faces either damaged or not visible on photographs. Possibly from a medieval building. Registered artefact 11, context 1001, CG3: not illustrated.

12. Sandstone
    Block of sandstone, partly damaged. No obvious diagnostic features so probably just an ashlar block. Date unknown. Registered artefact 12, context 1296, CG89: not illustrated.

13. Limestone
    Block of limestone with upper edges bevelled and groove cut across top surface to give impression of joint. Surface of stone badly discoloured. May have formed part of pediment above window or door of building in Lich Street in the 18th century. Registered artefact 13, context 1289, CG13: not illustrated.

14. Limestone, *c*200 x 190 x 110mm
    Fragment of cross or crocket from pinnacle. Possibly medieval or post-medieval. Registered artefact 14, context 1023, CG9: Figure 61.

15. Sandstone, *c*310 x 215 x 175mm
    Corner of the base of a tomb or monument. The tooling would suggest a medieval date. It is most likely to have come from within the church of St Michael (or possibly the cathedral) rather than from a churchyard monument. It was found re-used in a cellar wall made up of sandstone blocks. This would imply that the monument was dismantled while the church was still in use, perhaps as part of a post-Reformation re-ordering of the building. Registered artefact 15, context 1398, CG24: Figure 61.

16. Slate
    Shelf built into wall. Registered artefact 16, context 1096, CG25: not illustrated.

17. Sandstone, *c*450 x 190 x 110mm
    Semi-circular fragment of sandstone. Originally *c*.485mm in diameter. The side of the stone has been tooled, suggesting that it may have been a type of millstone known as an edge runner. Most of the faces are covered by mortar, probably from its re-use in wall (context 1367). The re-use of this stone would suggest it was originally of medieval date. Registered artefact 17, context 1367, CG52: Figure 62.

18. Limestone?, *c*240 x 220 x ?mm
    Fragment of worked limestone (?) re-used in cellar wall built mainly of red sandstone blocks and occasional other stones with levelling courses of tile and brick. It is most likely to have

been part of a vault rib. It probably dates from the late 12th century. Registered artefact 21, context 1021, CG58: Figure 62.

19. Limestone?
    Fragment of limestone (?) re-used in cellar wall. Tooling marks can be clearly seen, suggesting a medieval date for its original use. There may have been a chamfer on one side of the block, perhaps indicative of it having been a window or door jamb. Registered artefact 22, context 1092, CG24: not illustrated.

20. Sandstone, 1040 x 410 x 311mm
    Very large sandstone block re-used at base of brick wall in cellar. No obvious diagnostic features. Probably medieval. Registered artefact 23, context 1369: not illustrated.

21. Sandstone, *c*450 x 170 x ?mm
    Large block of sandstone re-used at base of cellar wall. Roughly square socket in what is now the face but was probably originally the top bed of the stone. Some tool marks visible but unclear if these are original or relate to its re-use. Registered artefact 24, context 1377, CG44: not illustrated.

Discussion

The most likely source for many of the fragments of worked stone is the original St Michael's Church, which stood within the precinct of the cathedral, to the north of its east end. The church is first recorded in the 13th century but may have had a pre-Conquest origin. It was demolished in the 19th century.

The fragments of stone that most probably came from St Michael's include pieces 4 and 6. They are both fragments of attached shafts, but the width of the fillet shows that they are of different dates. Both can be paralleled by examples in Worcester Cathedral. Other structural elements that may have come from the church are piece 2 (the rebate for a door), piece 3 (a window jamb), piece 18 re-used in a wall (context 1021, CG58; a vault rib) and piece 19 re-used in a wall (context 1092, CG24; possibly a window or door jamb).

One of the most interesting fragments of stonework likely to have come from the church is piece 8. This is the top of two adjoining tracery lights and probably dates from the 15th or early 16th century. While it may have been part of a window, the absence of a glazing slot suggests that it was part of a screen. If so, it may have divided off part of the church to form a chapel or a chantry.

In addition to the structural stonework, other stone fragments may also have originated from St Michael's Church. These include piece 1, which probably comes from a medieval monument and appears to have been carved with either leaf or ball-flower ornament. This style of decoration would suggest an early 14th century date. Another fragment, piece 15, is the corner of the base of either a monument or a tomb.

Although St Michael's Church was demolished in the 19th century, some of the pieces (1–3 and 15) may have come from a phase of re-ordering within the church. Piece 15 had been re-used in a cellar wall (context 1398, CG24) while pieces 1–3 were within the rubble infill (context 1224, CG65) supporting stairs down into a cellar. Other pieces of stonework were also re-used in cellar walls.

Just before the demolition of St Michael's Church in the 19th century, a new church with the same dedication was built on the north side of College Street. This later church was itself demolished around 1960 and fragments of stonework from it were also recovered during the excavation. These include piece 9, probably part of one of the piers within the church, and piece 10, part of an octagonal pinnacle. Piece 14, a fragment of a cross or crocket, may also have come from the exterior of the 19th century church.

One other piece of stonework deserves mention; this may not have come from a church or associated building. Piece 17 was originally thought to be part of a column. However, it is only 110mm thick, which is very thin for such a purpose. The nature of the tooling round the edge of the stone suggests that it may have been a type of millstone known as an edge runner. These stones are set vertically and are used for crushing various substances. The presence of tooling indicates that it is unlikely to have been a grindstone used for sharpening or polishing. The stone is not complete and no evidence of a central hole for a spindle or axle survives. If this interpretation is correct it would imply an industrial function, but since the stone had been re-used in a wall (context 1367, CG52) and is obviously *ex-situ*, such an activity must have taken place elsewhere.

Ecofacts

Results

Elizabeth Pearson

The environmental evidence recovered is summarised in Tables 11 and 12 below. Assessment results are presented below as no further work was recommended after assessment on account of the low level of environmental remains.

Period 1 Roman

Well preserved charred plant remains were recovered from Roman soils (CG71; specifically layer 1238), showing information on the cereal crops in use. A small amount of spelt wheat chaff (*Triticum spelta*) was consistent with the Roman date of the deposits (initially dated by artefactual material and stratigraphy), but as there was a slight dominance of free-threshing wheat grain (*Triticum* sp free-threshing) potentially suggesting that material from overlying 11th to 14th century deposits could be intrusive in this layer, this material was radiocarbon dated. Free-threshing wheat grain was dated to 80–240 cal AD (Table 13), confirming the Roman date of the deposit.

Assemblages of Roman date dominated by free-threshing wheat are occasionally recovered, for example at Redhill Reservoir, Lilleshall, Shropshire (Pearson 2015), where the rural context makes contamination less likely than the urban context of Cathedral Square. As the free-threshing wheat grain was well preserved, it is unlikely to have been exposed for long and/or be re-deposited/intrusive.

A small quantity of emmer/spelt wheat, free-threshing wheat and hulled barley (*Hordeum vulgare*) are also present in another Roman soil deposit (context 1382).

Small amounts of large mammal bone were also recorded in both contexts.

Period 2 Medieval

Only occasional charred unidentified cereal grains, unidentified charcoal and large mammal bone was recovered from foundation layer 1129, below a medieval wall (CG36). Little interpretation was possible from this material.

Occasional charred emmer/spelt wheat and barley grains were identified from medieval soil layer 1031, in association with a moderate quantity of large mammal bone and occasional fragments of small mammal and fish bone.

Period 4 Post-medieval

A moderate quantity of mostly well-preserved hazel and oak roundwood fragments were identified in a 17th century pit (CG69; fill 1244).

Period 5 Modern

Small fragments of charred fruit (possibly currant or similar sized berry) and a small amount of charred emmer or spelt wheat and barley grain came from, a 19th century firebox (CG81). Little interpretation could be made from this material.

Context	Sample	Large mammal	Small mammal	Fish	Bird	Mollusc	Charcoal	Charred plant	Waterlogged plant	Comment
1031	7	mod	occ	occ			occ	occ	abt*	occ coal, mortar, pot, tile, Fe slag, stone with mortar
1129	3	occ					occ	occ	occ*	abt mortar, occ sandstone
1238	5	mod					occ	abt		occ pot, coal, CBM, Fe slag
1244	4	occ	occ	occ	occ		occ			abt coal, occ fired clay, tile, brick, Fe slag, Fe objects, glass? Vessel & ?window
1273	1	occ	occ	occ	occ		occ	occ		abt coal, mod Fe obj, mortar, pot, tile, brick, stone, glass, cu alloy objects
1330	1	mod	occ	occ	occ	occ	mod	occ		mod mortar, occ oyster shell, coal, fired clay, pot, tile, brick, Fe slag, ?Fe obj, cu alloy pin
1382	6	occ					occ	occ		abt clinker/vitrified material, mod Fe slag, occ coal, pot, tile, brick, Fe obj, glass

*Table 11: Summary of environmental remains from bulk samples; occ = occasional, mod = moderate, abt = abundant, * = ?modern, intrusive*

Context	Sample	Preservation type	Category remains	Quantity/ diversity	Comment
1031	7	?wa	misc	+++/low	intrusive root fragments
1031	7	ch	misc	+++/low	unidentifiable charcoal fragments
1031	7	ch	grain	+/low	emmer/spelt wheat, barley grain
1129	3	ch	grain	+/low	cereal grain
1129	3	?wa	seed	+/low	modern intrusive, eg birch
1238	5	ch	grain	+++/medium	moderate free-threshing wheat, barley, oat grain etc, abundant small grass grain fragments
1238	5	ch	chaff	++/low	spelt wheat chaff
1238	5	ch	seed	+/low	knotted hedge parsley

Context	Sample	Preservation type	Category remains	Quantity/ diversity	Comment
1244	4	ch	misc	++/low	mostly well-preserved hazel and oak roundwood fragments
1273	1	ch	seed	+/low	fruit — possibly currant (*Ribes*) and indet ?fruit
1273	1		misc	++++/low	coal
1273	1	?wa	misc	+/low	unidentified wood
1330	2	ch	grain	+/low	hulled barley & possible brome grass
1382	6	ch	grain	+/low	Emmer/spelt wheat, free-threshing wheat and barley grain
1382	6	ch	misc	+++/low	?clinker/vitrified material

Table 12: Plant remains from selected samples

Discussion

The presence of small amounts of charred emmer/spelt wheat grain throughout deposits of Roman to modern date suggest some residuality of small-sized Roman material in later deposits. The charred remains in a Roman soil (CG71; layer 1238), however, are well preserved and are less likely to represent mixed and disturbed material, so are not considered to be residual or intrusive. It was noted during the evaluation (Pearson 2004) that a rich deposit (context 127) of both emmer/spelt wheat (*Triticum dicoccum/spelta*), which is a glume or hulled wheat, and free-threshing wheat were found in a deposit of probable 10th to 11th century date; this was interpreted as showing a transition in use of glume wheats to free-threshing wheats, which is known to have occurred around the mid-Saxon period. The mixed glume and free-threshing wheat types in two instances on the site is therefore of interest and may represent some continuity as crop use transitioned through the Roman and early medieval periods. At the assessment stage it was considered that this combination of crops in layer 1238 may actually represent a Saxon/early medieval phase in the excavation that is unclear from artefactual dating; however radiocarbon dating of a sample of the free-threshing wheat demonstrated a 2nd century Roman date (see below). The result indicates that there was simply an uncharacteristic dominance of free-threshing wheat in this Roman context.

Radiocarbon dating

Elizabeth Pearson

A sample was submitted to SUERC for Accelerator Mass Spectrometry (AMS) radiocarbon dating, the results of which are summarised in Table 13 below. The full radiocarbon report is appended as Appendix 2. All calibrated date ranges cited in the text are those for 95.4% confidence and calibrated dates are identifiable by the prefix ‘Cal’.

Laboratory code	Context	Site period	Material	$\delta^{13}C$ (‰)	Conventional age	OxCal calibrated age (95.4% probability or 2 sigma)
SUERC 65395 (GU39818)	1238	Period 1 Roman	Charred plant remains: *Triticum* sp (free-threshing) cereal grain	-22.8	1853 ± 29	80–240calAD

Table 13: Radiocarbon dating results

Human Remains

Gaynor Western

Two contexts contained the partial remains of three articulated skeletons; it is likely that two of these individuals had been interred in succession, one above the other (context 2016a and 2016b), both sealed by a graveyard soil layer (2015). The other was found disturbed within a construction deposit of sandstone rubble (context 1151; part of CG35). The disarticulated inhumated material, comprising 42 identifiable skeletal elements, had been disturbed by post-depositional events and was collected by hand during the excavation.

Completeness of the human remains

SK2016a was between 25–50% complete. The grave had been disturbed by post-deposition activity and was truncated. Only skull bones were present along with six cervical vertebrae, the right femur and a right clavicle. Partial dentition was present.

SK2016b was less than 25% complete due to similar post-deposition disturbance. Only part of the upper torso had survived, consisting of cervical and upper thoracic vertebrae, four ribs, the right scapula and both clavicles.

SK1151 was also less than 25% complete and was represented by skull bones, seven cervical vertebrae and one left rib. Partial dentition was present.

Condition of the bone

The condition of the bone was assessed macroscopically according to the categories and descriptions provided by the *Guidelines to the standards for recording human remains* (Brickley and McKinley 2004). Since most skeletons exhibit more than one grade of state of preservation, these categories are simplified into four main groups of preservation: Good (grades 0–2), Fair (grades 2–4), Poor (grades 4–5+) and Varied (more than 4 grades of condition). The condition of human bone can be influenced by both extrinsic (ie taphonomic conditions) and intrinsic (ie robustness) factors (Henderson 1987).

SK2016a and SK2016b were both recorded as being in good condition, being scored as grades 0 and 1 respectively. SK1151 had undergone a lot more taphonomic erosion and degradation, and the state of preservation was only graded as 3 or 4, recorded as fair condition overall.

Age assessment

SK2016a was a sub-adult individual, estimated to have been aged around 5–6 years at death based on observations of the development and eruption of the dentition present, as well as long bone length. Overall, this individual was classified as a juvenile.

SK2016b was classified as an adult individual but unfortunately no specific age estimation could be undertaken due to the lack of observable elements. All the observable epiphyses were fused, including the medial end of the clavicle, suggesting that this individual was over 25–30 years old.

SK1151 was also recorded as an adult individual with eruption of the 3rd molar observed, suggesting an age over 18 years old, but again, no specific age category could be allocated due to the lack of further observable elements indicating age at death.

Sex determination

SK2016a was assessed as a sub-adult and therefore no sex assessment was undertaken.

SK2016b could not be assessed for sex using morphological criteria but metric analysis was undertaken of the glenoid cavity of the scapula, the results of which indicated that this individual was a possible male (Bass 1995).

SK1151 similarly was depleted of morphological indicators of sex and no assessment could be undertaken. Sex was, therefore, recorded as unobservable.

Stature and morphometric analysis

Stature of adult individuals can be reconstructed from measurements of long bones of the skeleton. Since the long bones of sub-adults have not yet fully developed it is not possible to provide an estimate of stature for immature remains.

Metric analysis of the long bones, cranium and mandible may also be undertaken on adult remains to provide comparative information on morphological variability.

Stature could not be estimated for either SK2016b or SK1151 due to the lack of long bones present.

Skeletal pathology

The observation of pathological lesions in this assemblage was limited by the lack of elements present. However, cribra orbitalia was observed in SK(2016a; Fig 63), where fine foramina (Grade 2 after Stuart-Macadam 1991) was recorded as present in both eye orbits of this sub-adult. Cribra orbitalia is denoted by the presence of porosity in the eye orbits, resulting from the expansion of the trabeculae in the bone produced by the body's expansion of the marrow to increase production of red blood cells (Roberts and Manchester 1997). This is a response to the megaloblastic or haemolytic anaemias that occurs during childhood (Aufderheide and Rodriguez-Martin 1998), associated with a dietary lack of vitamin B or specific parasitic infections arising from polluted water such as giardiasis, diphyllobothriasis (Walker *et al* 2009) or possibly malaria in some areas (Gowland and Western 2012).

Also noted was the presence of degenerative joint disease in the cervical and thoracic vertebrae of SK2016b, resulting in osteophyte formation around several of the vertebral bodies as well as micro- and macroporosity on the joint surfaces. These osteological signatures indicate that these joints were degraded through wear and tear, a process usually associated with older age (Rogers and Waldron 1995; Salter 1999).

Dental pathology

A detailed summary of dental pathology is provided in Table 14 below:

Dental disease	Adult	Adult obs elements	Adult TPR (%)	Sub-adult	Sub-adult obs elements	Sub-adult TPR (%)	Whole pop TPR (%)	Affected individuals	Whole pop. CPR (n=3) (%)
Caries	3	15	20.0	2	21	9.5	13.8	2	66.6
Calculus	3	15	20.0	10	21	47.6	36.1	2	66.6
Ante-mortem loss	2	15	13.3	0	24	0.0	5.1	1	33.3
Abscess	0	15	0.0	2	24	0.0	5.1	1	33.3
Enamel hypoplasia	2	15	13.3	7	21	33.3	42.9	2	66.6
Periodontal disease	0	15	0.0	0	24	0.0	0.0	0	0.0

Table 14: Prevalence rates of dental disease (obs – observed; pop – population)

Overall, two large abscesses were observed in the maxilla of SK2016a (Fig 64), associated with the 1st maxillary deciduous molars that were both carious, which is unusual for a child of this age from pre-modern populations. Caries and ante-mortem tooth loss was also noted in adult skeleton SK1151. Calculus was also noted in both sets of dentition present.

The rates of caries and dental abscesses in the Worcester populations are well above the national averages reported by Roberts and Cox (2003, 258–64) for the medieval period (TPR =5.6% and 3.1% respectively) while the rate of calculus is slightly below (TPR=54.0%). Enamel hypoplastic defects are slightly more common in the Worcester samples than the national average of 35.4% (Roberts and Cox 2003, 264).

Disarticulated human remains

A total number of 46 identifiable bone fragments in addition to 4 permanent teeth were recovered as disarticulated elements from 6 contexts. A further 12 permanent teeth were recorded as present in maxillary or mandibular fragments. Fragments excavated and recovered in discrete contexts that could be re-associated or reconstructed were recorded as whole elements. It was not possible to re-associate any skeletal elements that were recovered from separate contexts. As a result, 38 skeletal elements and 4 loose teeth (N=42) were recorded and analysed for condition, age, sex and pathology, where applicable.

The majority of the bone present was observed to be of good condition (n=33, 78.6%), allowing elements complete with the epiphyseal ends of bone to be assessed for age, fused epiphyses being classified as adult and unfused as sub-adult. Those elements containing dentition were also assessed for age according to dental development, eruption and attrition. A further 9 (21.4%) fragments were assessed as being of fair condition. No fragments were recorded as being of poor preservation. As expected, the majority of fragments were <25% complete (n=18, 42.9%), while 8 were 25–50% complete (19.0%), 4 were 50–75% complete (9.5%) and 12 were 75%> complete (28.6%).

The number of fragments according to context and age are presented below in Table 15 along with the minimum number of individuals represented in each context. A total of 21 disarticulated elements could be classified as adult. Only one element could be identified more specifically as being middle adult from dental attrition (context 1242; CG72). Four elements belonged to the sub-adult classification in total, one being identified as neonate (context 1029; CG58) and two being categorised as adolescent (context 1091; CG1, and unstratified). One further sub-adult element was identified (context 1091; CG1), but no specific age category could be assigned.

Although there was a bias towards more robust adult elements being recovered, the data suggests that the preservation conditions did not entirely preclude the recovery of sub-adults as disarticulated remains. In fact, the condition of the neonate cranial bones was good.

Context	Total element count	Adult	Sub-adult	Unobs	MNI
1029	1	0	1	0	1
1091	35	18	2	15	4
1098	3	1	0	2	1
1132	1	1	0	0	1
1242	1	1	0	0	1
unstratified	1	0	1	0	1
Total	42	21	4	17	9

Table 15: Summary of the MNI by context
(MNI – minimum number of individuals; unobs – unobserved)

Given the truncated nature of some of the burials on site, it is a possibility that the skeletal remains of one individual may be spread over several contexts. Given this scenario, it is necessary to calculate the minimum number of individuals for the collated assemblage as well as by context. Taking all the recorded disarticulated elements into account as one sample, a minimum number of four individuals is represented; two adults (right femur, right radius or right maxilla) and two sub-adults (neonate crania and sub-adult femur). If contexts are considered separately and as representing disassociated deposits of individuals, a minimum number of nine individuals may be present, represented by five adults and four sub-adults. It is not possible to assess the extent to which these latter figures are an artefact of the context system of recording, although at least context 1029 (CG58) represents a discrete deposit of remains from the same neonate individual.

Fragmentation of the skeletal elements via post-deposition activity resulted in only three elements (7.1%) being sufficiently complete to assess sex. Of these, one was male, two were possible male and one was female.

No skeletal pathological changes were recorded. However, dental disease was frequently noted among those elements including teeth. Of the 16 teeth recorded in total, 8 (50.0%) had calculus, 2 (12.5%) were carious and one exhibited enamel hypoplasia (6.3%). Of the 30 observable tooth sockets, one had a dental abscess (3.3%).

Discussion

The results of the osteological analysis confirm that two articulated individuals were present below a graveyard soil deposit (context 2015) and that the remains were those of a possible male adult, (SK2016b) as well as one sub-adult, aged between 5 and 6 at the time of death (SK2016a). The skeletal remains of both these individuals were well preserved but severely truncated from post-deposition construction on site. Thus, both sets of remains were relatively incomplete (<25% and 25–50% complete respectively) and osteological analysis was restricted.

The sub-adult (SK2016a) was found to have cribra orbitalia, indicating that this individual had been suffering from megaloblastic or haemolytic anaemia. In addition, two large dental abscesses were also noted, indicating a chronic infection following caries in the deciduous dentition. The possible male adult (SK2016b) exhibited degenerative changes of the joints in the cervical and thoracic vertebrae present.

The partial remains of one further adult individual (SK1151) was recovered from a disturbed deposit of sandstone rubble, probably associated with construction of medieval or late medieval buildings within the cemetery area. This had also been severely truncated, with the remains being less than 25% complete. These remains were not as well preserved, however, and no assessment of the specific age and sex of this individual could be made. However, caries and ante-mortem tooth loss was observed in the partial dentition present.

High levels of dental disease were also noted in a single medieval individual excavated from the site of the Commandery, Worcester (Western 2004) and additionally among the skeletal assemblage from the Chapter House at Worcester Cathedral (Waldron 2011). Here, 31% of the adult population (N=48) had caries with no abscess and 29% had both caries and abscesses. The results of the analysis here suggest that these rates are broadly comparative to the dental disease observed in this population and that the location of burial about the cathedral appears to have no relationship with dental health status.

Analysis of the disarticulated skeletal material revealed the remains of at least four additional individuals based upon assessment of the whole assemblage. By context, the remains of least nine individuals were recovered. The majority of the remains were adult though sub-adult remains were also present. The data from the disarticulated assemblage also confirms that both males and females were present. Although no skeletal pathology was noted, dental disease was again noted to be common, in particular caries, abscesses and calculus, as reflected by the articulated assemblage.

Animal bone

Tania Kausmally

A total of 231 hand collected animal bone fragments were uncovered. The largest number of bones (145) was recovered from Period 5 dating to the late 18th to early 20th century. Period 2 (medieval) yielded 26 fragments and Period 4 (post-medieval) yielded 25 fragments. Periods

1 (Roman) and 3 (late medieval) yielded 1 and 6 bones respectively and have therefore been omitted from any further analysis, apart from the summary in Table 16. The figure provides an overview of the NISP for each of the site phases yielding animal bones. A small number of fragments were unstratified (12.1%; 28/231). The unidentified fragments have also been omitted from any further consideration, leaving a total of 169 fragments.

Preservation/taphonomy

Skeletal completeness was very poor in all periods (Table 17) with 49.1% (83/169) of the fragments less than 20% complete whilst only 15% were more than 80% complete. This severely limits the potential of the assemblage for ageing and sexing (see below).

	Period 1	Period 2	Period 3	Period 4	Period 5	Unstrat	Total
Cattle		1		2	5	3	11
Pig				1	6	1	8
Sheep/goat		2	1	2	13		18
Rabbit					3	1	4
Bird	1	2			16	1	20
Dog					1		1
Fish					1		1
Large mammal		4	3	4	18	8	37
Medium mammal		9	2	11	64	7	93
Small mammal					4		
Unidentified		8		5	14	7	34
Total	1	26	6	25	145	28	231

Table 16: Number of identified specimens (NISP) by site period (unstrat – unstratified)

	Period 2	Period 4	Period 5	Total
0–20%	8	11	64	83
21–40%	3	2	32	37
41–60%		2	7	9
61–80%	1	3	10	14
81–100%	6	2	18	26
Total	18	20	131	169

Table 17: Skeletal completeness by period

	Period 2	Period 4	Period 5	Total
Excellent		2	17	19
Good	15	14	108	137
Moderate	2	4	6	12
Poor	1			1

	Period 2	Period 4	Period 5	Total
Total	18	20	131	169

Table 18: Surface preservation by period

	Period 2		Period 4		Period 5		Total	
	MNE	MNI	MNE	MNI	MNE	MNI	MNE	MNI
Cattle	1	1	2	1	4	2	7	4
Pig			1	1	6	1	7	2
Sheep/ goat	2	1	2	1	13	2	17	4
Rabbit					3	1	3	1
Bird	2	2			8	3	10	5
Dog					1	1	1	1
Fish					1	1	1	1
Total	5	4	5	3	36	11	46	18

Table 19: Minimum number of elements (MNE) and minimum number of individuals (MNI) by period

Number of individual/species distribution

A total of 18 individuals were identified from the three phases included in the analysis; 73.3% (11/18) derived from Period 5 (Table 19).

Most frequently represented was bird with a minimum of 5 individuals. The 2 individuals from Period 2 were both from domestic fowl (Gallus gallus.). The identified specimens from Period 5 were predominantly domestic fowl (Gallus gallus), with one element being possible turkey (Melagris). One furcula was from a smaller bird but could not be further identified.

The joint second most common species identified were sheep/goat (Ovis/Capra) and cattle (Bos f domestic), recovered from all three periods. Cattle (Bos) were represented by a very small number of fragments in each period. In all periods sheep (Ovis) were distinguished whilst no positive identification of goat (Capra) was made.

Period 5 revealed the presence of rabbit (Leporidae), dog (Canis) and fish (Osteichthyes), all represented by a very small number of bones.

Body part distribution

The number of fragments present severely limits any consideration on body part distribution and thereby any interpretations with regards to site function (Table 20). Perhaps most noticeable was an even distribution of meat and non-meat parts of sheep/goat suggesting that whole animals may have been butchered and consumed on or close to the site during Period 5, whilst only meat elements were present in Period 2 and 4. This is more representative of domestic refuse.

	Period 2		Period 4			Period 5		
	Cattle	Sheep/ goat	Cattle	Pig	Sheep/ goat	Cattle	Pig	Sheep/ goat
Horn core								
Skull				1				
Mandible/teeth			1				2	3
Atlas								
Axis								
Scapula					1			
Humerus								1
Radius		1			1			
Ulna			1				1	1
Pelvis		1						3
Sacrum								
Femur								1
Tibia							1	2
Fibula								
Astragalus								
Calcaneum								
Carpal								
Tarsal								
Metacarpal						2	2	1
Metatarsal						2		1
Lat. metapodial								
Phalanx I	1							
Phalanx II								
Phalanx III								
Lateral phalanx								
Total	1	2	2	1	2	4	6	13

Table 20: Body part distribution

	Period 2		Period 4		Period 5	
Animal Size	Medium	Large	Medium	Large	Medium	Large
Skull	2		1		1	
Vertebrae	4		2		10	3
Ribs	2		7		42	5
Long bones	1	2	1	3	5	2
Pelves/scapulae		2		1	3	3
Total	9	4	11	4	61	13

Table 21: Body part distribution of sized fragments

In Period 5 it was noticeable that cattle were only present in the form of metapodials, which may indicate butchery or industrial waste, though fragments of large mammals in the form of vertebrae, ribs and pelves/scapulae were present, representing more meat rich parts of the animal (Table 21). Overall the presence of larger mammals was poor being represented by only 17.5% (11/63) of the identified fragments (Table 20) and 20.6% (21/102) of the sized (large/medium) fragments (Table 21).

Age, sex and height

Data for ageing and sexing was extremely limited in all periods (Table 22). Teeth were very limited and predominantly maxillary or non-molars and have therefore not been included in any considerations on age. Period 2 yielded only a fully fused first phalange of cattle providing an age estimate of older than 20–24 months and one radius of a sheep/goat suggesting the individual was older than 42 months. One sheep/goat was estimated to be female in Period 2. In Period 4 the only ageing data present was that of sheep/goat, showing animals older than 3–4 months but less than 42 months of age. Period 5 revealed one element of pig less than 24 months of age whilst sheep/goat were present mainly as younger individuals, with predominantly unfused elements revealing at least one animal less than 5 months old.

The birds were all fully mature individuals with only one element of an immature individual in Period 5. From Period 5 the rabbits were all fully fused with one recently fused tibia suggesting an age of more than 5–7 months (Heikel 1960). The radius of dog was likewise fully fused with an estimated age of more than 11–12 months. The withers height was calculated to approximately 31cm indicating a smaller breed such as a terrier.

		Period 2			Period 4			Period 5		
	Element	**Fused**	**Unfused**	**Juvenile**	**Fused**	**Unfused**	**Juvenile**	**Fused**	**Unfused**	**Juvenile**
Cattle										
7–10 months	Scapula									
	Pelvis									
12–15 months	Radius P.									
	Humerus D.									
15–18 months	Phalanx II									
20–24 months	Phalanx I	1								
24–30 months	Tibia D.									
	Metapodial D.									
36 months	Femur P.									
	Calcaneum									
42 months	Femur D.									
42–48 months	Humerus P.									
	Radius D.									
	Ulna P.									
	Tibia P.									
Pig										
12 months	Scapula									

		Period 2			Period 4			Period 5		
	Element	Fused	Unfused	Juvenile	Fused	Unfused	Juvenile	Fused	Unfused	Juvenile
	Humerus D									
	Radius P									
	Pelvis									
	Phalanx II									
24 months	Phalanx I									
	Metapodial D									
	Tibia D								1	
24–30 months	Calcaneum									
36 months	Femur P									
	Ulna P									
42 months	Humerus P									
	Radius D									
	Femur D									
	Tibia P									
Sheep/goat										
3–4 months	Humerus D							1		
	Radius P									
5 months	Scapula				1					
	Pelvis								1	
7–10 months	Phalanx I									
15–20 months	Tibia D									
18–24 months	Metacarpal D									
20–28 months	Metatarsal D								1	
36 months	Femur P									
	Calcaneum									
42 months	Humerus P									
	Radius D	1				1				
	Ulna P									
	Femur D									
	Tibia P								1	

Table 22: Fusion data

Modifications

Data on modifications to the bone was limited despite the relatively good surface preservation (Table 23).

Period 2 revealed three elements with helical breaks and one scapula of a large mammal also exhibited a series of fine skinning marks on the surface and a transverse chop mark on the body.

Period 4 revealed one helical break on an unfused femur of a medium mammal. This individual has a small 3mm perforation penetrating the central portion of the metaphysis. One chop mark was present on the rib of a large mammal just anterior of the head. One long bone splinter of a large mammal had been blackened by burning suggesting exposure to temperatures of around 400–500ºC (Lyman 1994).

Period 5 revealed 11 helical breaks. All four metapodials of cattle exhibited helical breaks to the shaft, indicating possible marrow extraction. Knife marks were noted in three individuals; one pelvis of a large mammal had chopped across the illium and exhibited fine skinning marks along these margins. One fragment of a long bone of a large mammal had been sawn transversely in two areas, with the elements measuring 38.8mm in wide and 47.2mm high, and also showed evidence of having been split axially. Chop marks were noted in seven individuals of three large and three medium mammals as well as one sheep. These included a number of vertebrae chopped in the medial sagittal plane. Many of the cut marks were consistent with findings of butchery techniques from the Roman to the medieval period (Seetah 2006).

	Period 2			Period 4			Period 5		
	Knife	Helical	Chop	Knife	Helical	Chop	Knife	Helical	Chop
Cattle								4	
Pig									
Sheep/goat		1						1	1
Large	1	3	1			1	2	5	3
Medium					1		1	1	3
Total	1	4	1		1	1	3	11	7

Table 23: Skeletal modifications by period

Discussion

The excavation yielded a very limited number of animal bones from each period, making a comparison between the three included periods untenable. The remains included typical domesticates such as cattle, sheep/goat and pig. Sheep were identified in all three phases whilst goat could not be positively confirmed. The identified remains of bird were predominantly domestic fowl, with only one synasacrum identified as possible turkey in Period 5. Period 5 also yielded a smaller number of other species, including dog, rabbit and fish. The dog and fish were only present by a single element, though it is quite possible that sieving of the soil may have produced a larger number of fish bones. The dog was estimated to be older than 11–12 months with a withers height of 31cm (a terrier sized dog). The sample size was too limited to make any coherent argument with regards to kill and butchery patterns in relation to age and sex. Both younger and older animals were present in the assemblage, though no neonates were uncovered. Only one sheep/goat was identified as female, this came from Period 2. The body part distribution provided a relatively even distribution of butchery and domestic refuse remains when including the sized fragments. The modification to the bones in the form of chop, knife and helical breaks were consistent with butchery patterns recorded by Seetah (2006), such as cuts noted to the pelves and scapulae and the chopping of the vertebrae in the medial sagittal plane. The sawn bone fragment from Period 5 as well as the consistent breaks on the

metapodials may be more indicative of activities such as tool making and/or marrow extraction. The central perforation to the proximal unfused metaphysis of a femur from Period 4 may likewise be an attempt to extract marrow from the bone.

Discussion

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Roman

It is clear from previous archaeological investigation and finds in the immediate surrounds that the site is located within a significant part of the Roman settlement (see Barker 1969 and section 4.2 above), perhaps an enclosed and defended central area, though the character of the activity here remains largely undetermined. The evidence from the site was limited in scale (Fig 65), but the Roman deposits identified support the previous suggestions that there was extensive occupation in the area. These also further demonstrate the potential for more widespread remains to exist below buildings in this part of the city, preserved below later occupation and despite extensive truncation by later structures.

The stratified Roman pottery assemblage, the majority of which was of local production, was supported by scientific dating and dated the series of soil deposits to the 2nd century. Residual Roman finds from later contexts across the site were also all 2nd century and later in date. There is little that can be ascertained about the nature of this occupation however, other than that it was dated from the 2nd century onwards and that there was a lack of early Roman finds to suggest earlier land use. This dating is consistent with an increased density of occupation across the Roman town more widely (eg Deansway, Dalwood and Edwards 2004; City Campus, Sworn *et al* 2014; The Hive, Bradley *et al* forthcoming) and locally, where the large ditch identified by Barker during the nearby Lich Street development site excavations appeared to have been extensively remodelled in the 2nd to 3rd century (Barker 1969, 50). This period is often identified as the peak of activity across the settlement, largely defined by extensive evidence for the ironworking industry.

Medieval period

The site is centrally located within the medieval city and, although extensive changes took place as a result of the creation of College Street in the late 18th century, as well as the construction of the Lychgate Centre in the mid-20th century, the medieval street pattern in this area can still be traced through cartographic sources (see Baker and Holt 2004, 148–150). Lich Street ran along the northern edge of the cathedral precinct, the southern half being within the historic parish of St Michael in Bedwardine (the parish church located within the lay cemetery to the south) and the northern half in the parish of St Helen's. St Michael's church is first recorded in 1268, although it may have origins in the 10th century (Baker and Holt 2004, 214). St Helen's is possibly the earliest and therefore the primary church in the city, pre-dating the Norman Conquest (Baker and Holt 2004, 197–200). The cathedral itself was also founded in the Anglo-Saxon period, probably in the late 7th century, and Worcester constituted an important ecclesiastical centre at this time; the churches and the cathedral were undoubtedly major influences on the layout of the early city. No early medieval deposits or features of this period were identified, but three unstratified sherds of Late Saxon pottery dated to the late 9th to mid-11th century and are probably associated with the presence of the ecclesiastical community nearby. A single soil deposit was tentatively dated between the 10th and 12th centuries during the site evaluation (Deeks *et al* 2004), based on artefactual and environmental evidence, but this was not re-identified due to the limited depth of the excavation.

The lay cemetery

The southern half of the site occupied part of the area previously defined as the cathedral precinct, in particular the lay cemetery of the cathedral, which had a monopoly on burial in the city from at least the 11th century until the early post-medieval period (Baker and Holt 2004, 242–4; Worcester City Council 2007, 60). Access to the cemetery could be gained through the Lich Gate, once located around 15m to the east of the site, and the main College Grates, which existed until the late 18th century at the western edge of the site area (see section 6.2). Although much of this part of the site had been substantially built over by later properties, the lack of a cellar in the space linking the rear parts of No. 2 Lich Street and No. 3 College Street had led to the survival of a small area of the cemetery.

There were two *in situ* articulated burials identified and lifted (Fig 65), the partial remains of one further individual recovered from a disturbed rubble deposit, and a minimum number of four individuals identified from numerous disarticulated remains (section 8.3 above). A series of at least three graves with *in situ* skeletal elements were also recorded, but not fully exposed as they remained below the impact depth for construction, and a number of deposits considered to be remnants of graveyard soils were identified. Pottery and stratigraphic relationships, as well as historical information on the construction of properties in this area, suggested that the burials pre-dated the late 13th century. Disarticulated remains recovered in the same area during the site evaluation were similarly associated with 13th to 14th century pottery (Deeks *et al* 2004, 19).

Although only observed in a small area, the density of burial was high and a number of graves were intercut, with human remains positioned directly above each other, indicative of the intensive use of this part of the cemetery. There were no coffined burials or any evidence of particularly high status internments. It is often considered that Christian graveyards contain a burial hierarchy, with the northern side of a church being less desirable and therefore containing a higher burial density that reflects the social distinctions of medieval society (ie at Worcester, the lay burials were to the north, the monastic to the south). This was noted, for example, in the study of burial practice around Hereford cathedral, where the northern burials were far more densely packed than elsewhere in the surrounding graveyard (Boucher *et al* 2015, 65–6). It is also worthy of note, therefore, that the specialist analysis has identified degenerative disease, as well as possible vitamin deficiency, in the articulated burials from the lay cemetery here at Worcester (see section 8.3). There was also a significant amount of dental disease, which is notably consistent with other medieval burials in this part of the city (eg The Commandery, Western 2004; Cathedral Chapter House, Waldron 2011). The articulated and disarticulated human remains were a mixture of male and female and of variable age at death, including sub-adult and neonatal bones, which confirm that, as expected, these are part of the lay cemetery rather than an extension of the monastic one and that individuals could be interred here regardless of their age or sex. The evidence correlates well with the nearby excavation of 55 individuals at 5a College Yard, 50m to the west, also within the former lay cemetery area. Adult and child burials there were dated to the 12th to 13th century and again demonstrated high density that suggested a significant demand on burial space (Smith 1993, 2–3).

Despite the limited scale of the evidence and the partial survival of the articulated *in situ* burials, the human remains recovered from the site offer a significant and important source of information on the medieval population in Worcester. Skeletal evidence for the non-ecclesiastical populace is so limited that the analysis of the remains here effectively

becomes one of the few direct sources on the health, status and demography of the city at this time. It also confirms that human bone is generally well preserved and that any future excavations in this area may generate sufficiently preserved bone to allow further valuable osteoarchaeological data to be recorded.

Medieval Lich Street and property development

There was limited opportunity to investigate deposits under Lich Street itself, but the soils immediately beneath the road surface did contain 14th century pottery (as well as later material). It has been suggested that the street was laid out during the early development of the cathedral precinct in the 10th and 11th centuries (see Baker and Holt 2004, 160–162). As properties are documented to have been developed along the frontage of the south side of the street from the 13th century (Baker and Holt 2004, 159), clearly the line of the road was established by at least this date.

This development of property along the south side of Lich Street encroached onto the lay cemetery and truncated and disturbed burials within this area. A visible remnant of this was revealed in the area between No. 2 Lich Street and No. 3 College Street; a well-built red sandstone wall was cut through the graveyard soils and dated to the 11th to 14th century (Fig 65), probably the end of this date range. The use of substantial and well-finished sandstone blocks suggests some expense in the construction but presumably, given the location, this material was readily available within the vicinity due to building projects at the cathedral. It is likely that a timber frame was built off the level platform provided by the sandstone.

The property here was undoubtedly established by the cathedral priory, the landowners, to take advantage of commercial opportunities along the through-route of Lich Street (Baker and Holt 2004, 159). Construction was therefore economically-driven and documentary evidence indicates that the entire cemetery side of Lich Street was built up by the mid-15th century at the latest (see section 6.2 above). Once constructed, these were leased out for a ground rent, possibly with an option to build or extend. This part of the site was in the area of property leased to John the Goldsmith in the 14th century, who occupied a house with four shops on this plot. Both the name ‘Goldsmith’ and the size of the combined properties indicate a considerable level of prosperity and suggest that this was an affluent neighbourhood during the medieval period, reflecting its location in the vicinity of the most important building in the medieval city.

The medieval development of the north side of Lich Street is less well defined in documentary terms but, as with the one area on the south side of the street, the absence of a cellar for the property identified as No. 5 Lich Street meant that there was a further portion of the site with a surviving sequence of medieval deposits and structural remains. A number of 12th to 13th century soil deposits were revealed and a pit and a posthole dated to the 14th to 15th century cut through these soils (Fig 65), demonstrating land use at this time, although as they were unexcavated, it is not clear exactly how this area was being utilised.

It is possible, however, that they relate to the presence of at least one building on this side of the street in the medieval period. This was the most substantial of the medieval remains in this area, comprising a large 0.84m wide foundation trench. This also cut through the earlier soil deposits and was probably 12th to 13th century in date. It was packed with compacted limestone and sandstone rubble, forming the footings for what must have been a large

structure, perhaps a foundation for a (probably) timber-framed building. No return or further foundations of this date were identified, so the full structural arrangement was unclear, but it was of such a size as to suggest multiple storeys and perhaps considerable expenditure in construction.

It is considered that this side of Lich Street was developed as part of plots fronting the southern end of the High Street during the medieval period (see Baker and Holt 2004, 183–4). This wall foundation would therefore be located to the rear of the plot that later became No. 1 High Street/No.1 and 1A Lich Street, which was possibly owned by a vintner (wine trader) in the 13th century, and was perhaps connected to No. 2 High Street (as identified from the 16th century records; see section 6.3). The presence of a vintner demonstrates a mercantile element to the occupants in this area during the medieval period and, alongside the known inhabitants of property on the south of the street, suggests a level of wealth and affluence to Lich Street at this time that is perhaps reflected in the size of the building foundations.

Late medieval to post-medieval

Occupation and development in the area probably continued uninterrupted from the medieval period. Soil deposits that included 15th century pottery, had accumulated against the medieval wall in the southern part of the site (Fig 65), possibly demonstrating a continuity of use in the properties within the cathedral precinct. Although the formation level during the project largely precluded investigation beneath later walls it was apparent that the establishment of the property boundaries was largely consistent from the late medieval and post-medieval period onwards, especially on the south side of the street. These provided the framework for the main property limits which, despite extensive and repeated addition and division, remained in use until the mid-20th century.

Building foundations, property division and material culture

The earliest masonry footings, comprising re-used green sandstone blocks, were dated to the 15th or 16th century and cut through the medieval soils in the space of No. 5 Lich Street on the northern side of the street (Fig 65). These would have supported a timber frame to form the original back wall of this property. This is identified as a stable in the 16th century, in the ownership of, and probably attached to, No. 2 High Street. Documents suggest that the main property was extensive and of high status; it was tenanted by wealthy occupants from the 16th to 18th century, some of whom were associated with the cloth trade (see section 6.3 above), the mainstay of Worcester's economy in the late 15th to 16th centuries (Dyer 1973, 81).

The back of No. 3 similarly included a sandstone wall foundation built upon a clay and rubble levelling layer, probably used to support a timber-framed building. This is also identified as a stable in the later 17th century, associated with the long property of No. 1 High Street/No. 1 Lich Street which was occupied by a joiner (section 6.3).

Perhaps reflective of the wealth in this area in the 16th and early 17th century was the assemblage of high status pottery (some imported) and vessel glass recovered from a substantial pit dug towards the Lich Street frontage of No. 5 and therefore within the area identified as a stable, possibly an adjacent yard. The finds from this pit are discussed in detail above (section 7), comprising a number of glass flasks, continental stoneware, Anglo/Dutch tin-glazed ware, and window glass, dated to between the late 16th and early 17th century. These are all non-utilitarian domestic material, unlikely to have been transported far from the

site of their use, and they form an important and significant assemblage both on the site and within the context of Worcester in the late medieval and early post-medieval period. They further demonstrate the affluence of the community in this area of the city at this time.

The 17th and 18th centuries saw the first construction of cellars on the site, or, at least, this is the period from which the first evidence survives, with the earliest to the south of the street. On the north side of Lich Street, outside of the cathedral precinct, building appeared to have been more piecemeal and reflective of the economic circumstances of the individual owners, or tenants who held the lease, as not all of the property was in the ownership of the Dean and Chapter. Within No. 3, close to the street frontage, were 18th century brick foundations related to the insertion of a cellar which included a well, but this was an exception.

On the south side of Lich Street the walls were of an identifiable character, being regular property boundaries built with substantial masonry blocks of re-used green and red sandstone, interspersed with brick and tile levelling courses. This may reflect the location of these buildings within the cathedral precinct and their entire ownership by the Dean and Chapter. Much like in the medieval period, there was probably an availability of well-finished sandstone within the vicinity and there was the possibility of concurrent rebuilding due to the common ownership. The walls certainly included ecclesiastical masonry, perhaps used after this became available following re-ordering in St Michael's Church or even the cathedral itself (see section 7.9). This is most evident in the cellar of No. 6 Lich Street, constructed from well-finished green and red sandstone blocks that exhibited medieval tool marks. Sample tiles from the levelling courses were dated as later than the 15th century, and other finds were 17th to late 18th century in date, yet a piece of 12th century masonry, probably a limestone vault rib, was incorporated. Part of a medieval tomb or monument base was also re-used in a wall built with very weathered sandstone blocks in the cellar at No. 3 College Street.

It is possible that timber-framed superstructures were originally built off the sandstone cellar walls, but the later 18th century appears to be the period in which Lich Street first developed the appearance and character that survived until the 20th century, when most properties had entirely brick frontages (as visible in historic photographs). During the late 17th and 18th century the occupants of this part of Lich Street seem to have been sole traders of moderate status. On the south side of the street, tailors, and cloth salesmen or dealers are frequently referred to in the records, and some were quite affluent (see section 6.4). This may be a residue from the pre-dominance of the cloth industry in the previous century. There was no indication of these professions in the archaeological record however.

Modern period

The most visible phase of archaeology on the site was dated to the 19th and early 20th century; this was characterised by a change to the exclusive use of brick in construction, repeated division of space (both internal and external to the properties), the insertion of fireplaces to create living or working quarters within the cellars, and later attempts to improve sanitation along the street.

Property division, occupation and social changes

The subdivision of cellar space, as well as re-facing and repair of walls, reflect structural changes along the street during the first half of the 19th century. On the north side, in properties No. 3, No. 7 and No. 9, new staircases down into the cellars had been inserted. Fireplaces

had been added to the cellars of No. 1/1A (which still retained the metal fittings of an iron pot hanger) and probably No. 7, demonstrating that these were not just used for storage. The properties were occupied by shoemakers, stone masons and builders in the 19th and early 20th century. In a number of cases they may have been quite crowded; during the mid-19th century, No. 5 Lich Street, still described as a stable as it had been in earlier centuries, was occupied by John Jennings, his wife and four children, as well as another couple (section 6.3). The yard to the rear was potentially shared by occupants of all these properties and included a series of wells and outbuildings.

To the south of Lich Street, No. 4 College Street had a cellar that had been repeatedly subdivided with internal walls and in which two fireplaces had been inserted, likely sharing a chimney. Similar to No.1/1A to the north, one still included part of an iron pot hanger suggesting cooking facilities rather than small-scale industrial use. Fireplaces had also been added into No. 3 College Street and No. 1 College Street, in which doorways had been blocked up to create smaller rooms. The Lich Street side of the properties appear to have been poorer households occupied by shoemakers, a painter and a woodturner, or used as public vaccination rooms, but those on College Street possibly had more commercial status, being a grocery store, the offices of solicitors and a café.

The property division and smaller living quarters of the 19th century may have been resultant from the decline of the cloth industry during the 18th century, with Lich Street in particular reflecting the rise in small-scale leather working (eg glovers and shoemakers) at a single household level of production. It is possible that these small business traders began to be economically sidelined by the prevalence of factory made goods (see section 6.5). By the middle of the 19th century the houses are frequently documented as in poor repair, in multiple or split occupation, and therefore apparently lower in status than in earlier periods, undoubtedly a reflection of the changing economic circumstances. However, to the south of these properties, although also repeatedly subdivided, College Street seems to have retained a level of prosperity throughout the 19th century, probably because it became the main thoroughfare linked to the south end of the High Street.

The construction of College Street at the end of the 18th century, therefore, can be viewed as an additional factor in the deterioration of Lich Street during the 19th century, effectively relegating it to a side street and cutting it off from the cathedral area. Less travelling foot and coach traffic would have led to less passing trade, as would the diminished status from no longer being the main access into the cathedral precinct. A similar situation, again linked to changing road layouts, was in evidence with the decline in the status of property along Newport Street to the north-west of the city, where the construction of the new bridge in 1781 effectively bypassed it (Davenport 2015, 250).

It is clear from both archaeological and cartographic evidence that attempts were made to improve conditions along Lich Street in the later 19th and early 20th century; water and drainage pipes are visible on the 1870 Board of Health map. These were identified both beneath the street and connecting to the rear of No. 2 Lich Street/No. 3 College Street to the south, as well as to the rear of No. 5 Lich Street to the north, although the lack of infilling in the well in the yard space on the northern side of the street suggests that pumped well water remained common until the mid-20th century. Outhouses or washhouses were also present, probably associated with multiple properties.

Despite the improvements, the street remained dilapidated and insanitary into the 20th century, with some properties unoccupied or used as stores. In the early 20th century, No. 6 Lich Street, used as a warehouse, was identified as 'the harbour for the rats in the neighbourhood' (section 6.4). These conditions, and the low value of the buildings, led to their eventual demolition and redevelopment.

Public engagement during the excavation

The public engagement elements of the project were a considerable part of the site works and the output from the excavation, beyond purely archaeological data. As such, it is worth briefly detailing the results of this.

The project can certainly be considered to have been successful in engaging local people with the archaeology of the site, and history and heritage more widely in Worcester. Visitor feedback, both formally and informally, was usually positive, whilst purely in numerical terms the project had a substantial public impact.

Over 700 people attended conducted tours on the site and over 200 stopped to discuss the excavations at the staffed information position on the High Street. Three pop-up exhibition days were attended by 765 people and an information stand set-up in the Guildhall received 75 visitors. Public talks detailing the project have reached over 300 members of the public.

Frequent and detailed updates provided by the project team through the council communications department led to nineteen newspaper stories, two magazine articles and three radio stories. Social media information also reached over 70,000 people and the project blog received 24,000 views and encouraged eight people to get in touch and share their memories of Lich Street. Some of these people had lived on or visited the street; another was the daughter of the local doctor who visited residents on his rounds. The interviews were all recorded, and extracts posted on the blog.

The traditional print media articles, although generally positive in tone, did in some cases lead to a somewhat mixed and less positive response from the public regarding the project. Articles misrepresenting the nature of the work and what could be achieved with the site design following the completion of archaeological fieldwork created some difficulties explaining the role of archaeology during site tours and the exhibition. Overall, however, where there was negative public expression this was largely demonstrative of public interest in the heritage of the area (so could be viewed as a positive), and in particular demonstrated a clear desire for heritage to be available for viewing. It also led to an expression of ideas for incorporation of elements of the past into the new development, effectively becoming a successful method of keeping the public informed and the archaeological work in the public consciousness.

Conclusions — the site in context

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The site formed a substantial area in the centre of the historic core of the city and as such represented a rare opportunity to examine archaeological deposits from this significant location. The evaluation had indicated that there was a reasonable expectation that islands of well-preserved and deep sequence of deposits would exist and there were at least two fairly substantial areas observed that had not been disturbed by the construction of later cellars. However, because the project was designed to mitigate the effects of construction and not to undertake unnecessary work, extensive archaeological deposits were left unexcavated and preserved *in situ* below the construction formation level; only limited investigation of deeper stratigraphy was possible. Much of the work on site therefore involved the recording of structural remains dating from the later 18th until the early 20th century and this could be undertaken with little destruction or removal of walls or floor surfaces. This lack of intervention meant that relationships between structural remains and earlier deposits were not always easily defined or dated, other than by what could be determined at the visible interface. The effect on the analysis of the site is therefore cumulative; less excavation has resulted in a less comprehensive understanding of the overall site sequence. Conversely, it has also further increased the importance of the small-scale evidence for significant deposits and features which could be accurately identified as of earlier date (particularly medieval and late medieval/ early post-medieval) because of their inherent rarity and lack of opportunity for investigation in this area of the city.

In particular, the evidence from the site for the survival of a small part of the cathedral lay cemetery, the preservation of medieval and late medieval deposits and structural elements along a street frontage, the recovery of artefacts that reflect the affluent material culture of this part of the late medieval and early post-medieval city, and the structural evidence for housing and development of Lich Street through the post-medieval to modern period has allowed an improved understanding of the social, economic, and structural transformation of this important area of the city from the 13th century onwards. When combined with known documentary and cartographic information, which adds an extra layer of information that re-populates the archaeological record with a human element, this understanding is further increased.

There was extensive survival of building foundations suggesting the use of sandstone as a base for timber-framed structures in the medieval and late medieval period, before rebuilding from the 17th century onwards incorporating re-used sandstone alongside brick. It is clear that repeated subdivision and extension onto back plots created smaller living spaces and was reflective of the deteriorating prosperity of those living along the street. These physical remains have, where possible, been related to documents identifying occupants, occupations, changing use of the buildings, and material goods. This is especially the case in the latest period of archaeological remains (19th to 20th century) and adds new information on the development of the city in this period. This builds upon the work at Newport Street (Davenport 2015) in expanding the dataset to help develop the research agenda for historical archaeology in Worcester (WCC 2007, 80–90). Previously, the historic period has often been somewhat neglected, both due to general resource restrictions and the application of limited resources elsewhere (eg at Deansway; Dalwood and Edwards 2004).

It can be argued that in this case, the work is perhaps of more significance than would be normally allocated to locally important post-medieval and modern structural remains in any

other part of the city, as the destruction and redevelopment of this area in the mid-20th century was an extremely controversial process both at the time and since that irrevocably changed the nature of the historic city centre. The public engagement element of the project clearly demonstrated that there is an interest beyond the physical remains that is reflective the socio-historical circumstances of this redevelopment, and of which this project is now a major component.

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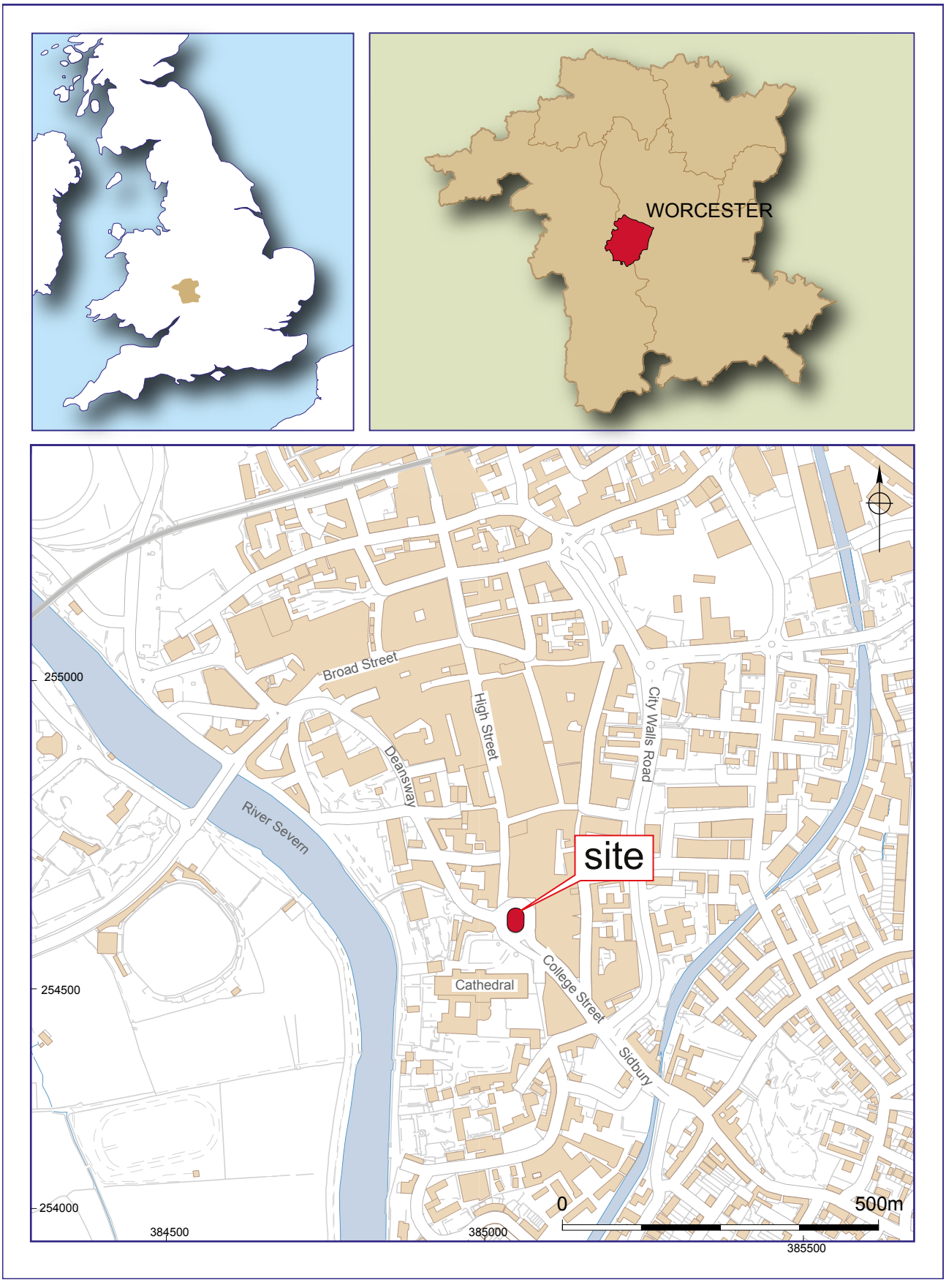


Figure 1: Location of the site

Figure 2: The roundabout before excavation

Figure 3: The excavation in progress

Figure 4: Machine excavation with traffic management in place, facing south

Figure 5: Cellar protection

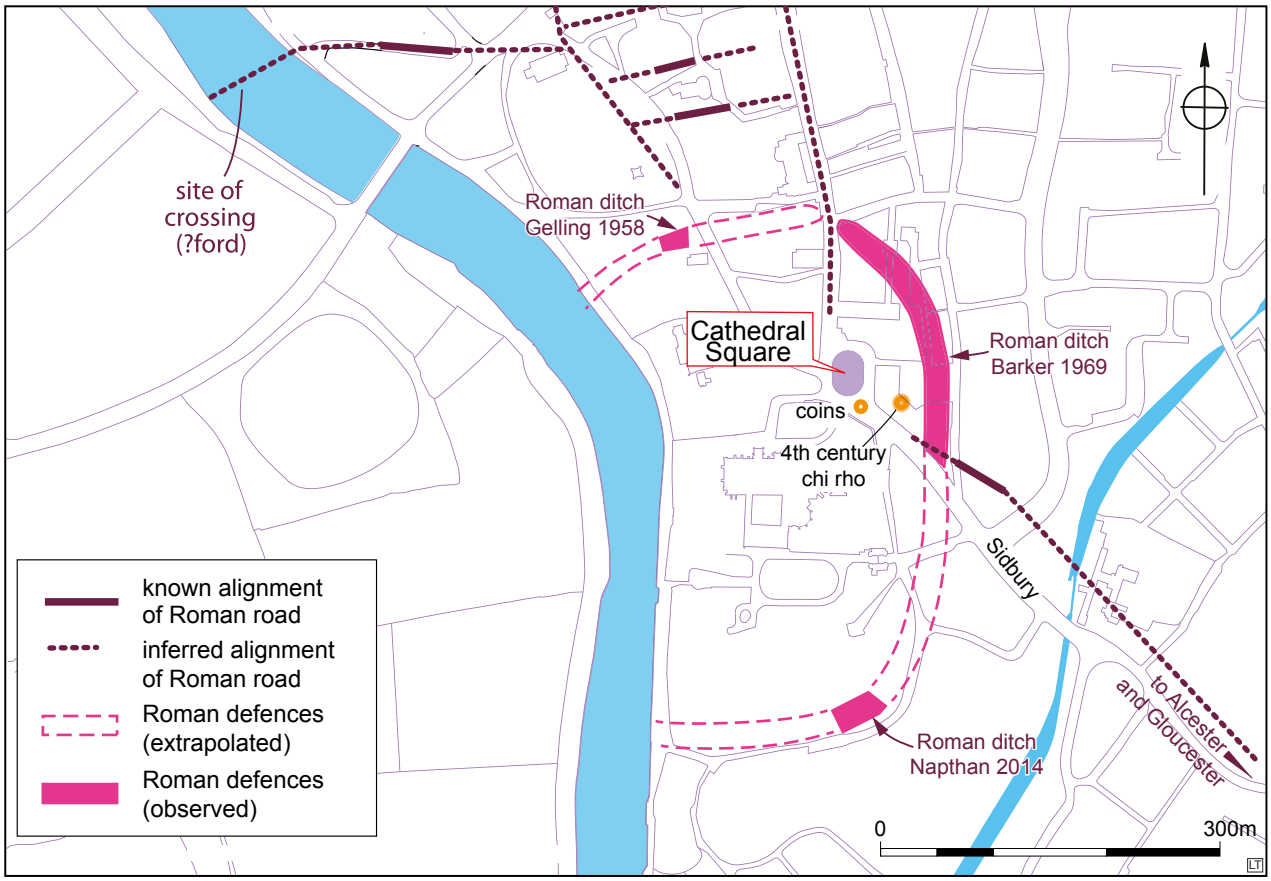


Figure 6: Roman Worcester

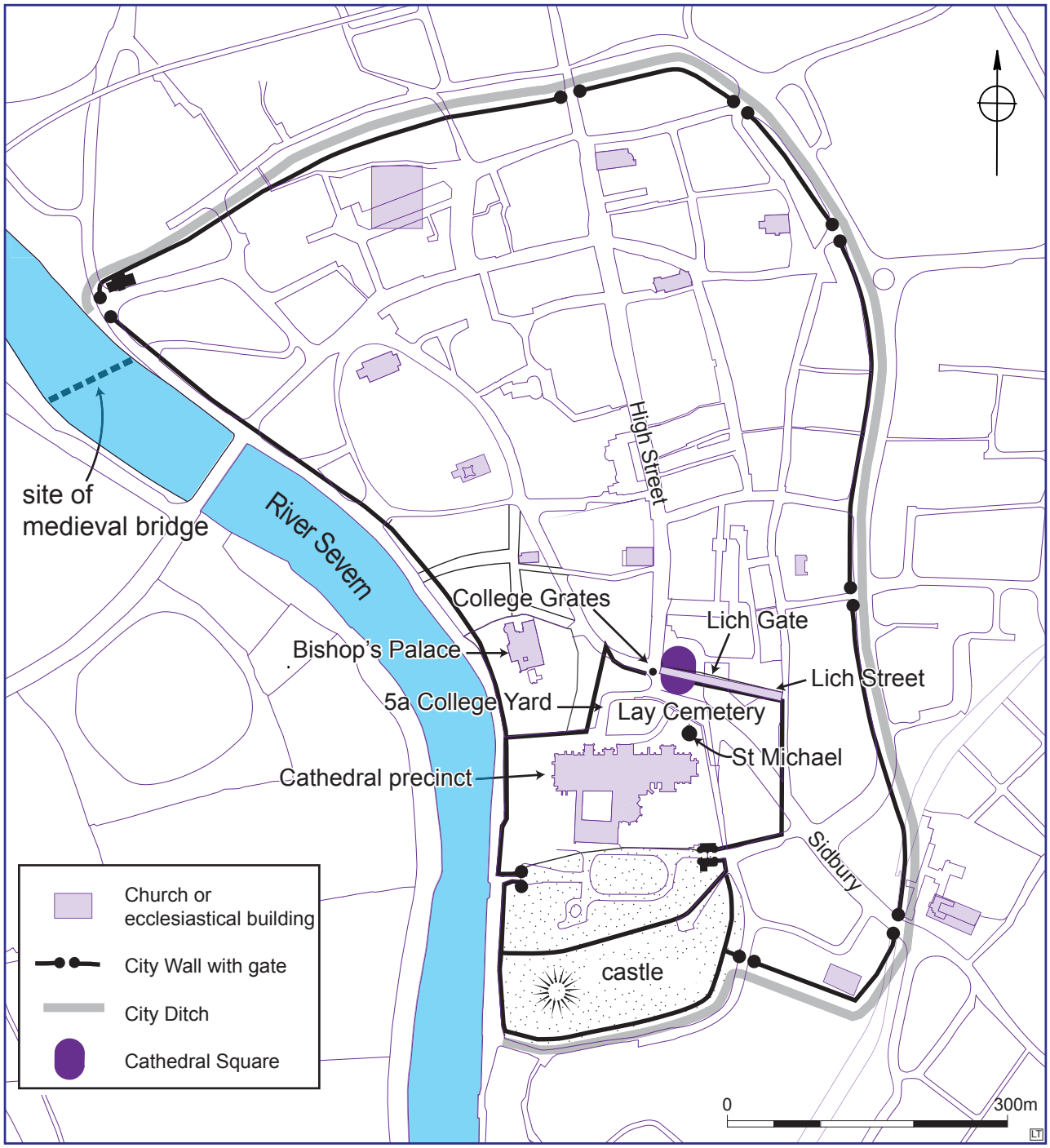


Figure 7: Medieval Worcester

Figure 8: 19th century Ordnance Survey with 2015 road layout and properties observed within the excavation area

Figure 9: The new St Michael's church with College Street in the foreground (WAAS)

Figure 10: No. 2 Lich Street and No. 3 College Street supported by props (WAAS)

Figure 11: Buildings removed from west end of Lich Street (WAAS)

Figure 12: 3 Lich Street

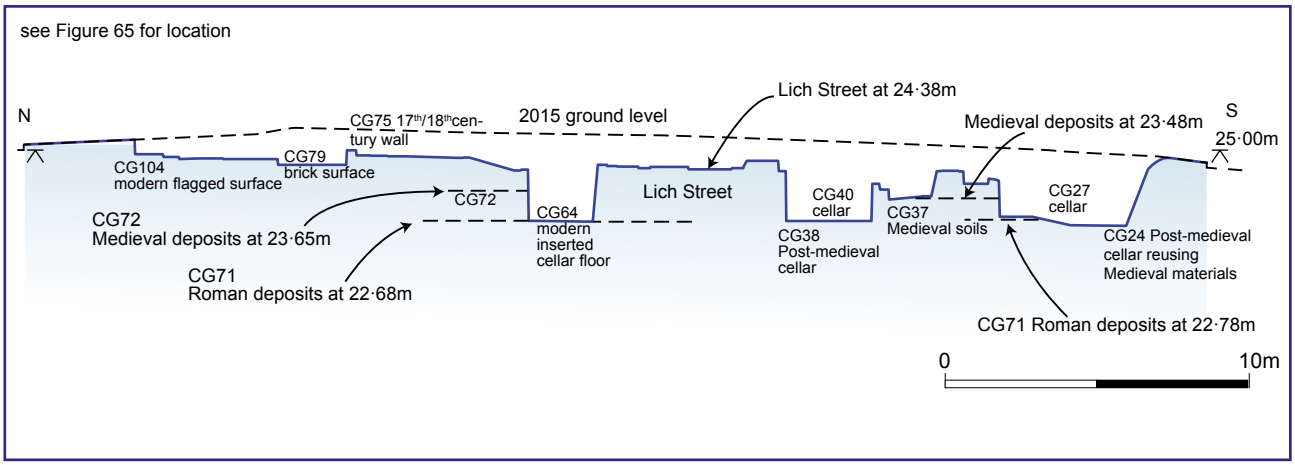


Figure 13: Profile across the site

Figure 14: Lich Street, facing west

Figure 15: No. 1 High Street/No. 1 Lich Street in the 1960s (WAAS).

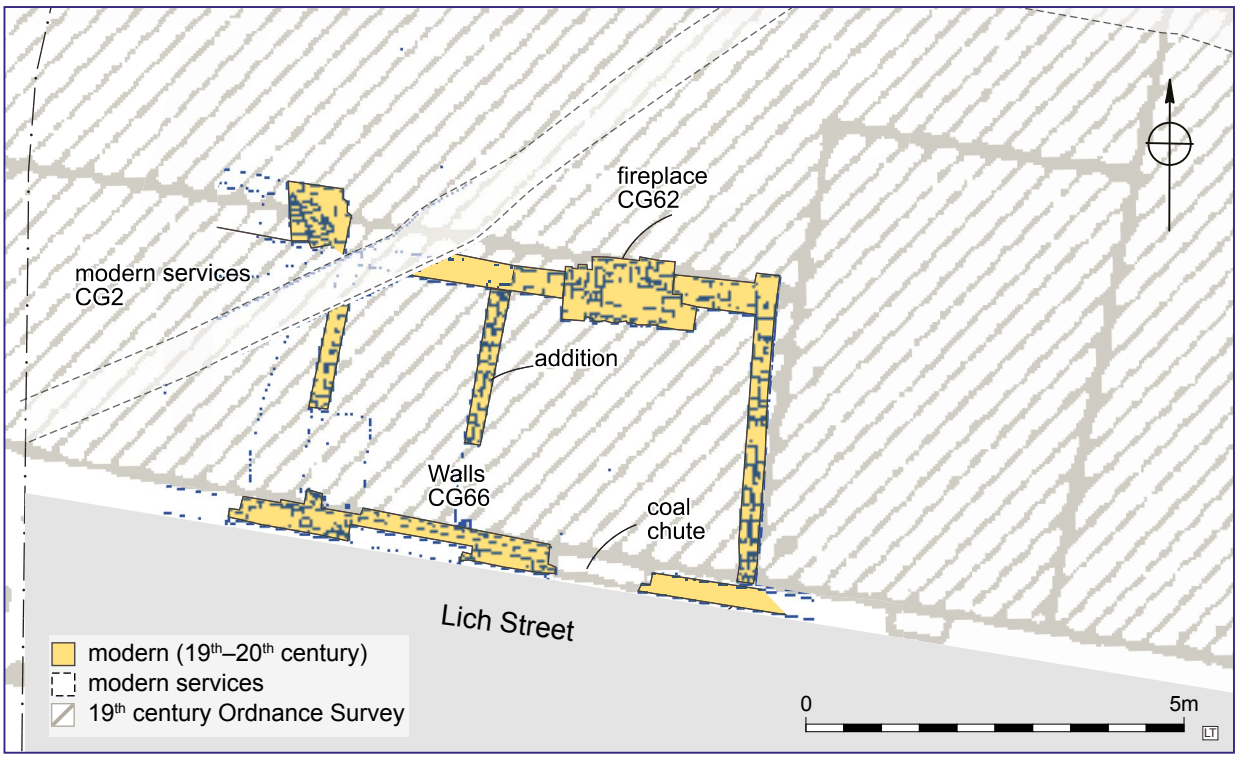


Figure 16: 1-1A Lich Street

Figure 17: Cellar of 1A Lich Street with fireplace CG62, facing north-west

Figure 18: Staircase in No. 3 cellar (ecclesiastical stonework was in space behind wall in foreground)

Figure 19: 5 Lich St

Figure 20: Medieval construction trench packed with rubble CG73, facing south

Figure 21: Late medieval sandstone foundation CG98, facing west

Figure 22: Post-medieval pit CG69, facing south

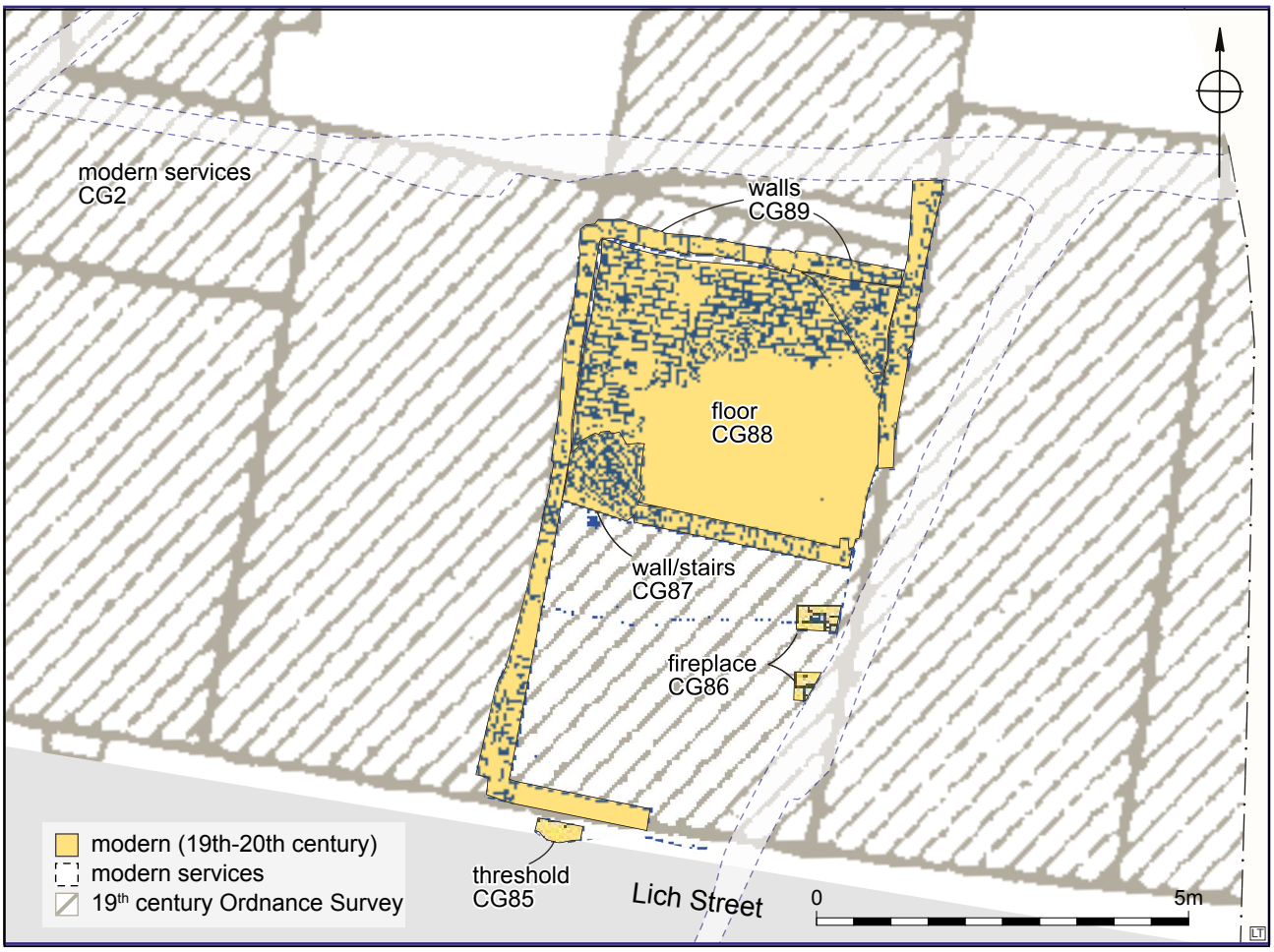


Figure 23: 7 Lich St

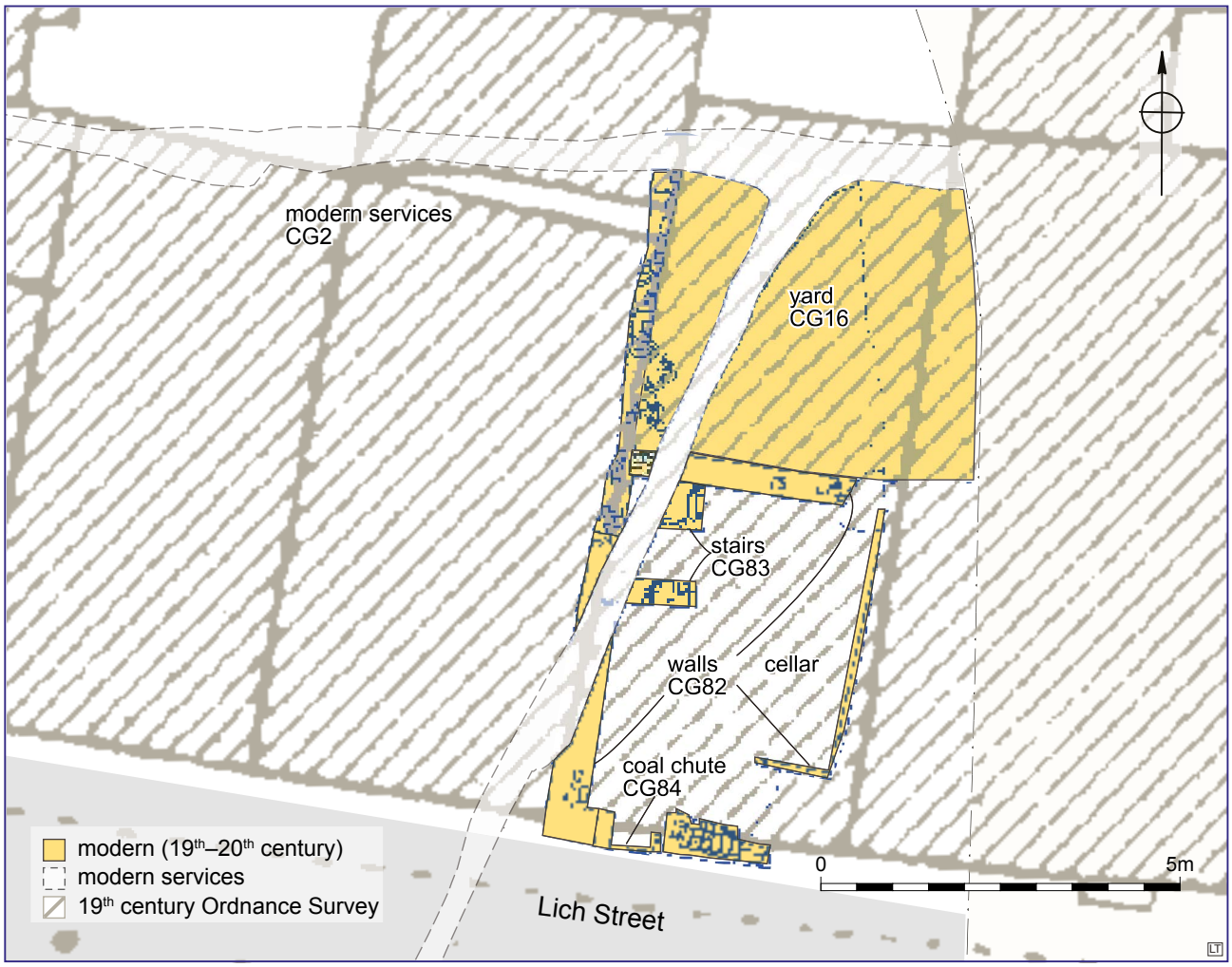


Figure 24: 9 Lich Street

Figure 25: 6 Lich Street

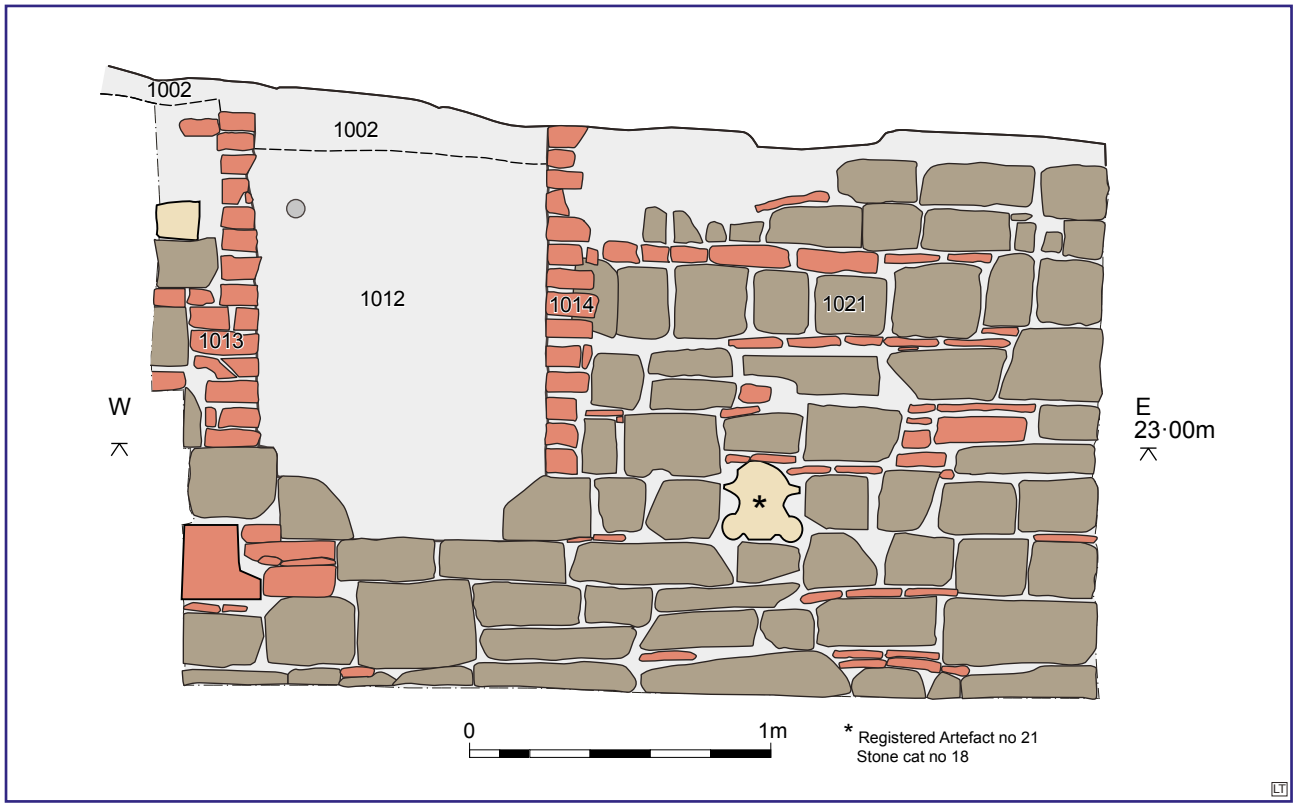


Figure 26: Elevation of cellar wall 1021 (CG58)

Figure 27: Sandstone cellar walls CG58, facing north

Figure 28: 4 Lich Street and 4 College Street

Figure 29: Cellar walls No. 4 Lich Street, facing north

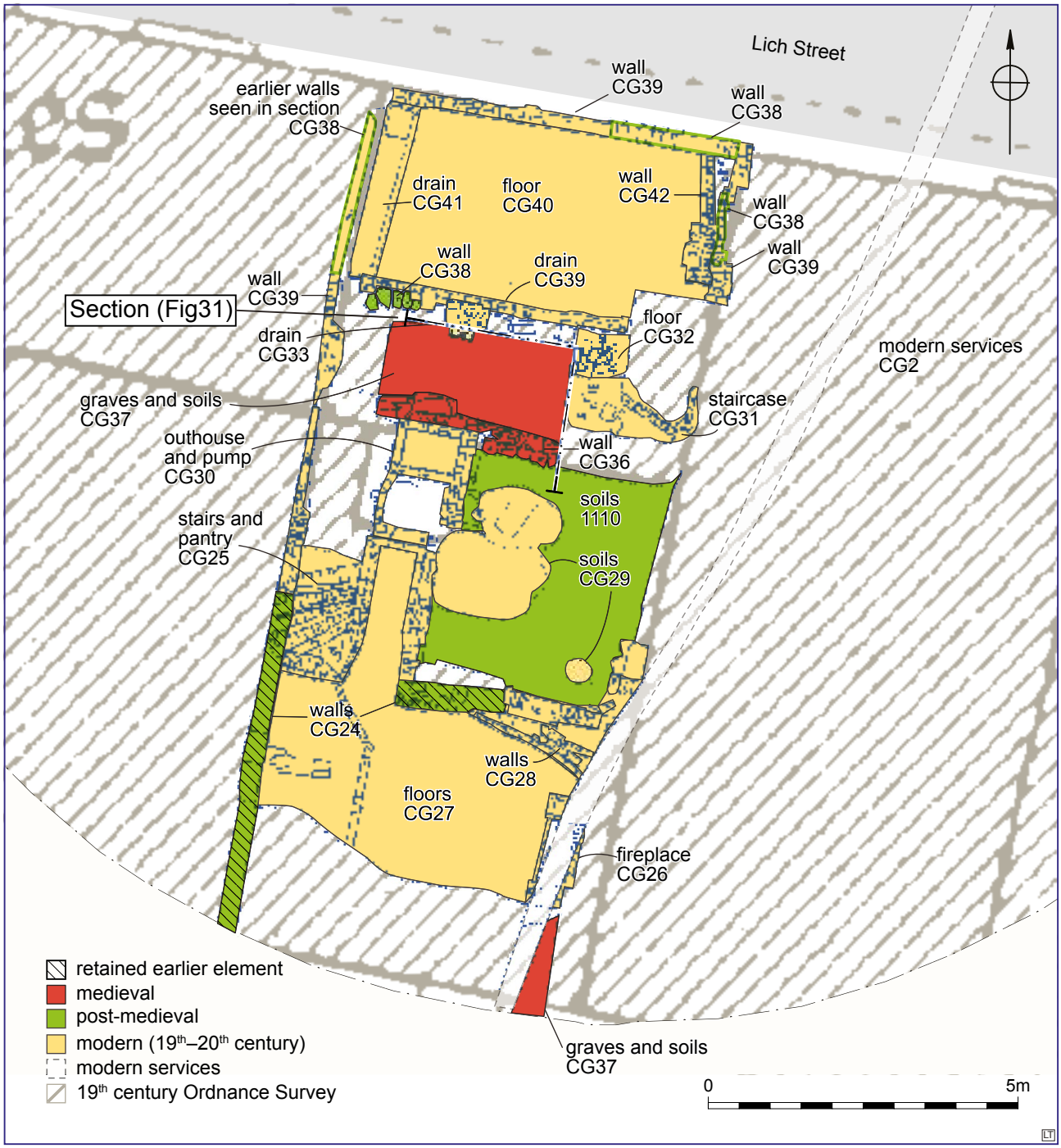


Figure 30: 2 Lich Street and 3 College Street

Figure 31: Medieval wall CG36, facing south

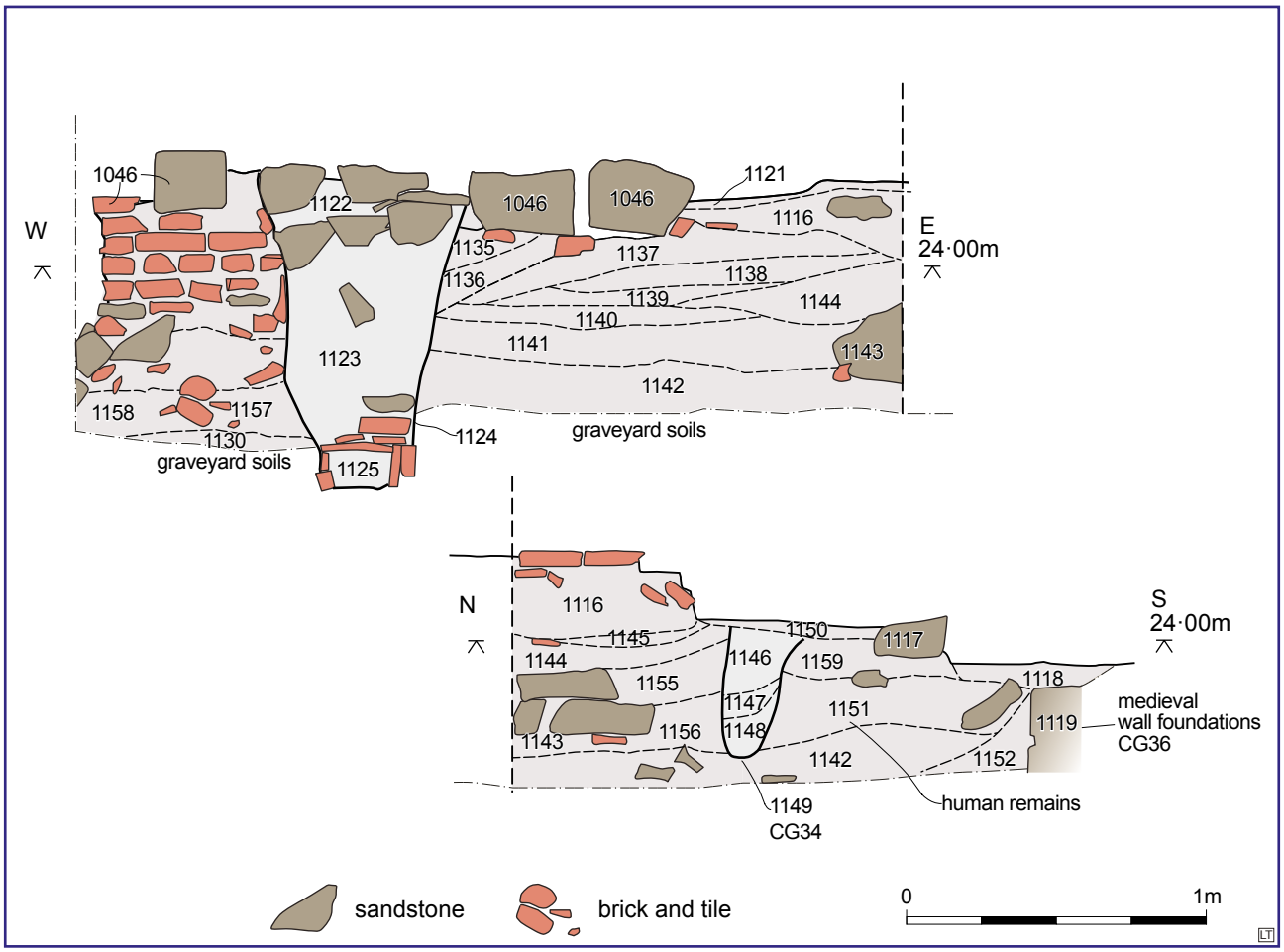


Figure 32: Late medieval soil deposits (CG35) south of no 2 Lich Street

Figure 33: Late medieval rubble and soil deposits CG35, facing east

Figure 34: Sandstone wall No. 3 College Street CG24, facing west

Figure 35: Staircase and pantry CG25 in No. 3 College Street, facing north

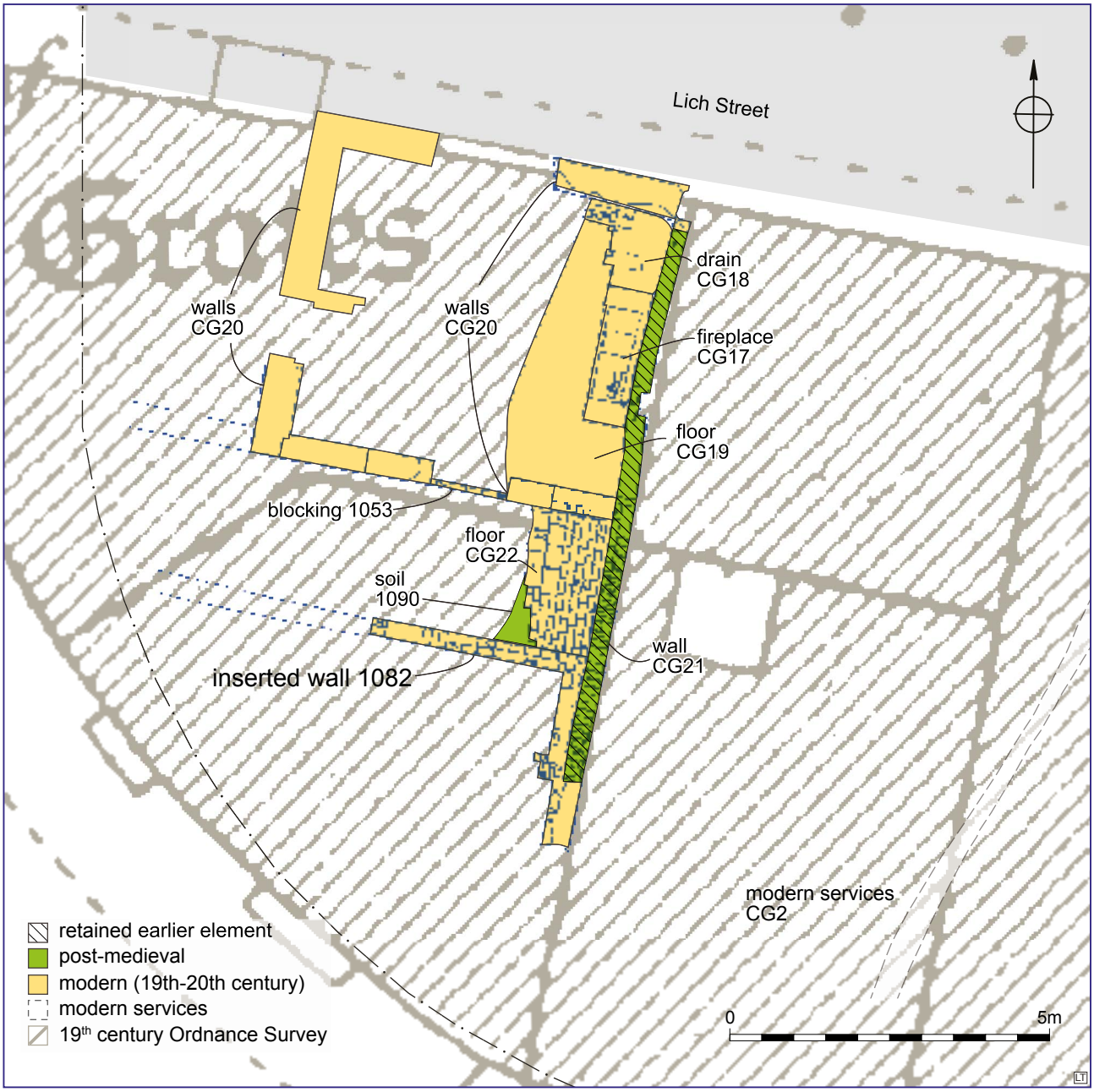


Figure 36: 1 and 2 College Street

Figure 37: Fireplace CG17 in No. 1 College Street, facing east

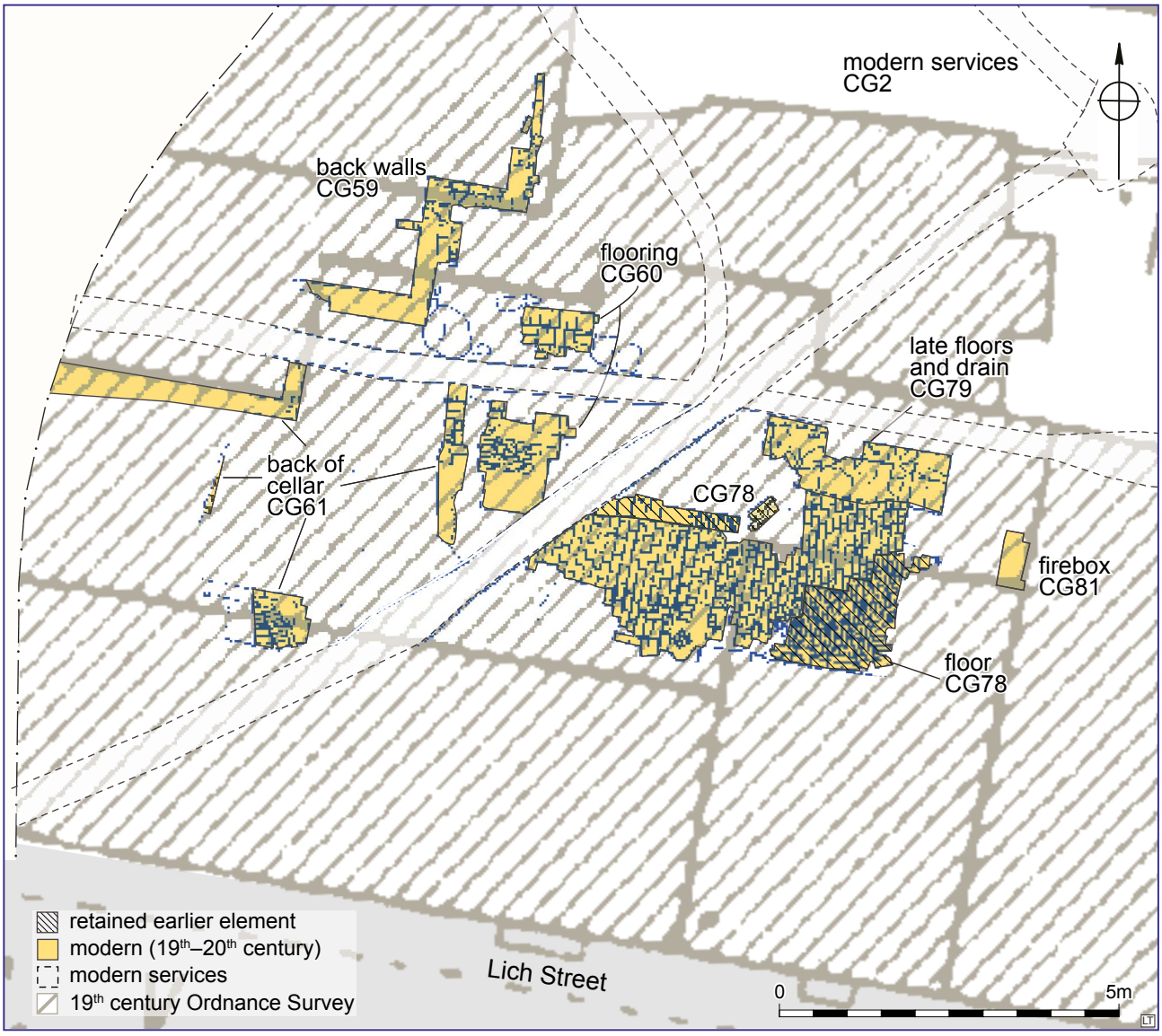


Figure 38: 1/1A/1B High Street

Figure 39: 2 High Street and Yard and outbuildings

Figure 40: Brick outbuildings CG91 and CG90, facing north

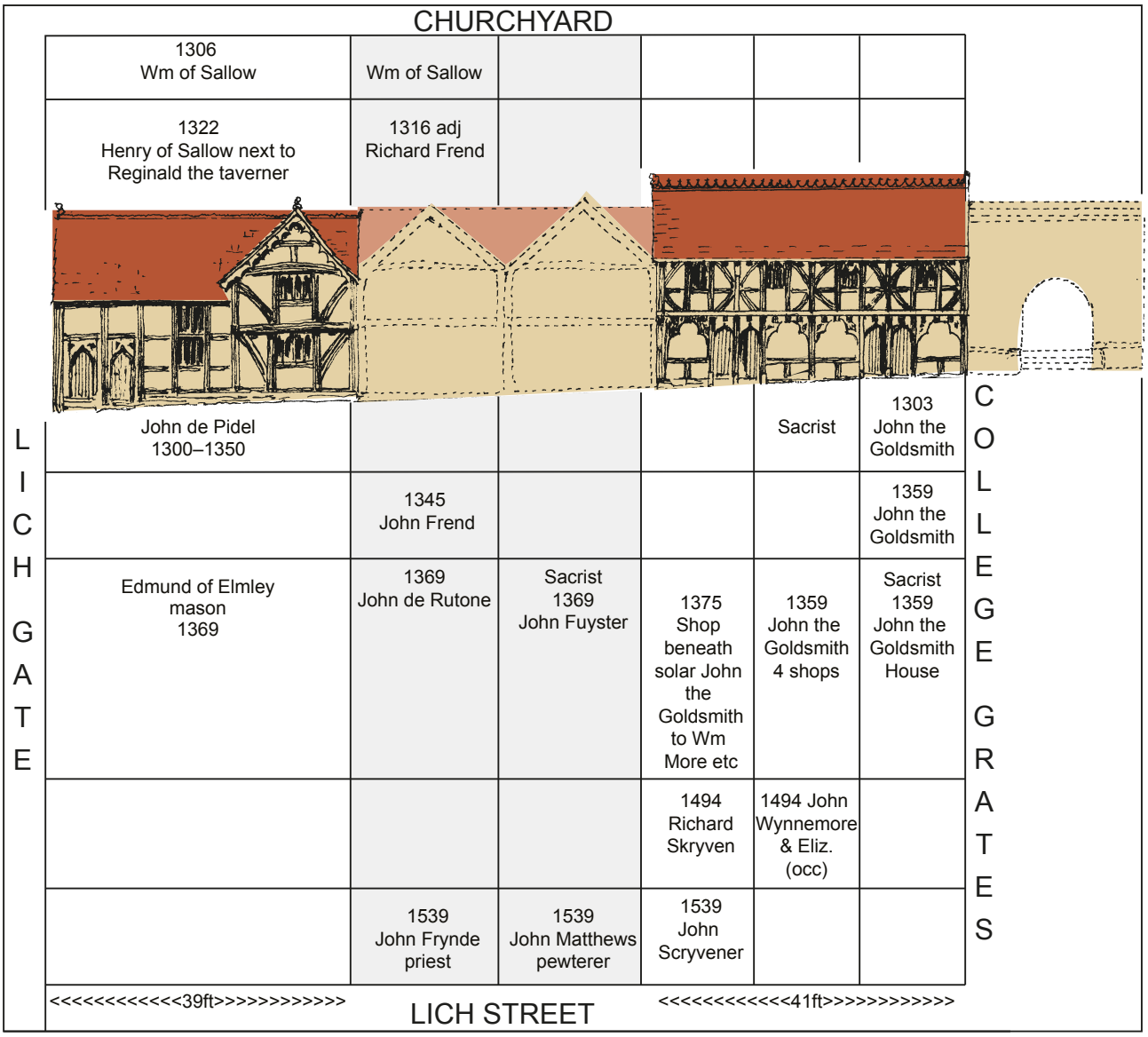
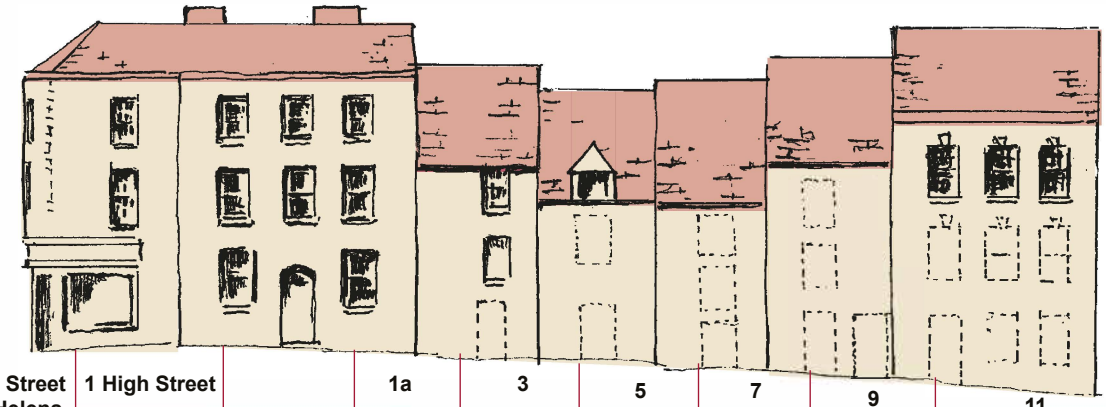


Figure 41: Lich Street south - schematic reconstruction Street frontage and occupation from the medieval to the late-medieval period (1306-1539).
Entries above the street image show occupants in the rear of the properties, entries below show occupants in the front of the properties. Grey shade denotes conjectural entries.

Lich Street St. Helens	1 High Street		1a	3	5	7	9	11	13
	1557 Rich. Dankes Joiner	>>>>>>>>>>	46ft	>>>>>>>>>	1554 Stable for 2/3 High St. John Parton				
						1696 Robert Cozins			
1649	John Biddle Hall shop kitchen and 3 rms over + stable and 55'x12'	1649 John Biddle land set out for extra dwelling		1649 John Biddle	Stable William Child/	John Jewkes	1649 Jane Buller 4½ x 16 x 3 ⅝ yds	Humphrey Lurcock The Three Pies	
	1662 Biddle				1670 John Belson married Child's wid.	1670 Richard Adney	1670 Gilbert Hunt		
1678	Mary Jakeman /Ed Jones				1678 John Belson	1678 Richard Adney	Richard Hunt		
	1687 Edward Jones encroachment and cellarhead				1696/1704 Dr Thurston +wid				
	1698 John Rea encroachment and cellarhead Early 1700s Jakeman Rea Joiner		Jacob Heap				1729 Late Mary Taylor now Geo Mense glover	1729 occ Robert Wakeman Victualler used as brewhouse and stable	1729 Sam Hyron baker
	1755 Jackman Rea Joyner(d) 1744 Philip Rea encroachment and cellarhead					Geo Mence Glover	1737 Jeremiah Rhodes	1737 Joseph Hall and Sarah (dau) sold to 1737 Wm Davis Bricklayer	1737 now Sam Malpas E
1768	1768 Philip Rea Joiner	>>>>>>>>>>	>>>>>>>		1768 Thomas Ward at no. 2/3 High St.	1768 Joseph Yarnold Glazier	1778 John Hare 4½ x 16 x 3 ⅝ yds	Joseph Yarnold Glazier 1784 John Malpas Glazier	Sam Hyron Baker
						1770 John Smith Glover step and cellar window		Will 1796 John Stone	
						1782 John Palmer Glover	1782 John Hare Salesman	1782 John Malpas	

Figure 42: Lich Street north - Reconstructed street frontage and occupation from the late-medieval to modern period (1554-1782)



Lich Street St. Helens	1 High Street		1a	3	5	7	9	11	13
Grundy 1792/4 Only these nos. given	John Scott Tailor		(19) Joseph Mitchell Staymaker	(18)	(17) Charles Yarnold Glazier	(16) John Bluitt Salesman	(15) John Hare Salesman	(14) John Malpas Glazier	
	1799 Mary Newton	>>>>>>>	>>>>>>>	Mary Newton	Formerly stable occ Ann Rouse	Wm Moore Excise Officer also Salesman			
Lich Street St. Helens	**1 High Street**	**1 Lich Street**	**1a**	**3**	**5**	**7**	**9**	**11**	
1810–25						Was John Palmer	1810 John Hare's wid. Mary	1825 was Jn Malpas dcd then Jon Pearson Late Sam Williams now - Overton	
1831					1831 John Norman Stonemason Mess. yard. offices				
1838	Robert Berkeley of Bath occ Olivia Rogers	>>>>>> 46ft	>>>>>>	John Cole	1838 occ Chas Beck				
Bentley 1841				John Cole Shoemaker	John Norman Stonemason				
1846	Robert Berkeley of Bath				Was Charles Beck Glazier now - Brown				
Census 1851				John Cole	Joseph Potter Boot Closer	Joseph Lewis	Geo Martin	Richard Robins baker	
1852	Robert Berkeley now James Darke Rebuilt 14yrs ago 46' x 13'6"	>>>>> 46ft	>>>>>	John Cole Shoemaker					

Figure 43: Lich Street north - Reconstructed street frontage and occupation from the late-medieval to modern period 1792-1852

Lich Street St. Helens	1 High Street	1 Lich Street	1a	3	5	7	9	11
Ecc Com 1856	Benj & Jos posession Mrs Darke widow James Darke occ Mrs Bury hse & small shop	>>>>> 46ft	>>>>>	John Cole Shoemaker		Joseph Lewis dated 1806. Copy 7 Fred. Wadley very old brick.tile poor repair	CC 33737 lease dated 1806 Joseph Burden now G.Rose occ Widow Jennings Old 5 up 2 down Brick tile bad repair 16 x 4½	John Lucy
Census 1881				Oxford Cottage John Davis Tailor & draper	Thos. Purcell cordwainer + 1 uninhabited	Mary Lloyd sempstress	Geo. Rose builder	Wm Marshall
1885		A.O. Mainwaring provisions		Mainwaring Warehouse	Dr Woodward Stables	James Hill Engine Driver		Wm Marshall Dairyman
1905		A.O. Mainwaring provisions	Chas Hawkes labourer	Mainwaring stores	Void	Elizabeth Russell Charwoman		William Marshall
1912		RA Bell Provisions	Mrs L. Lee Registry	Oxford Cottage Cycle Stores	RA Bell (Stores)	Mrs Parsons Cycle Stores		Wm King Waiter
1922		LH Fearis Provision merchants	Worcester Camera Club	LH Fearis Stores	Sam Yarnold	Mrs M Harman		

Figure 44: Lich Street north - Reconstructed street frontage and occupation from the late-medieval to modern period 1856-1922

	St Michael's Church	6 Lich Street	4 Lich Street	2 Lich Street	1 College Street	1a College Street	College Grates
1649	1649 Richard Edlinson	Henry Gonderton	Francis Thomas 1839 Smith 12x30ft	Phillip Tinker 1839 8/4/8 Jas 11x30ft	Thomas Lewis 1839 12x30ft		1
1678 HT		John Collins 3	Mr Doughty 1	Mr Badnam 2	Peter Lewis 2 now Robert Hopkins		Eli Guest
	Quirinius Wynnen Tailor (RDs dau married QW)	1670 Copyholder Blurton/Cooksey Occ Bernard Hopkins	1670 Copyholder Daniel Hughes				
	1693 newly built John Cooksey previously ED & Q Wynnen	1693 John Butler 1699 tenant M Briaval	1693 Daniel Hughes	Humphrey Maye Herefs	1693 Peter Lewis probably divided Peter in half John Hatchman in half 1699 Peter Lewis tenant T Jones	1693 Wm Rawlins Copyholder John Cookesey 1699 tenant Edward Foster	1693 Thomas Hall
			1712 Matthias Boulton? tailor	1712 George Scarret James Morton Tailor	1712 Theo Lewis	1711 John Russell now in possession Thomas Wright or undertenant	1711 The Halls Thos & Rich had the property 'by and over' the College Grates and maintained it at their own expense
					1726 Wm Gwill	1726 Francis Gresley	1726 Wid Hall passage from High St
			1728 -Sheldon	1728 Jn Pitt was George Scarrett's assigne Lately divided Thos Clarke/ Thos Wright	1728 Sam Malpas		
			1742 Mary Lea	1742 John Callow His wife was heiress of John Pitt 2 mess Thos Clarke S/Thos Wright N	1742 John Beauchamp Jane Morgan (19' 1" x 19' 10")	1740 Robert Slater assigne of F. Gresley	

Figure 45: Lich Street south - Reconstructed street frontage and occupation from the post-medieval to modern period (1649-1742)

	St Michael's Church	6 Lich Street	4 Lich Street	2 Lich Street	1College Street	1a College Street	College Grates
1744			1839	1839	1839 1744 Peter Lewis	1744 Joseph Morgan (Lewis sold to Sam Malpas who sold to David Morgan (d1739)	1744 Thomas Hall
1762 Elizabeth Dowler Public House	[Q Wynnen repeated]	1750s Mary Thomas 1 mess formerly 2 now John Cooksey	[Daniel Hughes repeated]				
1750s		1752 Rev Thos Thomas	1752 John Callow Yard occ Jos Mitchell Staymaker Thomas Higgins	1752 Thomas Moreton	1753 property of Forrest, tenant to Morgan bequeathed to Mary Morgan decd	1753 Jos. Morgan	1753 Edward Amis
1752/3			1756 Eliz. Morgan?	1756 Elizabeth Moreton assignee of Jn Callow/Pitt divided 2 hses occ Harris/ Morton	1756 Eliza Morgan	1758 surrendered to Elizabeth Morgan by Thomas Lewis	
1756	1762 St Mich Mr Cooksey's 2 tenements now Mr Thomas occ John Hare/Sam Pembridge See below Lillington			1762 John Harris			
1762 Elizabeth Dowler Public House		1766 Late Wm Higgins	1766 Thomas Higgins salesman d.1775 left to Ann wid.		Thomas Hale formerly Peter Lewis	Elizabeth Morgan freebench	Thomas Hall
							1767 Geo Gillam Rebuilt occ Amis and Pembridge
1779–1807 College Street inserted		1797 Elizabeth & AnnThomas			1807 Joseph Pettifer Grocer	1779 Archibald & Elizabeth Duncan nee Morgan	**Demolished 1794**

Figure 46: Lich Street south - Reconstructed street frontage and occupation from the post-medieval to modern period (1744-1767)

	St Michael's Church	6 Lich Street	4 Lich Street	2 Lich Street	1 College Street	1a College Street	College Grates
1839		1839 Jn Green > Thos Fisher	1839 Yard 19 x 14 Thos Hyde occ Jn Thomas > Geo Ros	1839 Jn Scott > Henry Bennett Theatre manager	1839 Henry Bennett Theatre manager Joseph Pettifer Grocer	1839 Henry Bennett Theatre Manager	**NOW COLLEGE STREET**
1841 Bentley also		Wm Hughes Shoemkr	Humphrey Jones Broker	J Hope Shoemkr			
Census 1841		Wm Hughes	Thos Mills	John Hope	Jos. Pettifer Grocer Henry Bennett Theatre Manager behind frontage	Jos Gillam	**NOW COLLEGE STREET**
1852 ECC Com	Lillington Copyhold 20 dated 1841 Hughes/Fisher Indifferent repair	Copyhold dated 1852 Geo Rose N Shop 1 rm down 4 up and Mr Wollons S occ. 1 rm 3 over					
1884 Littlebury	St Michaels	Wm Teague	Dr Woodward	Public Vaccination Rms			
1900 Littlebury	St Michaels		Geo Till surgeon				
1905 Littlebury	St Michaels	Wm Teague woodturner			A.O Mainwaring Provision merchant	on corner	
1912 Littlebury	St Michaels	Wm Teague woodturner	Mrs Parsons Refreshment rooms		A.O Mainwaring Provision merchant	on corner	
1922 Littlebury	St Michaels	Back entrance to Faithful City Cafe	__ Missing in directory				**NOW COLLEGE STREET**

Figure 47: Lich Street south - Reconstructed street frontage and occupation from the post-medieval to modern period (1839-1922)

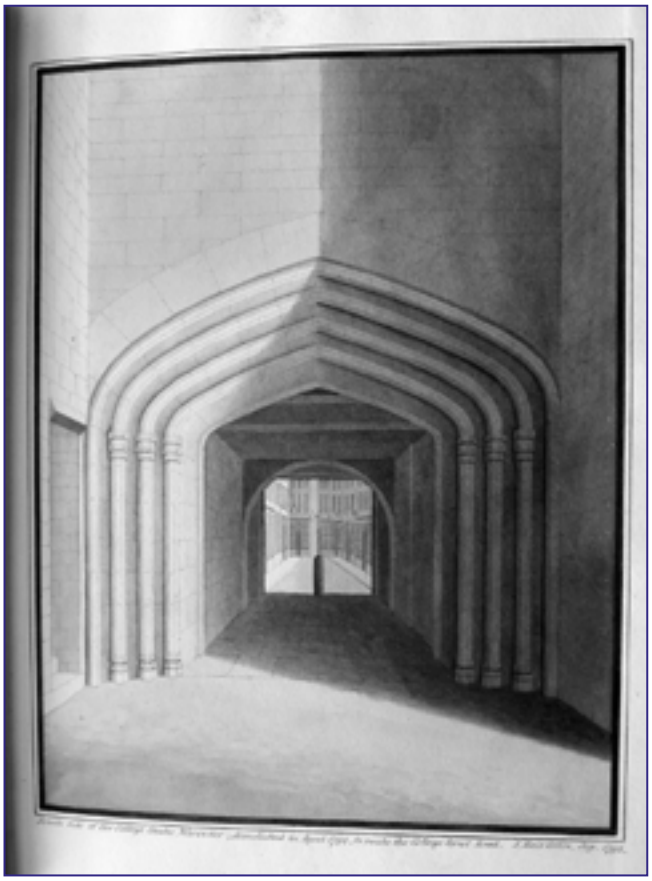


Figure 48: College Grates Original pen and wash by James Ross inserted in Valentine Green. History and antiquities of the city and suburbs of Worcester. (Vol. II 1796) Hurd Library

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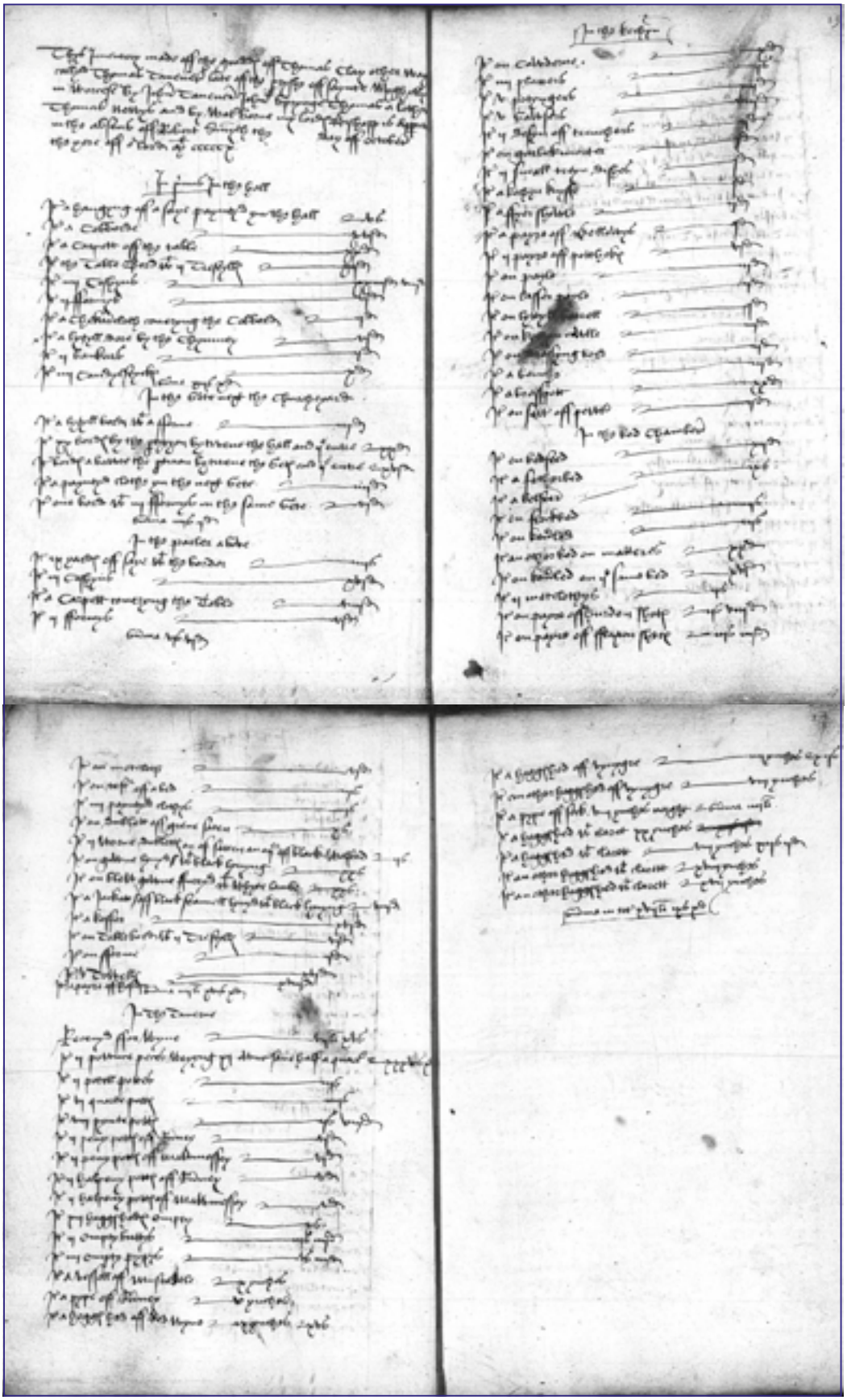

Figure 49: Inventory for John Taverner, October 1510
Worcestershire Archive and Archaeology Service, 008.7 BA 3590/1 Volume II 12-14

Thys Inventory made off the gooddes of Thomas Clay other way callyd Thomas Taverner late of the paryshe off Saynte Mygelles in Worcester by John Taverner John Sprynge Thomas a … Thomas Newys and by Wat borne my Lord Bishopp is Appriser in the absens off Robert Smythe the … (sic) day off October the yere off our Lord m cccccx

In primis In the Hall

It a hangynge off a saye payntyd yn the hall	vs
It a Cobberde	xvjd
It a Carpett off the table	xxd
It the Table Bord wth ii Trestylls	xijd
It iiij Coshyns	
It ii formys	vjd
It the Checkercloth coveryng the Cobberd	ijd
It a lyttyll dore by the Chymney	vjd
It ij bankers	ijd
It iiij Candylstycks	xd

Summa xiij s xd

In the Sete next the Churcheyard

It a lyttyll borde wt a forme	iiijd
It xx bords by the p[ar]tycion bytwene the hall and ye entre	xxd
It bords abowte the p[ar]ticion betwene the Sete and ye entre	xvjd
It a payntyd clothe yn the nexte Sete	iiijd
It one bord wt iij formys in the same Sete	vjd

Summa iiijs ijd

In the parler above

It ix yards off Saye wt the border	iiij s
It iij Coshyns	xvjd
It a Carpett covering the Table	viijd
It ii formys	vid

Summa vjs viid

In the kechyn

It on Cawderne	xd
It iij platters	ijs
It v pottingers	xijd
It v Sawsers	viijd
It ij dosyn off trenchers	ijd
It on garlickmortar	jd
It ii small treyn dishes	jd
It a kechyn knyffe	jd
It a Fyer showle	ijd
It a payre off Bellowys	jd
It a payre off potthoks	vd
It on payle	iijd
It on lesser payle	ijd
It on lyttyll barrell	jd
It on kechyn cowlle	iijd
It on dressyng bord	iijd
It a benche	iijd
It a brasspott	xxd
It on salt off pewt [er]	ijd

Glossary

In primus – in the first place

It – abbreviation for item

Hall

Saye -Woollen Cloth

Cobberd – Cupboard

Banker - bench

Sete

Sete – probably a settle, which backed on to the partition which separated the hall from the entry

Kitchen

Cawderne – cauldron

Pottynger – a small basin

Cowle – a large vessel

Figure 49(i): Inventory for John Taverner, October 1510 Transcription

In the bed Chamber

It on Bedsted	xijd
It a fetherbed	ixs
It a bolster	
It on flockbed	iiijs
It on kev[er]led	iijs
It an other bed on matteres	xxd
It on kev[er]led on ye same bed	xvjd
It ij metclothys	iis
It on payre off hurden shetes	ijs viijd
It on payre off Flaxen sheets	iijs iiijd
It on metcloth	vjd
It on test[e]r off a bed	iijs
It iiij payntyd clothys	iiijs
It on dublett off grene saten	xs
It ij worne dubletts on of satten an other off black Wolsted	ijs
It on gowne lynyd wt black lynyng	xxs
It on blew gowne Furryd wt Whyte Lambe	xxs
It a jacket off black scamell lynyd wt black lynyng	viijd
It a koffer	xvjd
It on Table bord with ij Trestylls	vjd?
It on Forme	ijd
It v Towells	xvjd
It a payre off hose??	xviijd

Summa iiij li xviij s x d

In the Taverne

Recyvyd For Wyne	vij li xvs
It ij powure peces weyyng xj Abut save half a quart	xxxvs xd
It ij potell pottes	iijs
It vi quarte potts	iiijs
It viij pynt potts	ijs viijd
It ij peny potts off Ridney	vjd
It ij peny potts off mawmessey	vjd
It ij halpeny potts off mawmessey	vd
It xij hoggsheds Empty	xs
It ij Empty buttys	iijs iiijd
It iiij Empty pypys	vs iiijd
It a vessel off Muscadell	x ynches
It a pype off Ridney	v ynches
It a hoggshed off Red Wyne	ix ynches xvs
It a hoggshed off vynygre	iiij ynches
It an other hoggshed off vynygre	viij ynches
It a pype off sack viij ynches norght	summa iiij li
It a hoggshed wt clarett	xx ynches
It a hoggshed wt clarett	viij ynches xijs ijd
It an other hoggshed wt clarett	xviij ynches
It an other hoggshed wt clarett	xvij ynches

Summa in tot xvij li ixs xd

Glossary

Chamber

Stammel – a coarse woollen cloth usually dyed red

Keverled – coverlet

Metcloth – a fitted cloth

Tavern

Powure – probably pewter

Potell pots - pots holding half a gallon

Mawmessey , Malmsey & Muscadel, Muscatel, both imported strong sweet wines.

Ridney _?

Figure 49(ii): Inventory for John Taverner, October 1510 Transcription

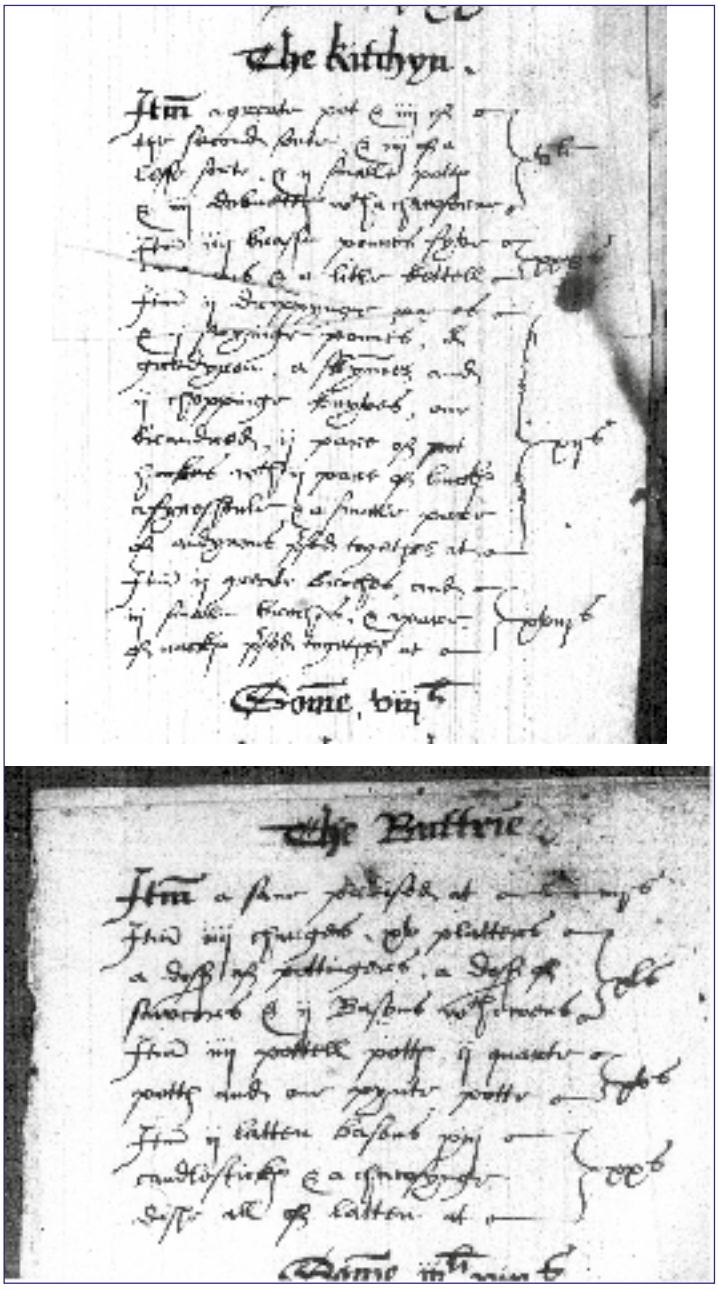

Figure 50: Sections from Elizabeth Parton's inventory, itemising 'pots' of all kinds.
Worcestershire Archive and Archaeology Service, BA 3585 1574/102

Figure 51: Sale posters for 1 and 2 College Street
Worcestershire Archive and Archaeology Service,496.5 BA9630 Cab 11/31 and 32

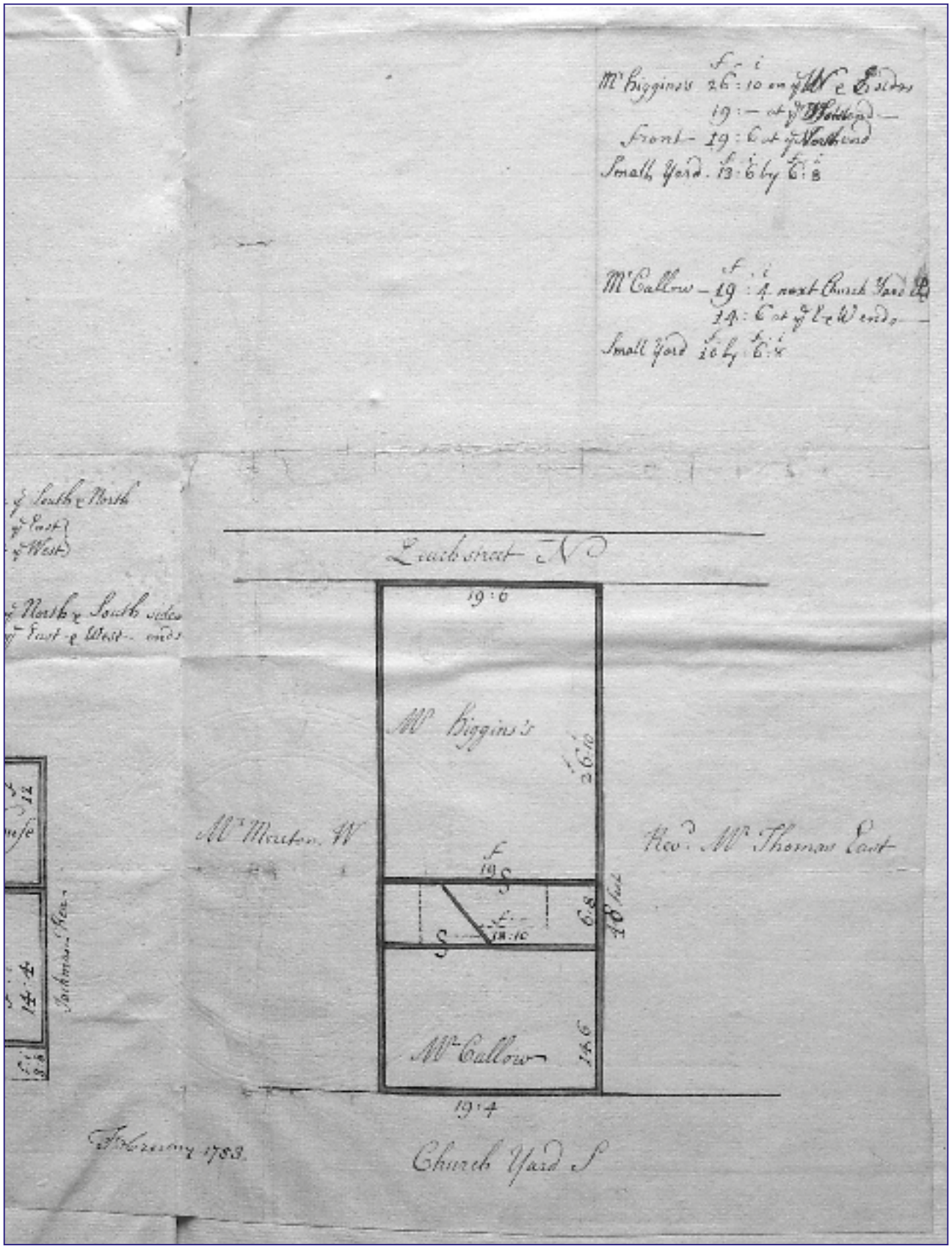

Figure 52: No. 4 Lich Street in 1753; showing the building divided into two dwellings separated by a yard and the named tenants on either side.
Worcester Cathedral Library A146 © the Dean and Chapter of Worcester

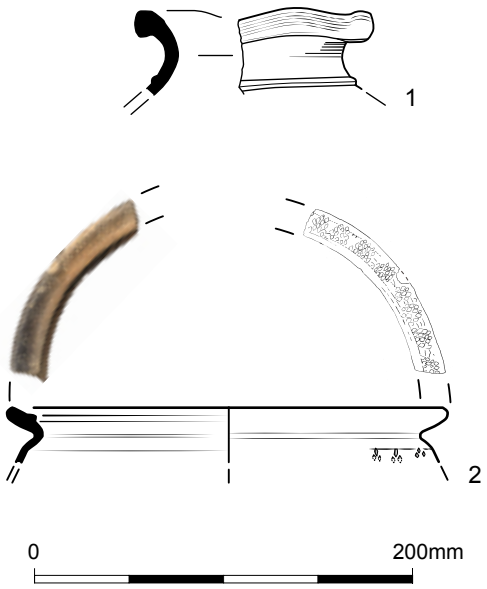

Figure 53: Roman and Anglo-Saxon artefacts

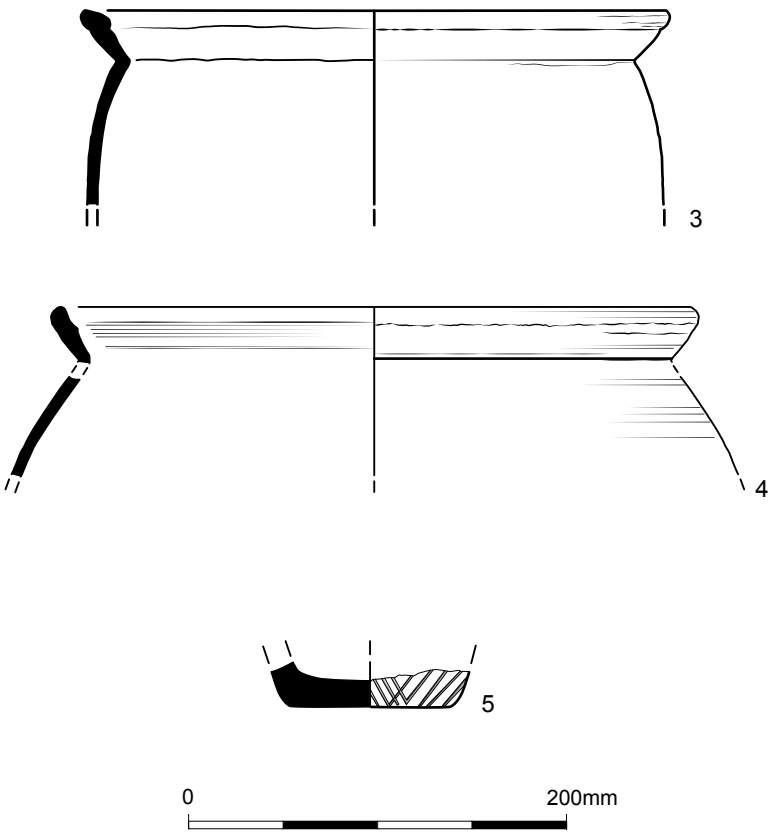

Figure 54: Medieval artefacts

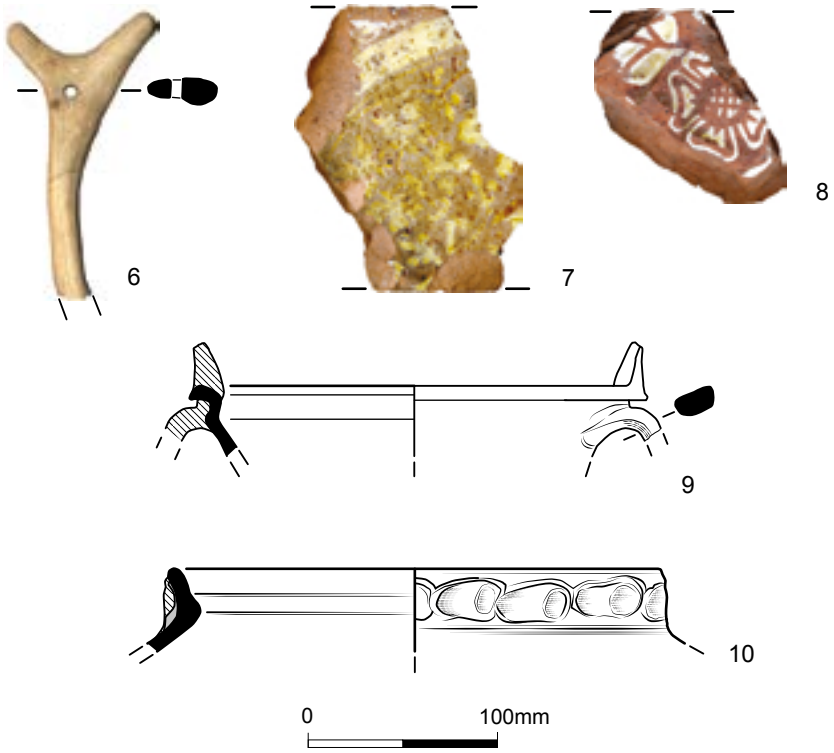

Figure 55: Late medieval/post-medieval artefacts

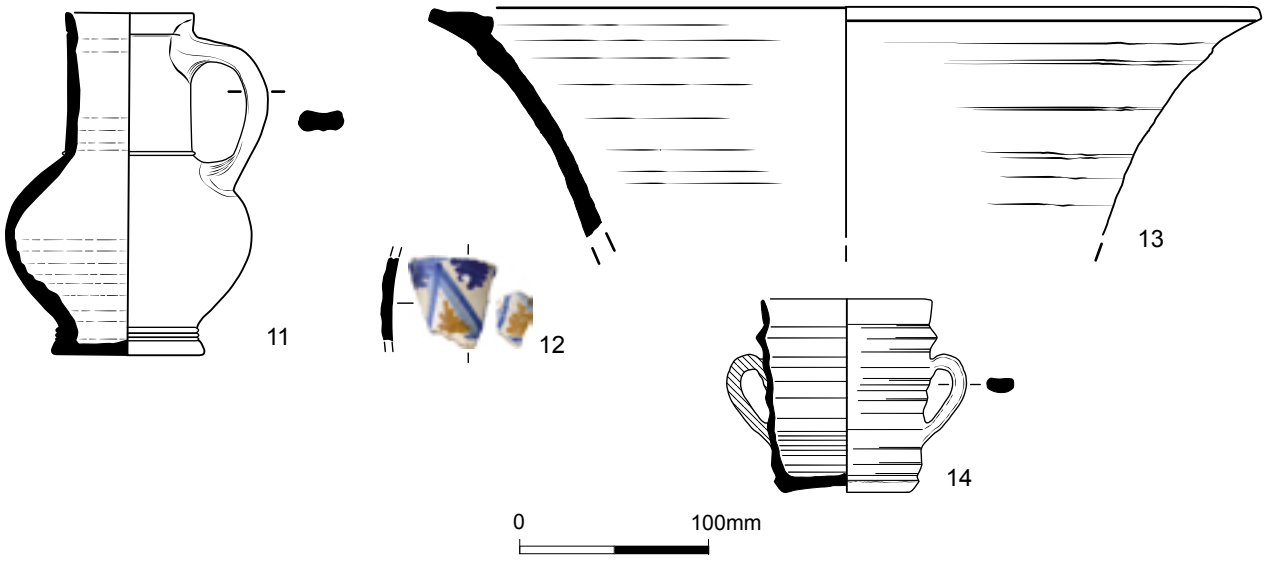

Figure 56: Pottery from no 5 Lich Street

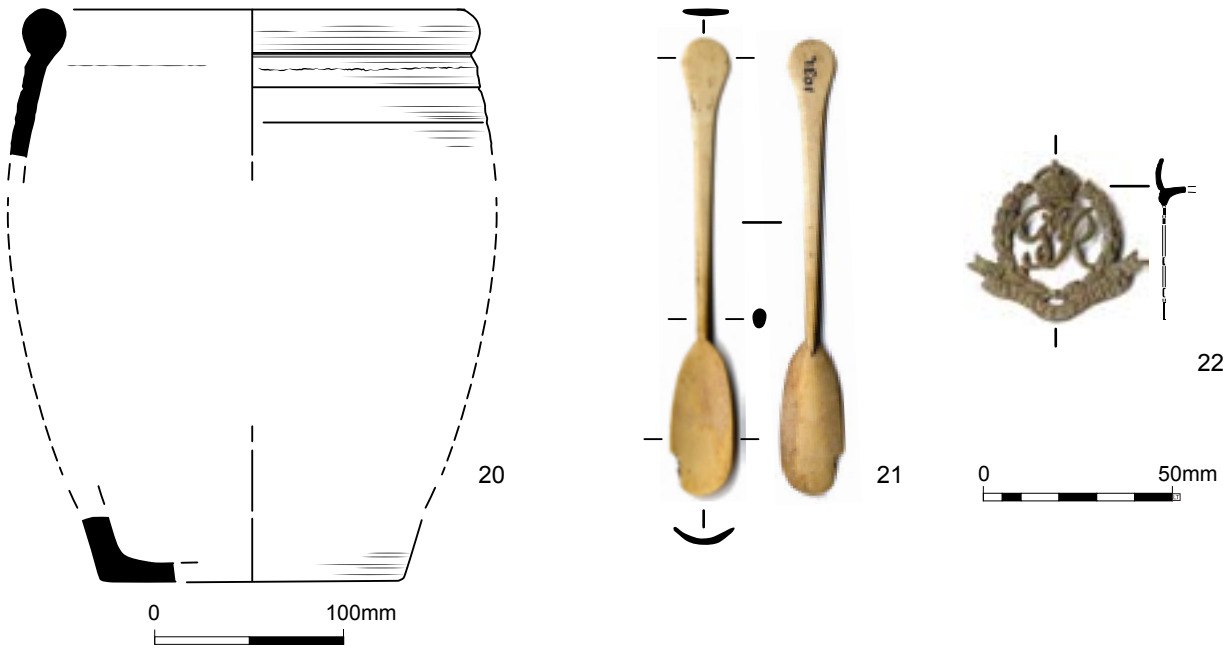

Figure 57: Later post-medieval and modern artefacts

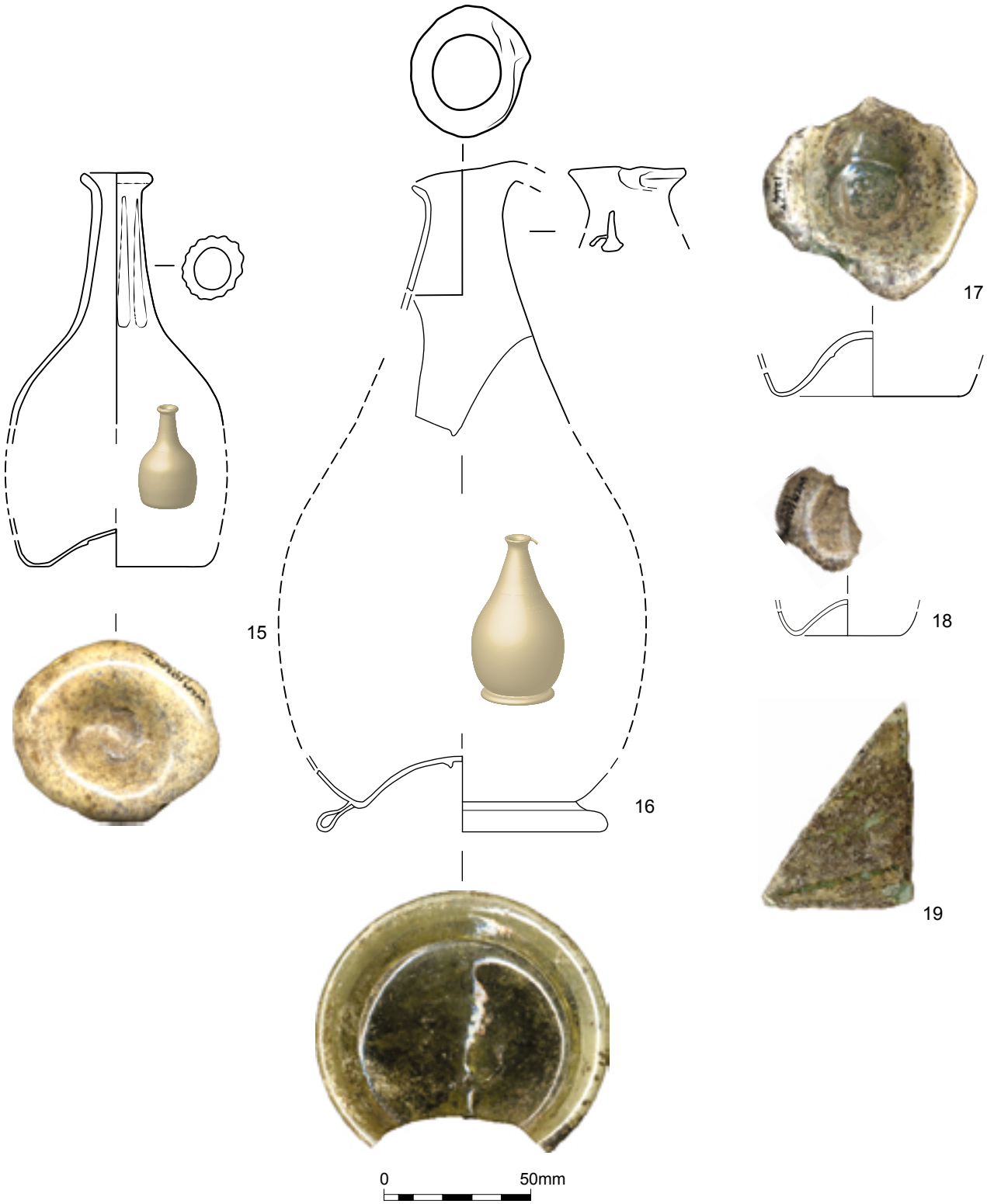

Figure 58: Glass from no.5 Lich Street

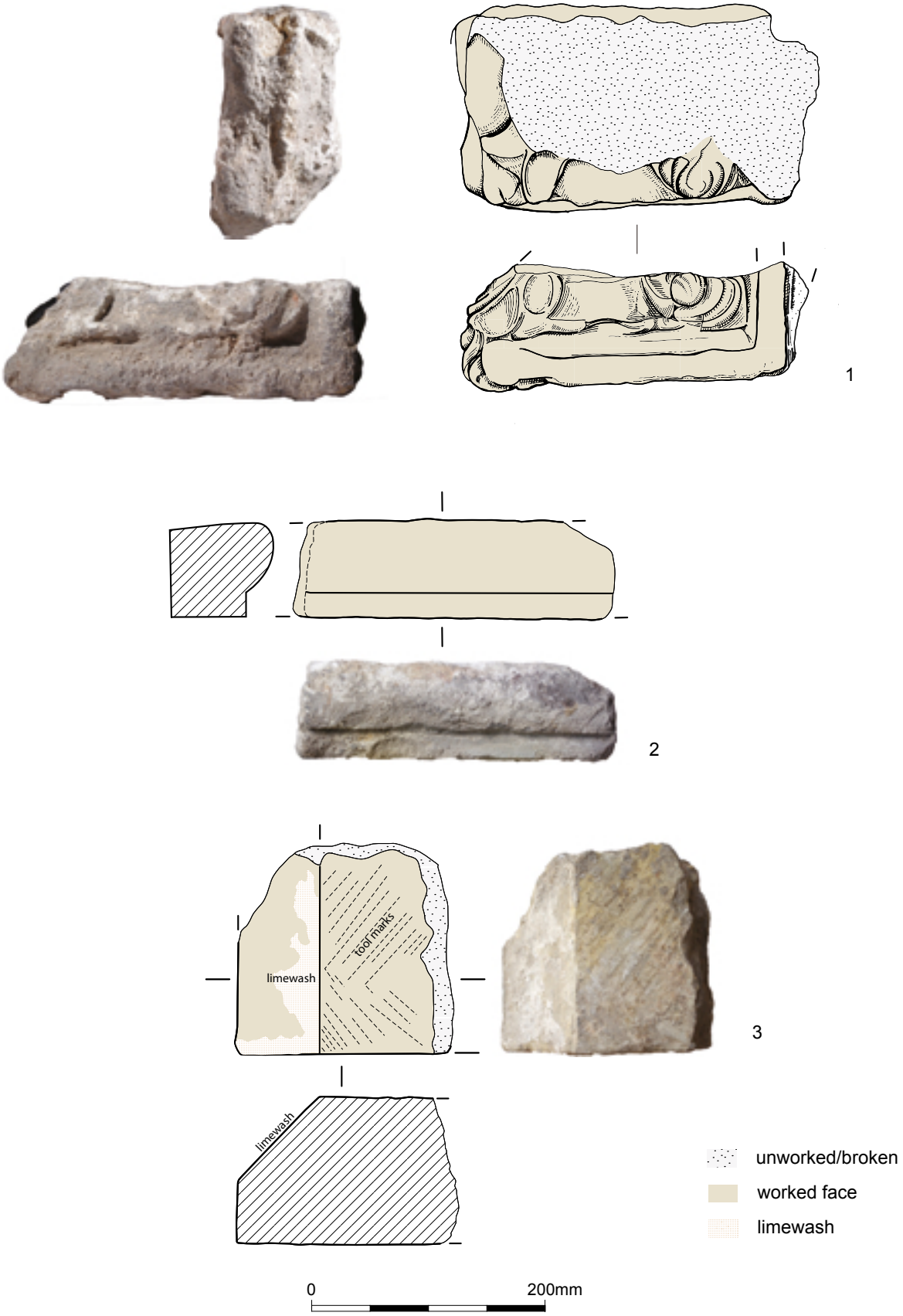

Figure 59: Worked stone catalogue no. 1–3

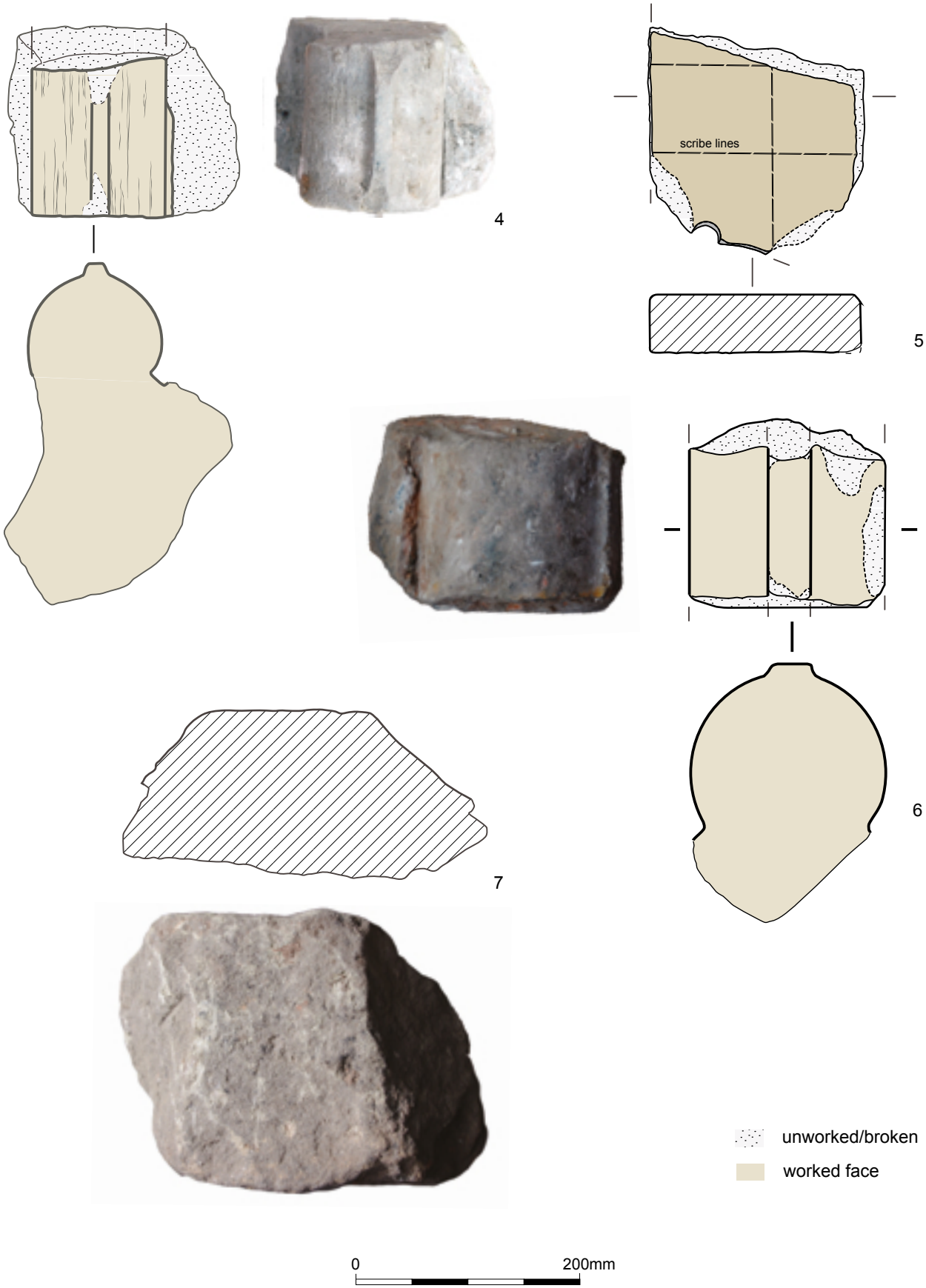

Figure 60: Worked stone catalogue no. 4–7

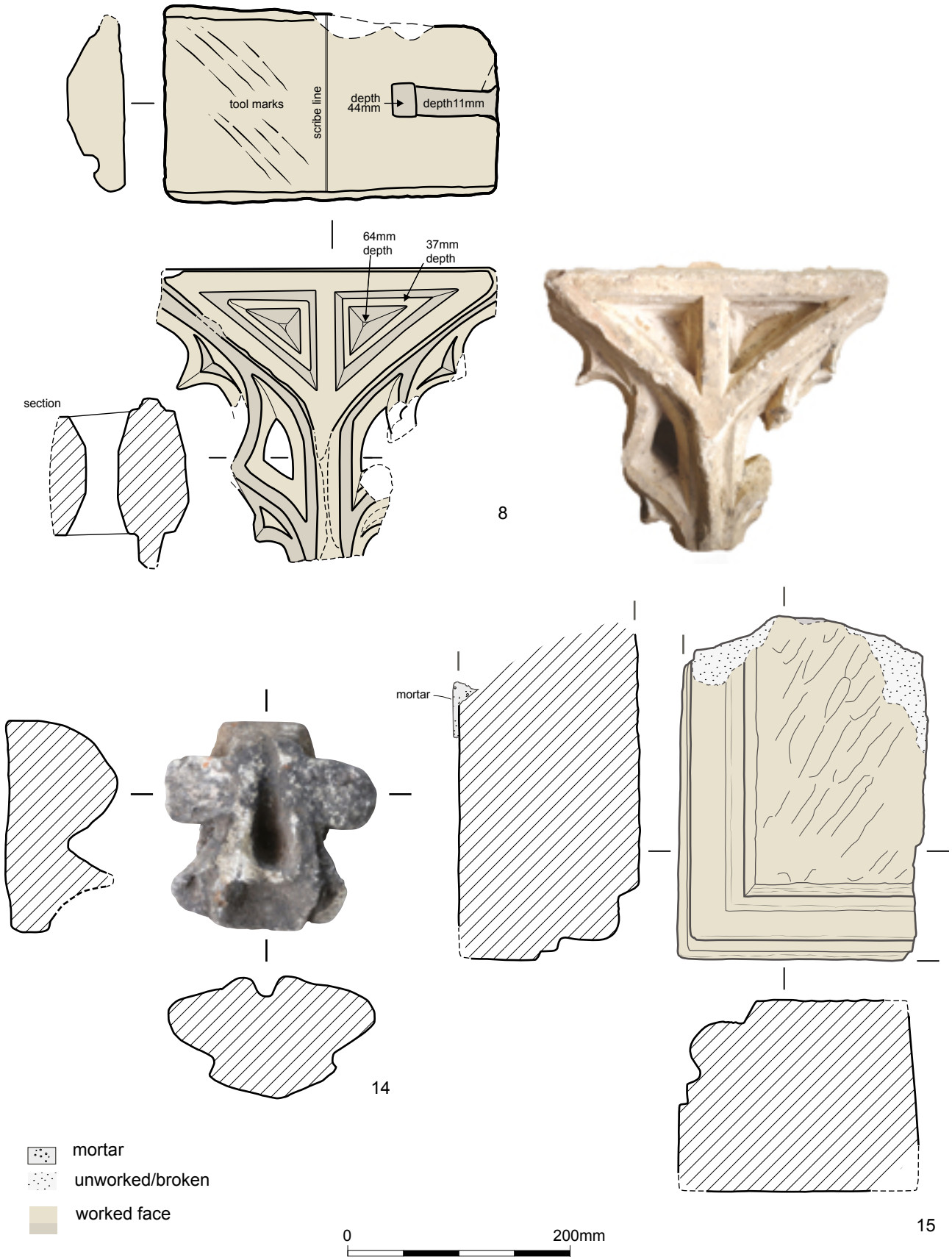

Figure 61: Worked stone catalogue no.8, 14 and 15

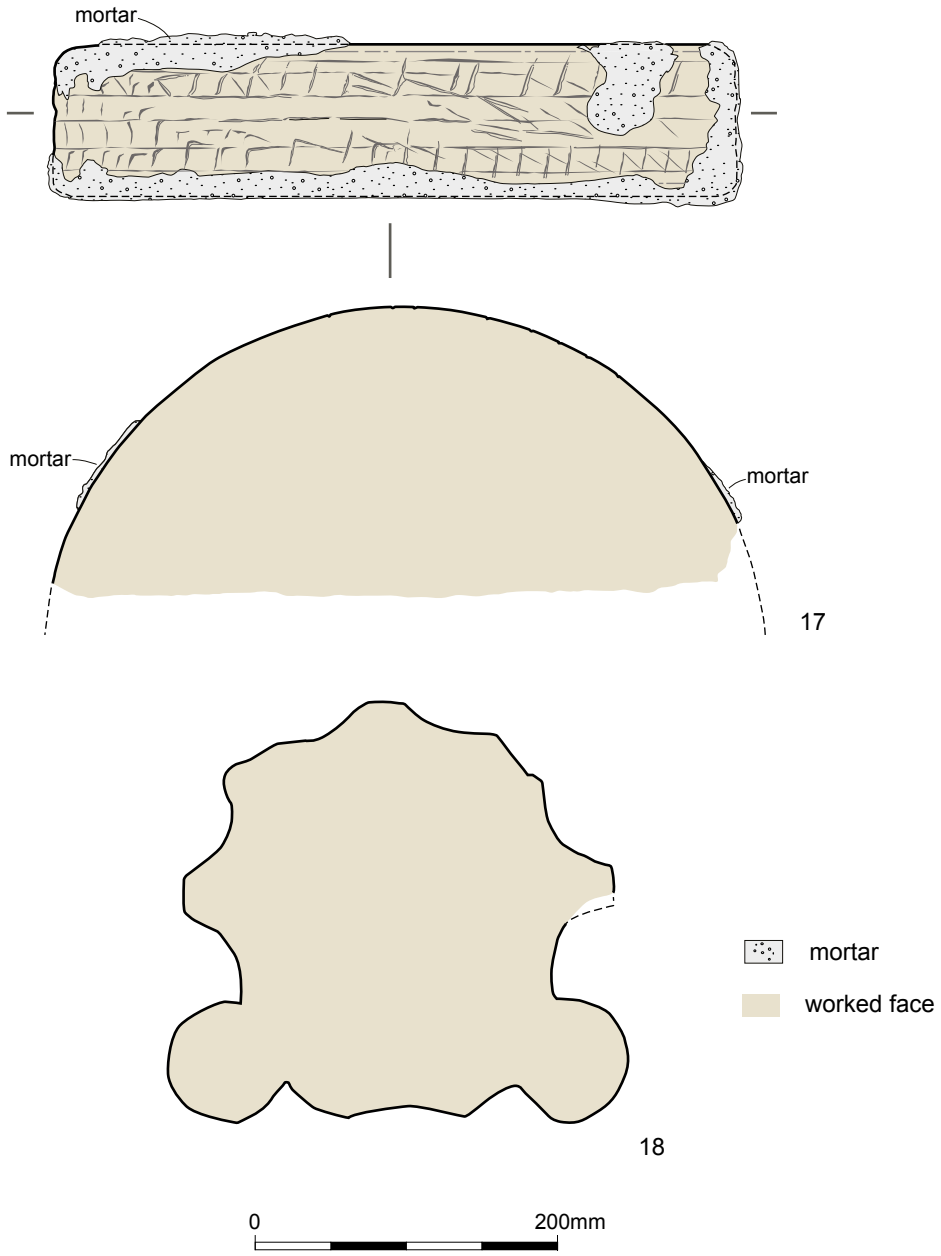

Figure 62: Worked stone catalogue no.17–18

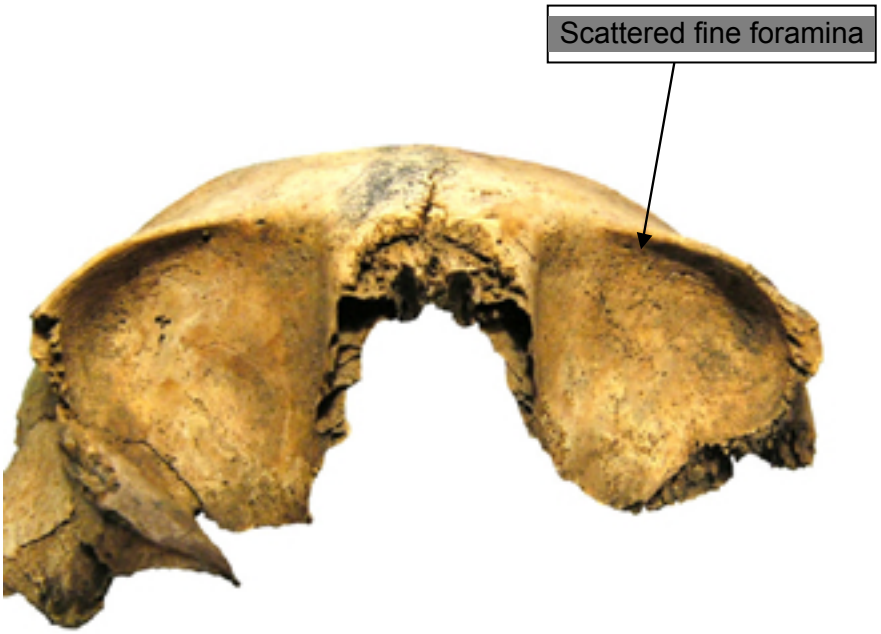

Figure 63: Cribra Orbitalia SK2016a

Figure 64: Dental abscesses associated with caries (SK2016a)

Figure 65: Archaeological features

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