

ARCHAEOLOGICAL DESK-  
BASED ASSESSMENT  
AT  
LOWESMOOR TRADING ESTATE  
(HAMPTON PROPERTIES),  
WORCESTER

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Illustrations by Shona Robson-Glyde and Laura Templeton

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INVESTOR IN PEOPLE

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# Archaeological desk-based assessment at Lowesmoor Trading Estate (Hampton Properties), Worcester

**Hal Dalwood**

## Part 1 Project summary

*An archaeological desk-based assessment of archaeological aspects was undertaken at Lowesmoor Trading Estate, Worcester (SO 8525 5510). It was undertaken on behalf of Hampton Properties, who propose the demolition of a number of buildings across the site, conversion of other buildings, and the construction of a hotel.*

*There is potential for the survival of Holocene alluvial deposits associated with the Frog Brook, but the palaeo-environmental potential of any deposits within the development area is likely to be limited. Archaeological deposits of Roman date have been proven on adjacent land to the west, and it is probable that Roman deposits extend into the development area. Roman deposits within the development area are likely to be of moderate potential, but this has not been demonstrated by field evaluation.*

*The main importance of the development area is in the form of historic buildings, which comprises groups of 19<sup>th</sup> century brick industrial buildings. The majority formed a major element of the former Hill Evans & Co Vinegar Works (and a minor element formed part of the former Grainger Porcelain Works). The factory was one of only four purpose-built vinegar factories in the country. The buildings are not listed.*

*Buried remains relating to both these industrial sites have been demonstrated to survive, in the form of foundations of demolished buildings and other buried structures (including bases of machinery).*

*Recommendations for an approach to mitigate the impact of the development have been made in this report, in relation to both the buried archaeological deposits and the historic buildings.*

## Part 2 Detailed report

### 1. Background

#### 1.1 Reasons for the project

A desk-based assessment of archaeological aspects was undertaken of land that forms part of Lowesmoor Trading Estate, Worcester (NGR SO 85255510). It was undertaken on behalf of Hampton Properties, who intend demolition of a number of buildings on their property and the construction of a hotel. The site is adjacent to land owned by Carillion Richardson, for which planning permission for development has been granted.

#### 1.2 Project parameters

The project conforms to the *Standard and guidance for archaeological desk-based assessment* (IFA 1999), Planning Policy Guidance Note 15 '*Planning and the Historic Environment*', and PPG 16 '*Archaeology and Planning*'.

A project proposal (including detailed specification) was produced (HEAS 2008), which was focused on buried archaeological deposits. Following an email from James Dinn (Archaeological Officer, Worcester City Council), the scope of the DBA was enlarged to include consideration of the archaeological interest of the historic buildings on the site (email to Hal Dalwood, dated 24 October 2008). Fieldwork was undertaken to assess the historic buildings on the site.

#### 1.3 Aims

The aims and scope of the project were to collect relevant information relating to the architectural and archaeological potential of the proposed development area, assess the potential significance of any archaeological remains, assess the impact of the proposed development, and recommend mitigation measures to offset any adverse effects.

Much of the information relating to the archaeology of the site has already been described in a desk-based assessment of Lowesmoor Trading Estate that focused specifically on the adjacent Carillion Richardson property (Woodiwiss 2006). That DBA report has been drawn on for this desk-based assessment, which is focused on the adjacent area (Fig 1). The approach adopted for this report has been to be as consistent as possible with the assessments made of the Carillion Richardson property by Woodiwiss (2006). That report supplanted an earlier DBA report (ASI 2001), and incorporated the results of an archaeological field evaluation that was undertaken in 2002 (Cherrington and Cuttler 2002).

An historical and architectural assessment of the site was carried out in 2002 (Joyce 2002). This looked at all of the Lowesmoor Trading Estate, incorporating the lands owned by Carillion Richardson and Hampton Properties. The historic buildings owned by Hampton Properties have already been the subject of a Conservation Statement (CgMs 2006) and an Impact Assessment (CgMs 2008). These documents have been supplemented by further information in this report, at the request of the Worcester City Council Archaeological Officer.

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## 2. Methods

### 2.1 Study area

The study area included the development site and features of the historic environment within approximately 100m of the site. The site is part of the Lowesmoor Conservation Area for which a conservation area appraisal has been drawn up (Conservation Studio 2008).

### 2.2 Documentary search

A number of reports relating to this development proposal have been prepared:

- CgMs 2006 *Conservation Statement in respect of Lowesmoor, Worcester, on behalf of Hampton Properties*, CgMs report
- CgMs 2008 *Impact Assessment in respect of Lowesmoor, Worcester, on behalf of Hampton Properties*, CgMs report

The desk-based assessment of the Carillion Richardson property at Lowesmoor Trading Estate was completed in two years ago (Woodiwiss 2006). Birmingham Archaeology undertook an archaeological evaluation of Lowesmoor Trading Estate in 2002, when ten trenches were excavated in the limited available areas of open ground (Cherrington and Cutler 2002). One trench was excavated within the property owned by Hampton Properties (Cherrington and Cutler 2002: Trench 3).

A new search was requested of the Worcester City Historic Environment Record (WCHER). The results of the search are summarised in Appendix 1.

#### *Cartographic sources*

- BGS 1993 *British Geological Survey, England and Wales sheet 199, Worcester, solid and drift geology*, 1:50000
- SSEW 1982 *Soil Survey of England and Wales, Worcester sheet 85/95*, 1:25000

#### *Documentary sources*

- ASI 2001 *Lowesmoor Trading Estate, Worcester: archaeological desk-based assessment*, Archaeological Site Investigations (ref ASI 3166)
- Baker, N J, and Holt, R A, 2004 *Urban growth and the medieval church: Gloucester and Worcester*, Aldershot: Ashgate
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- Joyce, N, 2002 *Lowesmoor Trading Estate, an historical assessment and architectural appraisal*, Nick Joyce Architect
- Macphail, R I, 1994 Soil micromorphology, in H Dalwood, V A Buteux and J Darlington, *Excavations at Farrier Street and other sites north of the City Wall, Worcester, 1988-1992, Trans Worcestershire Archaeological Soc*, (3<sup>rd</sup> ser), 14, 75-114
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- Napthan, M, 2004 *Archaeological watching brief at 45 Lowesmoor, Worcester*, Mike Napthan Archaeology
- Sandon, H, and Sandon, J, 1989 *Grainger's Worcester Porcelain*, Barrie and Jenkins, London
- TNL 2002 *A geoarchaeological evaluation of deposits from the Lowesmoor Trading Estate, Worcester*, Terra Nova Ltd [= Appendix 1 in Cherrington and Cuttler 2002]
- Woodiwiss, S, 2006 *Desk-based assessment at Lowesmoor Trading Estate, Worcester*, Historic Environment and Archaeology Service, Worcestershire County Council, report 1492
- Worcester Porcelain Museum 2004, Grainger's Worcester Porcelain 1801–1902, <http://www.worcesterporcelainmuseum.org.uk/uploaded/documents/17GraingersWorcesterPor.pdf> (accessed 7th November 2008)

The following sources have also been cited in this assessment.

- DoE 1990 *Planning Policy Guidance Note 16: Archaeology and Planning (PPG 16)*, Department of the Environment
- HEAS 2008 *Proposal for a desk-based assessment at Lowesmoor Industrial Estate, Worcester*, Worcestershire County Council, Historic Environment and Archaeology Service, project 3285
- IFA 1999 *Standard and guidance for archaeological desk-based assessment*, Institute of Field Archaeologists
- WCC 2007 *An Outline Resource Assessment and Research Framework for the City of Worcester* (version 2.5), Worcester City Council



## 2.3 Results

The results are mapped on Figures 1 to 6, and the details of individual features of the historic environment are given in Appendix 1. Event records have been incorporated with the monuments where appropriate.

## 2.4 Impact assessment criteria

The criteria cited in Table 1 have been used.

<p><b>Severe Adverse:</b> Loss of integrity of nationally important archaeology/cultural heritage including Scheduled Ancient Monuments, Grade I/II* registered parks and gardens and registered battlefields. Demolition of a Grade I/II* Listed Building. Dramatic adverse change in the setting or visual amenity of the feature/site.</p>
<p><b>Major Adverse:</b> Land take resulting in the degradation of a cultural heritage site of national importance and/or extensive change to the setting or visual amenity of such a site e.g. intrusion into the setting of a Scheduled Ancient Monument. Loss of integrity of sites of archaeological interest of regional value, or Grade II registered parks and gardens, e.g. a dramatic change in the setting or visual amenity of a regionally important site such as a Conservation Area. Widespread adverse effects on the setting or structure of a Grade I/II* Listed Building. Demolition of a Grade II Listed Building.</p>
<p><b>Moderate Adverse:</b> Land take resulting in the degradation of a cultural heritage site of regional importance and/or extensive change to the setting or visual amenity of such a site. Extensive change to the setting or structure of a Grade II Listed Building. Demolition of a locally listed or other historically important building. Encroachment upon a Conservation Area, historic parkland or other historic landscapes where the quality of the setting or its amenity would be noticeably impaired. Slight change to the setting or structure of a Grade I/II* listed building. Removal of a historically important hedgerow (after the Hedgerows Regulations).</p>
<p><b>Minor Adverse:</b> Loss of integrity of an area where archaeological features/areas of local importance have been identified. Slight change to the setting or structure of a Grade II Listed Building. Limited encroachment upon a Conservation Area or historic parkland or other historic landscape where intrusive views are created or slight effects upon its integrity would result.</p>
<p><b>Not Significant:</b> Landscape or ecological planting on an area where locally important archaeological features have been identified but impacts are thought to have no long term effect on the resource. Removal of common hedgerows and limited damage to important hedgerows where no replacement proposed.</p>
<p><b>Minor Beneficial:</b> Perceptible improvement in the setting or structure of a Grade II listed building, Conservation Area or Grade II historic parkland. Improved management of locally/regionally important archaeological site.</p>
<p><b>Moderate Beneficial:</b> Perceptible improvement in the setting or structure of a Grade I/II* listed building, Conservation Area or Grade I/II* historic parkland. Improved management of nationally important archaeological site.</p>

*Table 1: Significance criteria for cultural heritage issues*

## 2.5 **The methods in retrospect**

The methods adopted allow a high degree of confidence that the aims of the assessment have been achieved. However, direct evidence for the character and significance of buried archaeological deposits is very limited.

The development site has been subject to archaeological evaluation, as part of an archaeological evaluation of the Lowesmoor Trading Estate (Cherrington and Cuttler 2002). One evaluation trench (Trench 3), measuring 5m x 1.5m was excavated in 2002, immediately to the south of the mill and brewhouse (Cherrington and Cuttler 2002, 5-6, fig 4, plates 3 & 4). This revealed a backfilled brick and stone-walled cellar-like structure, over 1.7m deep, dating to the late 19<sup>th</sup> century. It was suggested that the structure was the base for heavy machinery. This evaluation trench did not reach the base of the structure or reveal any earlier deposits. In considering archaeological potential of the area around Trench 3 within the context of Lowesmoor Trading Estate as a whole, the authors concluded that: ‘the presence of archaeological deposits is considered unlikely within much of the area due to extensive cellaring’ (Cherrington and Cuttler 2002, 17; fig 8: Area B). However it was also noted that well-preserved Roman deposits were recorded at the adjacent St Martin’s Gate site (Dingwall and Ramsey 2002), and that ‘islands of Romano-British activity could survive in this area’ (Cherrington and Cuttler 2002, 20).

The authors of the evaluation report pointed out the limitations on evaluation trenching, which was restricted to areas of open ground where access could be agreed (Cherrington and Cuttler 2002, 2). In the event, only 0.3% of the total development area was tested by evaluation trenches, which is very much lower than the usual sample for archaeological field evaluation. It would be unwise to argue for the absence of significant deposits in the development area based on negative evidence from the 2002 evaluation trench.

## 3. **Archaeological and historical context**

### 3.1 **Geology and soils**

The underlying geology is Mercia Mudstone. Geological mapping shows the site as entirely lying on alluvium associated with the Frog Brook. To the north and west lies the Second (Worcester) Terrace, and all overlie Mercia Mudstone (BGS 1993). The soils are unsurveyed (SSEW 1982).

During the archaeological evaluation in 2002, auger samples from two boreholes were taken for analysis. The analysis identified relatively shallow alluvial deposits of uniform grey clay, up to 0.70m thick, interpreted as accumulations of floodplain alluvium deposited by the River Severn during the Holocene (TNL 2002). The fluvial process of ‘flooding from below’ is where the valleys of minor watercourses are inundated by overbank flooding from rivers, and this occurred in the valley of the Frog Brook before the 19<sup>th</sup> century.

### 3.2 **Topography**

The development site covers an area of approximately 0.42ha and is at a height of approximately 21m OD. The site lies within the former valley of the Frog Brook. The Frog Brook is a tributary of the Severn and followed a southerly course to the east of the development site. The name Lowesmoor itself is indicative of poorly-drained ground (Baker and Holt 2004, 192), and the surrounding area was open land up to the late 18<sup>th</sup> century. The area was drained and extensively developed in the 19<sup>th</sup> century.

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### 3.3 **Historic environment**

#### 3.3.1 **Prehistoric**

Although prehistoric activity is known from elsewhere in Worcester, there is no evidence for prehistoric occupation within the development area. It is considered unlikely, however, that fieldwork undertaken to date would have been able to identify any such activity.

Alluvium encountered within the development area could be of any date within the Holocene, but it is considered here for convenience. Alluvium is known to be extensive in the area adjacent to Pheasant Street, but is not found close to City Walls Road: the St Martin's Gate site clearly lay outside the Frog Brook floodplain. It is likely that the development area lies close to or within the floodplain. Although specialist consideration of the alluvium did not identify any substantial accumulation of alluvium with the potential to provide long palaeo-environmental sequences, contamination of the alluvium with charcoal at depth does hint at some form of early activity in the area (TNL 2002, 8). It would appear prudent to suggest that the potential of the alluvial deposits may be compromised by contamination (as may be expected from such an urban area), but their potential may be increased where deeper deposits exist.

#### 3.3.2 **Roman to Anglo-Saxon (Fig 2)**

It has been suggested that the line of a road linking the Roman 'small towns' of Worcester with Droitwich (WCM 96405) passed obliquely through the Lowesmoor Trading Estate (Fig 2), although its alignment has never been demonstrated through fieldwork within or close to Worcester (Dalwood 2004, 18, fig 11). The Worcester City HER records the identification of a medieval metalled surface (WCM 100087) at a depth of 2m on Silver Street/Cornmarket and notes that it is on the line of a Roman road. The location of the observation does not appear to tally with the line of the Roman road, nor with any known medieval street. Further inspection of the photographs held by the WCHER placed the site rather more to the west (James Dinn pers. comm.).

Romano-British features were recorded during a field evaluation at the St Martin's Gate site, immediately to the west of the development area, prior to construction of a new car showroom (Dingwall and Ramsey 2002). Roman deposits were recorded at a depth of c 1.8m, and included pits and ditches (at least some with substantial quantities of pottery), together with evidence of iron smelting and smithing, structures, and environmental remains. The deposits were mainly dated to between the 1<sup>st</sup> and 3<sup>rd</sup> centuries and were sealed by a 'dark earth' layer. Residual Roman material (including slag) has been recovered from deposits elsewhere within the Lowesmoor Trading Estate (e.g. Brown 1990; Cherrington and Cuttler 2002, 16). Despite the extent of later disturbance that is likely to have affected any Roman deposits, it seems likely the Roman deposits exist across the western part of the Lowesmoor Trading Estate, and probably extend into the development area under consideration.

There is no evidence for any post-Roman or Anglo-Saxon activity in the area of Lowesmoor Trading Estate and, despite the limited archaeological investigation, it is considered unlikely that significant deposits of these periods are likely to exist. The development of a characteristic 'dark earth' over Roman deposits has been noted at the St Martin's Gate site (Dingwall and Ramsey 2002). Outside of the historic centre, similar dark earths are found to have been re-worked over a very long period, which has pointed to a limited archaeological potential (Macphail 1994, 83-5). However, the potential of these dark earth deposits varies across the area of the Roman settlement, and dark earth should not be disregarded as insignificant.

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### 3.3.3 Medieval to sixteenth century (Fig 3)

#### *The Lowesmoor and Silver Street suburbs*

The northern and western parts of the Lowesmoor Trading Estate lie within the Silver Street and Lowesmoor medieval suburbs identified by Baker and Holt (2004; WCM 93339). The eastern boundary of the suburb shown on Figure 3 is indicative only, as there were no common rear boundaries to the properties fronting Silver Street (Baker and Holt 2004, 192). To the rear of houses fronting Silver Street various activities would have been undertaken. These activities are known from documentary sources to have included tile making and this activity has been attested though archaeological fieldwork at Silver Street (Brown 1990; WCM 100520). Because of the obvious fire hazard, tile making was most often undertaken outside of the historic centres of towns. No definite kiln structure was identified at Silver Street, but the site contained a very large number of wasters, and both roof tile and decorated floor tiles were produced. Aside from the medieval evidence of tile making at Silver Street there was a clay-lined pit containing early 14<sup>th</sup> century pottery (Brown 1990, 6). Other tile kilns have been identified on Lowesmoor properties, such as at 45 Lowesmoor (Napthan 2004; 96471, 101269).

The relative paucity of medieval deposits at the site of the St Martin's Gate site (former car showroom) is attributed to later activity (Dingwall and Ramsey 2002, 27; WCM 100748/9). However in the north-west corner of the site there was a concentration of post-medieval tiles, which appears to support the documentary evidence for a medieval tiliary first mentioned in 1455 and continuing in use until the 17<sup>th</sup> century (Dingwall and Ramsey 2002, citing Hughes 1980, 285).

Beyond the back-plots of houses, the land had horticultural and agricultural uses. This would certainly include the eastern part of the Lowesmoor Trading Estate, and seems to coincide with the area subject to flooding adjacent to the Frog Brook.

The development area lies outside the defined extent of the medieval and early post-medieval suburbs (Figure 3), and is less likely to contain evidence for medieval and post-medieval occupations and crafts than the area to the west.

### 3.3.4 Seventeenth century

A very large ditch (c 5.5m wide, 3m deep and running north to south), possibly of 17<sup>th</sup> century date, was located during archaeological fieldwork at the St Martin's Gate site, immediately to the west of the development area. It was suggested that this ditch related to a documented earthwork artillery bastion that protected St Martin's Gate on the medieval city wall (shown on Vaughan's map of 1651; reproduced in ASI 2001, fig 3b). The bastion was constructed during the Civil War (Dingwall and Ramsey 2002, 27). It is likely that this bastion lies in the area to the west of the development site under consideration (Woodiwiss 2006, fig 3).

### 3.3.5 Buildings of 18<sup>th</sup> and 19<sup>th</sup> century date (Plate 1, Fig 4)

#### *Hill Evans Vinegar Works*

Comprehensive accounts of the Hill Evans Vinegar Works and its buildings (noting the site and function of demolished buildings) are contained in Joyce (2002) and Goodbury (1992). This area of Lowesmoor was known to be in use for the production of vinegar from 1796 (Goodbury 1992, 2). A vinegar-manufacturing firm was established by William Evans and Edward Hill in 1826 on a site at Lowesmoor that had previously been in use for 'soap boiling' and as a charcoal works. They only became known as Hill Evans and Co around 1830. This period was the peak of vinegar manufacturing in this country. Edward Bickerton Evans and Thomas Rowley Hill built up the business in the 19<sup>th</sup> century and were then followed by their sons, so that by 1900 the business had become a limited company. The first

purchases of further land took place in the 1840s although in 1850 the company was still advertised as being in Foregate Street. To begin with the company relied on pre-existing buildings. The main phase of expansion of the works was during the second half of the 19<sup>th</sup> century and numerous new structures had been built by the time of a Great Western Railway survey in 1864. Further to this, by 1870 the large buildings that dominated the St Martin's Gate area had been constructed. A railway line linking all the manufacturing processes on the site to Shrub Hill Station was opened in 1872 and was still in use, including a swing bridge and signals, in 1964 when the site was closed. In 1903 the vinegar works were described as 'probably the greatest and most important of their kind in the world'. The company was selling around 2 million gallons of vinegar each year. They had the largest vat in the world that was 32 feet high, 100 feet in circumference and held 114,821 gallons of vinegar; made six different types of vinegar; a range of sweet wines and a quinine wine for export to the colonies. However, the Sarson's factory at Southwark was more innovative and had been established for longer than Hill Evans. A number of the companies amalgamated to form British Vinegars, who took over seven of the largest companies between 1949 and 1964. In 1964, Hill and Evans sold the company to British Vinegars, the last to sell out, and sold the Lowesmoor site to the Worcester Property Company Limited.

#### *Buildings of Hill Evans Vinegar Works within the development site*

The development site contains a number of standing buildings that formed part of the Vinegar Works (Fig 4): the granary, the mill and brewhouse, the fermenting shed, two acidifying sheds, and part of the vat room. The way in which the buildings on the development site were used has been established. The process began with the arrival of barley onto the site, which was stored in the very large **granary**. This building was capable of storing 80,000 sacks of barley on four storeys. There appears to be no evidence for malting kilns at the works, so the barley probably arrived already malted. The barley was then moved to the adjacent **mill** to be ground into grist. It was then taken into the **brewhouse**, housed in the same structure, to be mashed in hot water. The resulting wort then passed into the vats and mixed with yeast in the adjacent **fermenting shed** and then the gyle was transferred into the **acidifying sheds**. From there it moved into the vats in the **vat room** where it was matured for 9-12 months, and eventually moved onto the filling house, to the north.

The granary is a tall, four-storey, red brick structure (Plate 2). It has a blue engineering brick plinth and segmental arch heads to the openings. These are arranged with six windows in a row along each long elevation that have metal glazing bars with swivel casements and sandstone cills. The building is shown on an engraving of the vinegar works drawn in the late 19<sup>th</sup> century by A Griffiths (Plate 3). This shows a wooden covered hoist on the north gable of the building. The building was designed in the form of a warehouse but can be identified as a granary by its loading doors. This is not a typical granary building such as those you see on most farms. This building was used for the storage of very large amounts of barley for the manufacture of vinegar. Joyce has described the building in his report (Joyce 2002, 56), which states that the structure was capable of holding 80,000 sacks of barley.

Adjacent to the granary is a long structure that was used as a mill and brewhouse (Plate 4). This again is a red brick structure that has blue engineering brick detailing around the openings, a mix of semi-circular and segmental arch heads, and for the plinth. All of openings also have sandstone cills. The west elevation shows a number of surviving window openings although they have been blocked up. The south gable has two semi-circular openings, again now blocked up. At the top of this gable can just be seen another segmental arch head window, now cut through by a concrete lintel but still with some of the metal glazing bars in place. From this partial arched opening it is obvious this building was once taller and the Griffiths etching shows a four-storey structure as tall as the granary in this position. The c1875 plan (Fig 5) shows this building as consisting of a number of structures with different functions. It is probable however that it was actually one building with a number of different functions taking place in different rooms or sections of the building. Attached to the rear elevation of this large four-storey structure was an engine house and it

possible that the semi-circular openings on the south gable belong to this engine house. This type of opening is typical of those normally seen in engine or pump houses.

Adjacent to the mill and brewhouse, is another tall brick structure (Plate 5). This three-storey building was designed in the same style as the granary and mill and brewhouse. It was constructed of red brick with blue brick segmental arch head openings and plinth and sandstone cills. The top storey of the building allows its function to be discerned as a fermenting shed. This floor is not constructed in brick but is timber and would originally had a weatherboard exterior, as can be seen on the Griffiths engraving (Plate 2), although it currently has corrugated metal sheet covered boarding. According to Joyce, who had access to the interior of the building in 2002, the metal tanks for the fermenting process were located on this floor, the bases of which can still be seen from the floor below. The Griffiths engraving also shows a large chimney against the north gable of the building. This was possibly still in existence in 1964 (Joyce 2002, 83) although it has since been demolished with no evidence for its actual position now showing on the structure. This chimney would have been servicing the boilers for the fermenting process taking place in the building.

Attached to the south and east elevations of the fermenting shed were two large structures described in the *c*1875 plan (Plate 2) as acidifying sheds. The southern shed (Plate 6) has been considerably altered since the works closed in 1964. It is currently occupied by a car servicing and washing company. Although the *c*1875 plan shows this acidifying shed as one open structure, it appears to have been constructed in two phases, as there is a straight building break on the west elevation (Plate 6). Both parts are built of red brick using English Bond construction. They also have separate roofs that are hipped. Joyce accessed the interior of the structure and described it as being almost three times the size of the fermenting shed with an impressive roof structure (Joyce 2002, 83). This suggests that the interior structure was of one phase, with a large span, and therefore the building break on the west elevation could be the result of a rebuild. The south and east elevations are completely obscured by other structures and the north elevation adjoins the fermenting shed and north acidifying shed.

Attached to the east elevation of the fermenting shed, and north of the (above mentioned) acidifying shed, is another acidifying shed. This structure is not as large as the southern acidifying shed and has been encased by other buildings with the exception of part of its north elevation. It was photographed in 2002 (Joyce 2002, 82) showing this elevation has been partly removed by addition of a large open doorway. The interior of the building probably has an impressive large span roof structure such as that in the southern acidifying shed. Adjoining this structure to the north is a building that was a vat room. This is where the vinegar making process ended before it was transferred to the filling sheds and sent out to be sold. Although this structure is not wholly within the development site, it needs to be considered with the buildings described above as it forms part of the manufacturing process of the vinegar works. As does the building adjoining the vat room as this was the original entrance into the works. The entrance consisted of a gateway and passage, clock tower and cupola roof. Of these only the arch of the gateway survives adjoining the vat room. The original range of buildings can be seen on Griffiths engraving however (Plate 2). The structure attached to the east of the old entrance is a distilling room. This building also still exists but has been considerably reduced in height and has fallen into disrepair like its surrounding structures.

These buildings were adjacent to each other to allow an efficient flow through the manufacturing processes in different structures. The buildings were all constructed around the same time and were designed with similar architectural details picked out in blue engineering brick. A number of the buildings have been considerably altered and partially demolished since the works closed in 1964, but they still exist as a group of buildings related to one manufacturing process.

Two buildings form the southern boundary of the development site and the Vinegar Works. The first of these is a long, single storey range (Plate 7) aligned east-west along the south

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west part of St Martin's Gate. On the c1875 plan (Fig 5) there is a building marked on this position that is called a fitting shed. However by the time of the 1888 1<sup>st</sup> edition Ordnance Survey map, a much smaller structure is in the same position alongside St Martin's Gate. It is likely that this structure is still the fitting room as marked on the earlier plan. The current building does not appear until the 1928 Ordnance Survey map. The building is constructed of red brick coursed in English Bond using blue engineering brick for a plinth and for the detailing around the two circular windows, one each end gable. Although it appears this building was constructed later as a storage area, as there are no vents or specific functional openings, it is possible that it incorporates the pre-1888 building and is a rebuilding or extension of this structure. Whether it is pre-1888 or 1904-1928 in date, this structure would still have an important function in the vinegar works due to its proximity to the manufacturing area of the Vinegar Works.

The final building lies on the south east boundary of the site on St Martin's Gate and adjoining the Grainger Porcelain works. The building is not shown on the 1888 map but had been constructed by the time the 1904 map was surveyed. This building is constructed of red brick coursed in English Bond and has a segmental arch head window opening on the west gable. There is no visible use of blue engineering brick as emphasise structural detail however. This may be because of its construction date, or because the building was supposed to be unobtrusive and innocuous. A car repair firm currently uses the two buildings on the St Martin's Gate boundary. Any sign of their original function has been lost due to alterations carried out by this company and any previous occupants since the Vinegar works closed down.

#### *Grainger Porcelain Works*

Thomas Grainger and his partner James Wood set up a porcelain factory in 1801, which was a rival company to that of his brother-in-law, Robert Chamberlain. The factory was based in rented property in the Lowesmoor area, which is believed to have been located on either side of Pheasant Street (Sandon and Sandon 1989, fig 2; WCM 100582). They began by decorating blank porcelain made by other companies and by 1804 they were advertising in local newspapers and had a shop in Worcester High Street. Grainger and Wood started making their own porcelain around 1807 and gained a reputation for useful and ornamental wares with rich patterns, such as Japanese-style Imari and fine flower and landscape designs on straight mugs or classical vases. There was, however, a fire in 1809 and the factory was rebuilt, moving slightly to the west. The factory fire also caused a new works to be built at St Martin's Gate. In 1839 George Grainger took over control of the company after the death of his father and encouraged production of elaborate ornamental wares. George Grainger and Co. diversified by also producing embossed tiles for fireplaces, unglazed china figures and door furniture. They were also very success with the development of porcelain for laboratory use and semi-porcelain. George Grainger died in 1889 and the company was sold to the Worcester Royal Porcelain Company. The Grainger works continued in production, specialising in hand painted pieces for display, richly jewelled pieces and ivory pierced porcelain. The St Martin's Gate site closed in 1902 when much of the work force, moulds and archives transferred to the Worcester Porcelain site (Worcester Porcelain Museum 2004). Around half of the works buildings are extant (Joyce 2002, 69).

#### *Buildings of Grainger Porcelain Works within the development site*

The site includes two very small structures that formed part of Grainger's Porcelain Works. These were on the western boundary of the Porcelain Works with Hill Evans Vinegar Works. Both of these buildings are shown on 1903 particulars of sale (Fig 6) following the closure of Grainger's works after it was sold to Worcester Royal Porcelain Company in 1889. The smallest of the buildings is also shown clearly on the first edition Ordnance Survey map of 1888. In the 1903 sale particulars one of these (Building 5) is described as being a 'Polishing Shop' and 'Gas Engine House'. It seems very strange to have such differing functions in the same building but it is likely that while the building housed the gas engine for running machinery in other part of the works, it also directly ran a specific machine for polishing the

china, or the gilding on the china, in this structure. The smaller building is not described individually but is attached to Building 8 and therefore could have been used for some the processes taking place there ('Ware Placing Room, Glaze Dipping Room, Potting Room, Two Stoves, and Mould Room'). If this is the case then the building had a function that is integral to porcelain manufacture.

These two structures are both visible on the 1<sup>st</sup> edition Ordnance Survey map of 1888, and for them to have survived for so long is unusual for such small buildings. Their size however does not make them any less important for the manufacturing that was being carried out on the site. The engine house in particular would have been an important structure, as the engine was needed to run machinery by way of rods, belts and cams.

These two small structures are now completely encased in the surrounding structures, and have been recorded photographically by Joyce (2002). The southern building is identified as a 'lean-to workshop' (Joyce 2002, 87). The northern, smaller building has extensive windows and also has a lean-to roof and large windows (Joyce 2002, 86).

### 3.3.6 Buried remains of 18<sup>th</sup> and 19<sup>th</sup> century date

#### *Hill Evans Vinegar Works*

Comparison of the plan of the standing buildings (Fig 4) and previous historical research on the Vinegar Works (Goodbury 1992) indicates that the present open space to the south of the mill and brewhouse contained a number of buildings, the foundations of which undoubtedly survive as buried remains. The standing buildings are understood to no longer contain machinery or structures associated with vinegar production, but the bases for such items probably exist as buried deposits. The 2002 evaluation (Trench 3) located a buried brick and stone structure, interpreted as the base for heavy machinery (Cherrington and Cuttler 2002, 5-6). Research into the history of the works indicates that Trench 3 was located within a former building to the south of the brewhouse, identified as an 'engine house' on a plan annotated by H W Gwilliam (Joyce 2002, plan on p 12). Elsewhere the former railway lines that ran through the larger buildings may also exist under present surfaces.

#### *Grainger Porcelain Works*

The buried remains of former works buildings, kiln furniture, and wasters were observed in evaluation trenches in 2002 (Trenches 6 and 9: Cherrington and Cuttler 2002, 7, 10). Only a portion of one of the kilns survives above the ground though the buried remains of another were also observed (Trench 9: Cherrington and Cuttler 2002, 10).

During the 18<sup>th</sup> century the area to the south and east of the Lowesmoor and Silver Street suburbs began to be filled with industrial premises. For instance a charcoal works and soap boiling ground are known from a map of 1823 (Joyce 2002, 18; ASI 2001, fig 5a).

## 4. Statutory and other designations

The Service knows of no buried deposits protected by statutory designations within the development area. All of the buildings that were formerly part of the Hill Evans & Co Vinegar Works are regarded as key unlisted building in the Conservation Area Appraisal of Lowesmoor (Conservation Studio 2008). This is a non-statutory designation that highlights the importance of these industrial buildings within the City of Worcester.

The development site lies within the Lowesmoor Conservation Area. This is divided into two main areas. Character Area 1 is dominated by the narrow street of Lowesmoor, containing a large number of listed buildings and key unlisted buildings (Conservation Studio 2008, Appraisal Map). Lowesmoor forms the northern boundary of the Lowesmoor Trading Estate, which forms Character Area 2a and consists mainly of key unlisted buildings and the listed



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New Filling Shed. Character Area 2b consists of the buildings of the former Grainger's porcelain works on the corner of Pheasant Street and St Martin's Gate. The Conservation Area is bounded on the west by Silver Street, which now only consists of numbers 18-20, a listed building (Majestic Wine Warehouse). St Martin's Gate, and therefore the buildings of the site in discussion here, forms the south boundary of the Conservation Area. Nearly all of the buildings in the site area have been included in the Conservation Area Appraisal (Conservation Studio 2008, Appraisal Map) as key unlisted buildings.

## 5. **Assessment of significance and impact of the development**

### 5.1 **Significance of buried remains and standing buildings**

Archaeology is a material consideration for planning applications and the development site is within Archaeologically Sensitive Area 18 (historic core of the Roman and medieval city). This is a non-statutory designation but serves to highlight that the area has archaeological aspects to be addressed. In the absence of any existing statement on the significance of the site, the potential for the site to answer research priorities has been used as a guide to indicate significance. This approach requires a justification to be made for any proposed mitigation. The research priorities have been derived from the current version of the *Outline Resource Assessment and Research Framework for the City of Worcester* (WCC 2007), and are based on existing knowledge on the site: reference is made below to numbered Research Priorities (RP).

The significance of the buried remains and the historic standing buildings is tabulated below (Table 2).

#### *Buried archaeological deposits*

With water at depths of 3-5m (MJM nd) well-preserved organic remains are not anticipated to be a significant element, except in very isolated circumstances (eg the fills of historic wells). Investigation of the development site has been limited and the following comments aim to give reasons for the inclusion of some priorities and exclusion of others, which may potentially seem relevant.

- The potential of the alluvium has not been determined. There is evidence of earlier deposits though their date and nature is unknown (hence RP 3.12 has not been included).
- It is possible that a Roman cemetery may exist but no evidence is as yet known and it has been excluded from consideration at this stage.
- The inclusion of Roman iron production has been made on the basis that Roman deposits are known for the area, but their nature has not been determined. Relation to the iron industry, however, appears to be likely.
- 'Dark earth' on this site is likely to have been reworked over a very long period and hence may have limited research potential.
- No post-Roman or early medieval research priorities have been identified as there is little or no evidence relating to these periods for the development area.

The following statements and sources assist in placing the significance of some aspects of the historic standing buildings on the development site.

#### *Hill Evans & Co Vinegar Works*

Although not an impartial source the *Worcester Daily Times Trade and Industrial Edition* recorded that the Hill Evans Vinegar Works were ‘probably the greatest and most important of their kind in the world’ (Joyce 2002), and Joyce further notes that this is one of only four purpose-built vinegar works in the country. The significance of the vinegar works is augmented by the existence of the Hill Evans Archive (CRO BA10543), which contains a wealth of information.

The buildings on the development site were an integral part of the manufacturing process that took place at the works (Fig 5; Joyce 2002). The standing buildings include the granary, mill and brewhouse, fermenting shed, acidifying sheds, and (part of) a vat room. The standing buildings represent evidence for an important manufacturing process, although the interior equipment and fittings have largely been removed prior to conversion in use.

#### *Grainger’s Porcelain Works*

It has been stated that ‘Grainger should be placed among the top manufactories of the 19<sup>th</sup> century’ (Sandon and Sandon 1989, 7). Sandon and Sandon do recognise a relative dearth of records relating to the firm, but of these the most important documents (most of the pattern books, copper printing plates, and a wage book) are held by the Worcester Royal Porcelain Company. The collection of wasters from the factory site by Sandon and Sandon (1989), has added a considerable degree of detail to knowledge of the wares produced.

There are number of buildings still surviving from Grainger’s Porcelain works, including a fragment of one of the kilns, but the majority of the factory lies to the east of the development site (Fig 4). The two structures within the development site are small and lie against the boundary with Hill Evans & Co (Fig 6). One of these buildings has been identified as a polishing room and engine house; the other may have been used for a function of the building it adjoins, such as mould-making.

<b>Worcester City Archaeological Research Priority</b>	<b>RP ref.</b>	<b>Relevance to site</b>	<b>Justification</b>	<b>Impact</b>	<b>Recommended mitigation</b>
Frog Brook Valley and stream	RP 1.2	Possible if alluvium extends to the area of the development site, but western extent is uncertain.	Evidence of earlier activity exists, within the alluvial sequence	Minor adverse  Deposits exist at a depth of approximately 1.5m below present ground surface or between 19.49-20.61m OD (Cherrington and Cuttler 2002) and are likely to be affected by ground disturbance below these levels (especially under proposed buildings and deeper services)	Construction groundworks subject to watching brief.
Roman activity in the Frog Brook Valley	RP 3.12	Probably relevant. Roman occupation probably extends eastwards from adjacent excavated area, but field evaluation has not demonstrated whether or not Roman deposits are extant	Roman occupation in the Frog Brook Valley is poorly understood.	Moderate adverse	Mitigation to include field evaluation and a further programme of archaeological work.
Other porcelain sites (i.e. sites other than the Warmstry House site)	RP 6.9	A small part on the development site on the eastern edge is part of Grainger Porcelain Works	Two small buildings documented as part of Porcelain Works in 19 <sup>th</sup> century still exist	Moderate adverse due to proposed demolition of buildings  Remains of the Grainger Porcelain Works	Mitigation (Level 3-4 building recording) is likely to be required
Food and drink industries – trading, storage and processing	RP 6.12	Majority of the site	Buried remains of Hill Evans Vinegar Works buildings in centre of site, and machinery bases in standing buildings.	Moderate adverse  Any ground disturbance	Watching brief within retained historic buildings and generally across the development site.

<b>Worcester City Archaeological Research Priority</b>	<b>RP ref.</b>	<b>Relevance to site</b>	<b>Justification</b>	<b>Impact</b>	<b>Recommended mitigation</b>
Food and drink industries, trading storage and processing	RP 6.12	Majority of the site	The standing buildings on the site mostly relate to Hill Evans Vinegar Works	Moderate adverse due to demolition and alteration of buildings. Two buildings are proposed to be retained (the granary and the fermenting shed)  Remains of Hill Evans & Co Vinegar Works, including significant 4-storey granary and 3-storey fermenting	Mitigation (Level 3-4 building recording) is likely to be required for all historic buildings, whether to be demolished or retained.

*Table 2 Research priorities indicating significance, impact and recommended mitigation*

## 5.2 Potential impacts of the development

Potential impacts are indicated in Table 2 above. Details of impacts are not known at present. It is understood that existing ground levels will be approximately maintained, with no large-scale ground reduction. It is assumed that the greatest potential impacts will be on the footprints of buildings and that piled foundations will be used with beams and caps. It is also assumed that new floors will be inserted in existing buildings, but that groundworks will not generally exceed approximately 400mm within the reused buildings.

Recommended mitigation is indicated in Table 3. Details of mitigation may require variation as details on impacts are provided and this is likely to be resolved through agreement between the client and the planning authority. A summary of recommended mitigation is given in Table 3.

Area	Recommended mitigation
Development area	Field evaluation (followed by a programme of archaeological works) to establish presence of Roman deposits and record deposit in advance of construction.  Watching brief – especially to focus on alluvium and buried remains of Vinegar Works buildings and machinery, other remains
Buildings of Hill Evans & Co Vinegar Works	Building recording to produce a full record of the buildings of the vinegar works prior to their demolition and alteration in order to achieve preservation by record and enhance the already known information about the manufactory.
Buildings of Grainger's Porcelain works	Building recording to produce a full record of the buildings of the porcelain works prior to their demolition in order to achieve preservation by record and enhance the already known information about the manufactory.

*Table 3 Summary of mitigation*

The scope of any mitigation will conform to a brief issued by the planning authority. Any site investigation works, watching briefs or building recording, would be concluded by production of an archaeological report (appropriately published) and archive to be deposited for public access with Worcester City Museum.

## 5.3 Residual effects

As precise details of impacts are not available as yet it may be anticipated that details of mitigation will result from negotiation between the client and planning authority.

Implementation of an agreed programme of mitigation should ensure that there are no residual effects on the archaeological resource from the proposed development. Mitigation should ensure that adverse impacts are restricted in scope to *not significant*.

A substantial area of the development is highly likely to remain as undisturbed ground and important deposits will remain preserved *in situ*. This may be ascribed a *minor beneficial* residual impact.

The historic environment is a non-renewable resource and therefore cannot be directly replaced. However mitigation through recording and investigation also produces an important

dividend that can be used for the better understanding of the city's history and contribute to local and regional research agendas.

## 6. **Publication summary**

The Service has a professional obligation to publish the results of archaeological projects within a reasonable period of time. To this end, the Service intends to use this summary as the basis for publication through local or regional journals. The client is requested to consider the content of this section as being acceptable for such publication.

*An archaeological desk-based assessment of archaeological aspects was undertaken at Lowesmoor Trading Estate, Worcester (SO 8525 5510). It was undertaken on behalf of Hampton Properties, who propose the demolition of a number of buildings across the site, conversion of other buildings, and the construction of a hotel.*

*There is potential for the survival of Holocene alluvial deposits associated with the Frog Brook, but the palaeo-environmental potential of any deposits within the development area is likely to be limited. Archaeological deposits of Roman date have been proven on adjacent land to the west, and it is probable that Roman deposits extend into the development area. Roman deposits within the development area are likely to be of moderate potential, but this has not been demonstrated by field evaluation.*

*The main importance of the development area is in the form of historic buildings, which comprises groups of 19<sup>th</sup> century brick industrial buildings. The majority formed a major element of the former Hill Evans Vinegar Works (and a minor element formed part of the former Grainger Porcelain Works). The Hill Evans Vinegar Works was one of only four purpose-built vinegar factories in the country. The buildings are not listed.*

*Buried remains relating to both these industrial sites have been demonstrated to survive, in the form of foundations of demolished buildings and other buried structures (including bases of machinery).*

*Recommendations for an approach to mitigate the impact of the development have been made in this report, in relation to both the buried archaeological deposits and the historic buildings.*

## 7. **Acknowledgements**

The Service would like to thank the following for their kind assistance in the successful conclusion of this project: Jeremy Knight-Adams (Hampton Properties), Darrel Smallman (S R Davis Architects), and James Dinn and Sheena Payne-Lunn of Worcester City Council for supplying information.

## 8. **Personnel**

The assessment was undertaken by Hal Dalwood and Shona Robson-Glyde. The report incorporates material written by Simon Woodiwiss for a related DBA report. Illustrations were prepared by Laura Templeton and Shona Robson-Glyde.

9. **Figures and Plates**



*Plate 1: The site from the south*





*Plate 2: The Granary from the south*

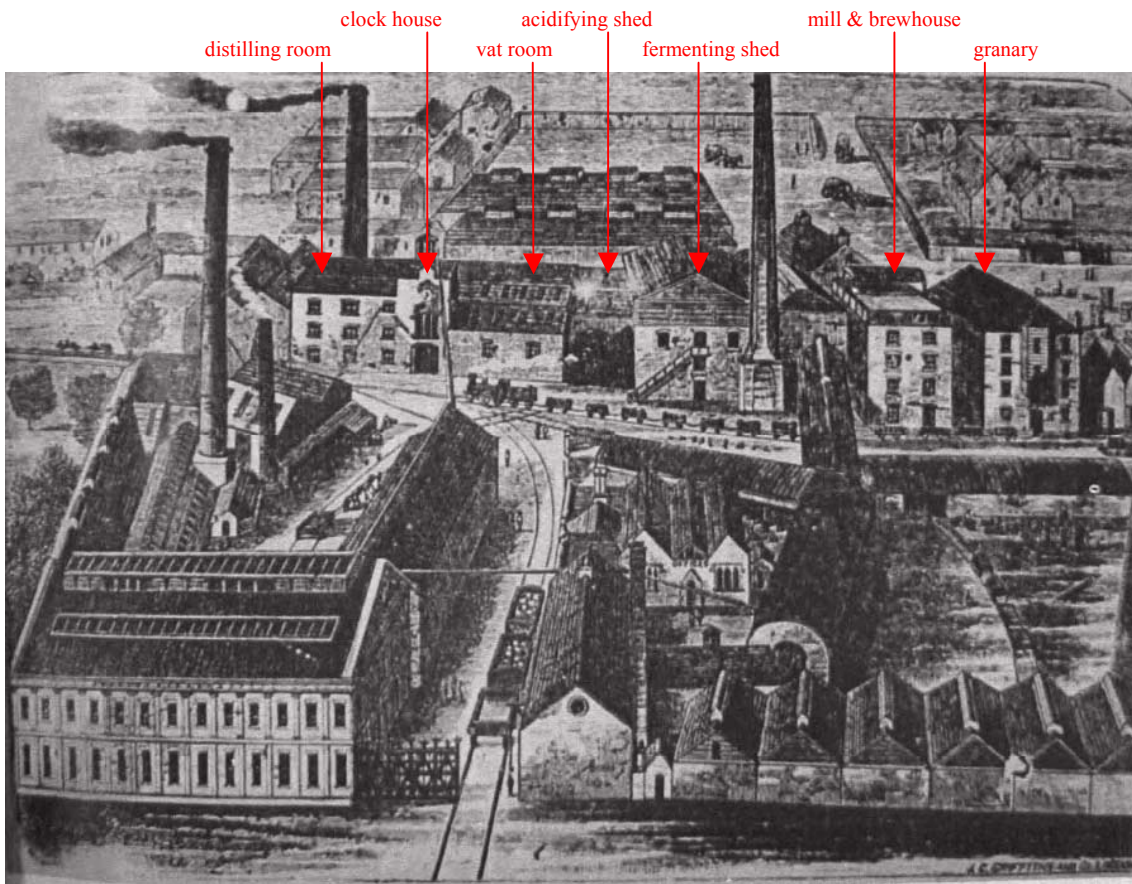


Plate 3: Late 19<sup>th</sup> century view of Hill Evans & Co Vinegar Works (looking south) by Griffiths.



Plate 4: Mill and Brewhouse from the south



*Plate 5: Fermenting Shed from south west (tall building in middle ground)*



*Plate 6: South Acidifying Shed from west*



*Plate 7: South west range along southern boundary*



*Plate 8: South east building on southern boundary*

## Appendix 1 Features of the historic environment registered with the WCHER (summary table and locations)

Reference number, status and associated records	Site name	Record type	Date	Description
WCM 91117	Silver Street car park	Monument	Medieval to post-medieval	Conjectural and cartographic evidence of buildings and back plots existing
WCM 92060	Silver Street TA Headquarters	Monument	Modern	Brick drill hall and parade ground. Rebuilt in the 1970s
WCM 92132	Burnham's Garage, St Martin's Gate (WW2 use)	Monument	Modern	Fire station in former garage used during WW2. Site cleared 1998/1999
WCM 92352	Home Guard HQ, Territorial Army drill hall, 16 Silver Street	Monument	Modern	Documentary evidence of site used as HG Battalion HQ during WW2
WCM 96076 WCM 100178, 100520, 101206	City and County Infirmary (1745 site)	Monument	Post-medieval	Hospital known from documentary and cartographic evidence, and standing buildings. 1745-1770  Buildings possibly date from 1663. Re roofed in 20th century. Ironmongers is 1863. 19th century new doorcase  Building survey (Bridges and Morris 1984)
WCM 96085	Lowesmoor Cross	Monument	Medieval	Documentary evidence of cross. City midden place at "Losemore Cross" in 16-17th century
WCM 96112	Site of St Martin's gate	Monument	Medieval	
WCM 96180 WCM 100719	Grainger's porcelain factory – pre 1809 site	Monument	Post-medieval	Documentary evidence of china factory. Established in first decade of 19th century. Some early pottery found to east of Pheasant Street. Earlier site of WCM 96181  Evaluation (Whitworth and Edwards 2001) identified alluvial deposits with evidence of change in the fluvial regime. Deposits relating to the

Reference number, status and associated records	Site name	Record type	Date	Description
				Grainger works also located
WCM 96181  WCM 100177, 100582, 100583, 100719, 100733, 100783, 100972, 101000, 101171	Grainger's Porcelain factory	Monument	Post-medieval	Built 1809, closed and sold 1902. There is documentary evidence, as well as extant buildings, and buried remains  Building survey by Beardsmore and Bridges WCHER  Watching brief by Sandon and Sandon (1989) retrieved pottery now in Dyson Perrins Museum. Also millstone  Desk-based assessment (ASI 2001)  Ash to depth of more than 12 foot (Richardson 1955)  Evaluation (Cherrington and Cutler 2002). Frog Brook deposits, Granger deposits, likely Roman features to east, slag.  Building assessment (Joyce 2002)
WCM 96190  WCM 100520	Probable tilery, Silver Street	Monument	Medieval	Sub-surface deposit. Includes waster floor tiles and structures
WCM 96306	Silver Street	Monument	Medieval to post-medieval	Documentary and cartographic evidence of road
WCM 96339	Silver Street and Lowesmoor plan unit	Monument	Medieval	Roads and properties of pre-1750 suburb identified by Baker and Holt 2004
WCM 96390	Baptist burial ground, Silver Street	Monument	Post-medieval	Documentary and sub-surface deposits relating to cemetery
WCM 96405	Roman road to Droitwich	Monument	Roman	Evidence is drawn from earthworks in Hindlip and in field boundary alignments, no evidence closer to the city. Burials at 11-12 New Street

Reference number, status and associated records	Site name	Record type	Date	Description
				would be part of cemetery beside it
WCM 96471  Listed grade II  WCM 101177, 101187, 101314	32, 34, 34a Lowesmoor	Monument	Post-medieval	Extant buildings and conjectural evidence of farmhouse, now house and shop. Probable 17 <sup>th</sup> century origins with late 19 <sup>th</sup> century alterations  Desk-based assessment and building recording (Napthan 2004). Potential for survival of archaeological deposits  Watching brief (Meadows 2005) on soils and building, added a few minor items to Napthan (2002c), and there was little evidence of occupation prior to the 18 <sup>th</sup> century
WCM 96564	Clapgate	Monument		Incomplete entry
WCM 96647  Listed grade II  WCM 101365	13/17 Lowesmoor	Monument	Post-medieval	Mid to late 18 <sup>th</sup> century with later alterations  Building recording
WCM 96649  Listed grade II	24-30 Lowesmoor	Monument	Post-medieval	Extant building. c 1800, probably 2 houses (now two shops).
WCM 98051	Post Office	Monument	Post-medieval	1884 OS 1:500 map
WCM 98137	Tin Works	Monument	Post-medieval	1884 OS 1:500 map
WCM 98139	Tannery	Monument	Post-medieval	1884 OS 1:500 map
WCM 98141	Factory building, 42 Lowesmoor	Monument		Incomplete record

Reference number, status and associated records	Site name	Record type	Date	Description
WCM 98162	46-48 Lowesmoor	Monument		Incomplete record
WCM 98212	Bell foundry, Silver Street	Monument	Post-medieval	Documentary evidence of bell foundry. 17 <sup>th</sup> century
WCM 98222	Hill Evans Vinegar Works, eastern cellars	Monument	Post-medieval  Modern	Extant building relating to vinegar works and wine cellar. 19 <sup>th</sup> century  Cellar used as air raid shelter
WCM 98326	Hill Evans Vinegar Works	Monument	Post-medieval	Extant and demolished buildings relating to large complex for the production of vinegar and British wines. Individual parts of the works are registered with other numbers
WCM 98327  Listed grade II  WCM 100581	Hill Evans Vinegar Works, new filling shed	Monument	Post-medieval	Vat hall building, built c1866-9. Re-roofed and altered in 1988  Record of building by Smith WCHER
WCM 98328	Hill Evans Vinegar Works, store vats room	Monument	Post-medieval	Building, probably 1857-9, but probably rebuilt 1866-9
WCM 98329	Hill Evans Vinegar Works, old filling room	Monument	Post-medieval	Building, probably 1857-9, but probably rebuilt 1866-9
WCM 98330	Hill Evans Vinegar Works, scalding shed	Monument	Post-medieval	Building, probably 1857-9, but probably rebuilt 1866-9
WCM 98331	Hill Evans Vinegar Works, cask shed	Monument	Post-medieval	Building, probably 1857-9, but probably rebuilt 1866-9
WCM 98332	Hill Evans Vinegar Works, top shop, cooperage	Monument	Post-medieval	



Reference number, status and associated records	Site name	Record type	Date	Description
WCM 98333	Hill Evans Vinegar Works, top shop, cooperage south	Monument	Post-medieval	
WCM 98334	Hill Evans Vinegar Works, vat room	Monument	Post-medieval	Possibly built in two phases, earliest c1860, enlarged in c 1866-9
WCM 98335	Hill Evans Vinegar Works, wine warehouse	Monument	Post-medieval	Probably 1859
WCM 98336	Hill Evans Vinegar Works, office	Monument	Post-medieval	Dated 1859
WCM 98336	Hill Evans Vinegar Works, cask shed and bay	Monument	Post-medieval	Probably late 1860s
WCM 98338	Hill Evans Vinegar Works, cask shed/loading	Monument	Post-medieval	Demolished
WCM 98339	Hill Evans Vinegar Works, laboratory	Monument	Post-medieval	Demolished. New building on site pre-1946
WCM 98340	Hill Evans Vinegar Works, brewhouse	Monument	Post-medieval	Only western elevation of c 1859, rest rebuilt
WCM 983343	Hill Evans Vinegar Works, tank and cask store	Monument	Post-medieval	Demolished
WCM 98344	Hill Evans Vinegar Works, bottom cooperage	Monument	Post-medieval	1866-9
WCM 98345	Hill Evans Vinegar Works, cask firing shed	Monument	Post-medieval	Demolished, very small
WCM 98346	Hill Evans Vinegar Works, The Granary	Monument	Post-medieval	Pre-1870
WCM 98347	Hill Evans Vinegar Works, paint shop	Monument	Post-medieval	Demolished, very small
WCM 98348	Hill Evans Vinegar Works, fitting shop	Monument	Post-medieval	Demolished
WCM 98349	Hill Evans Vinegar Works, saw mill	Monument	Post-medieval	Demolished

Reference number, status and associated records	Site name	Record type	Date	Description
WCM 98350	Hill Evans Vinegar Works, engine house	Monument	Post-medieval	Demolished
WCM 98351	Hill Evans Vinegar Works, brew house	Monument	Post-medieval	
WCM 98352	Hill Evans Vinegar Works, pump room	Monument	Post-medieval	
WCM 98353	Hill Evans Vinegar Works, tun room	Monument	Post-medieval	
WCM 98354	Hill Evans Vinegar Works, mill	Monument	Post-medieval	
WCM 98355	Hill Evans Vinegar Works, mill and boilers	Monument	Post-medieval	Totally rebuilt
WCM 98366	Hill Evans Vinegar Works, toilet block	Monument	Post-medieval	1982, replacement for earlier toilet block
WCM 98367	Hill Evans Vinegar Works, western cellars	Monument	Post-medieval	Cellars rediscovered in 1978
WCM 98448	TA Headquarters, Silver Street	Monument	Post-medieval	New building on site of vinegar brewery building
WCM 98496 WCM 101280 WCM 101282	42 Lowesmoor (former Albany Fine China Works)	Monument	Medieval to post-medieval	Probably mid 19 <sup>th</sup> century. Has also been cooperage, laundry, sheet metal work and a garage  Evaluation and building assessment (MA 2004). Medieval deposits at a depth of 1.2m. Slag, Quarrying
WCM 98342	Hill Evan Vinegar Works, shed over cellar	Monument	Post-medieval	Probably 1870s. Sandstone wall on north side f cellars may be from medieval structures or a later building using stone from city wall
WCM 98341	Hill Evans Vinegar Works, mess room	Monument	Post-medieval	Part of WCM 98342
WCM 98351	Hill Evans Vinegar Works, brew house	Monument	Post-medieval	Building

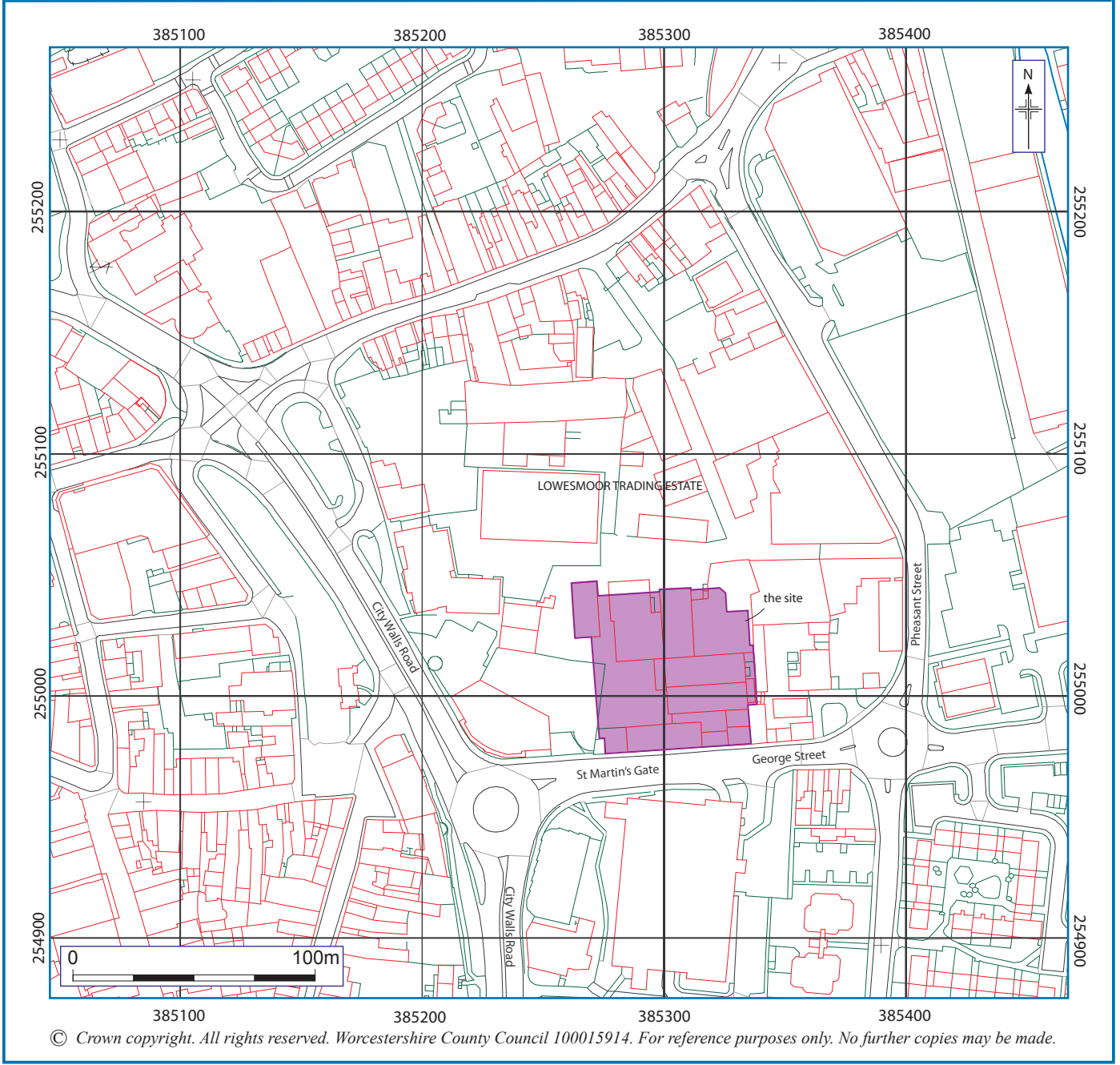
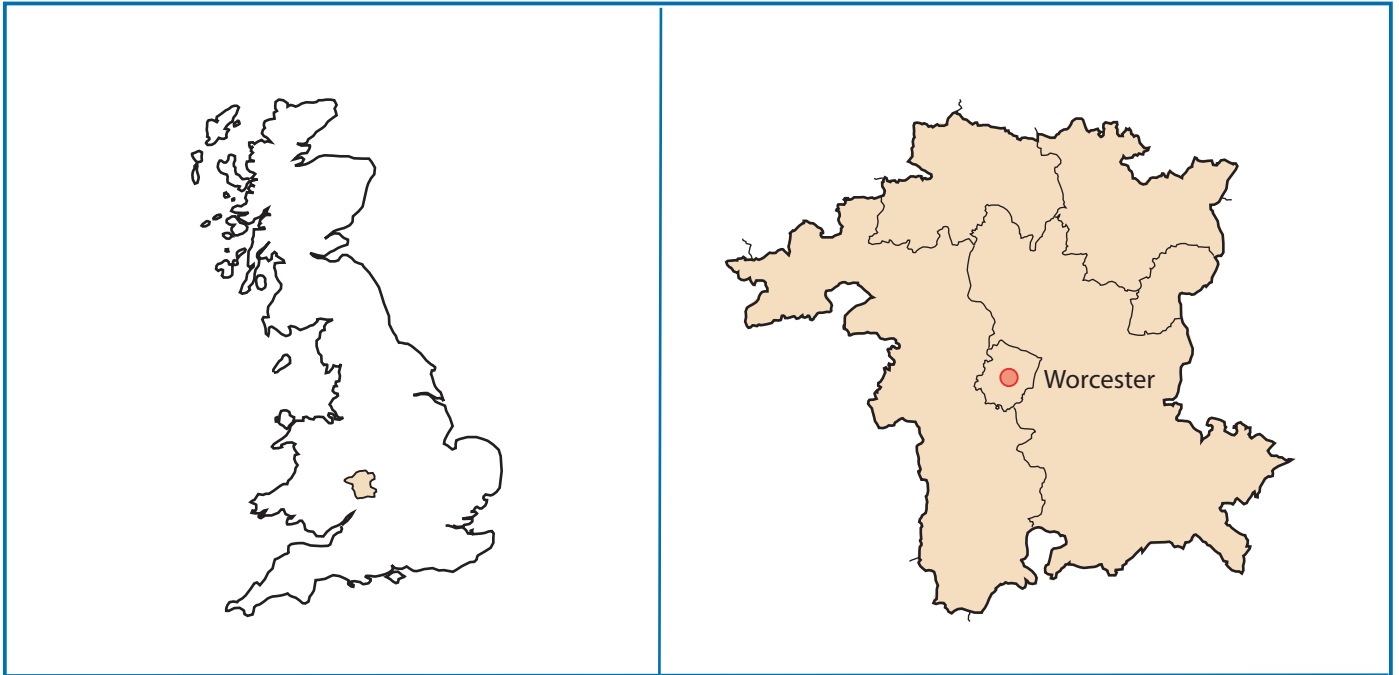
Reference number, status and associated records	Site name	Record type	Date	Description
WCM 98356	Hill Evans Vinegar Works, passage	Monument	Post-medieval	Now roofed
WCM 98357	Hill Evans Vinegar Works, fermenting room	Monument	Post-medieval	Pre-1870. Bases of cast-iron tanks still visible
WCM 98358	Hill Evans Vinegar Works, acidifying room south	Monument	Post-medieval	First buildings to be used by Hill Evans on this site
WCM 98359	Hill Evans Vinegar Works, acidifying room north	Monument	Post-medieval	Building
WCM 98360	Hill Evans Vinegar Works, vat room	Monument	Post-medieval	Probably c 1850. Part of the original vinegar works
WCM 98361	Hill Evans Vinegar Works, "old entrance"	Monument	Post-medieval	Probably c 1850. Part of the original vinegar works
WCM 98362	Hill Evans Vinegar Works, distilling and vat rooms	Monument	Post-medieval	Probably c 1850. Much altered. Part of the original vinegar works
WCM 98363	Hill Evans Vinegar Works, building to south of brewhouse	Monument	Post-medieval	Unknown function
WCM 98364	Hill Evans Vinegar Works, railway	Monument	Post-medieval	Private railway linked to Shrub Hill. In use 1869-1964
WCM 98365	Hill and Evans Vinegar Works, unidentified	Monument	Post-medieval	Probably c 1857-9. Uncertain function
WCM 98410 WCM 101206	The Old Bluecoat School	Monument	Post-medieval	Part of 18-20 Silver Street  Building survey (Bridges and Morris 1984). School founded 1626 and continued until 19 <sup>th</sup> century. Had various other occupiers in 18 <sup>th</sup> and 19 <sup>th</sup> centuries and used as infirmary from 1740s to 1770
WCM 98485	54 Lowesmoor	Monument	Post-medieval	Late 18 <sup>th</sup> century and 20 <sup>th</sup> century range to rear

Reference number, status and associated records	Site name	Record type	Date	Description
Listed grade II				
WCM 98487 Listed grade II	64 Lowesmoor	Monument	Post-medieval	1800 with later additions
WCM 98488 Listed grade II	Elim Pentecostal Church, Lowesmoor	Monument	Post-medieval	C 184-50 with later alterations
WCM 100087	Medieval road (?) Silver Street	Event	Medieval	Watching brief identified pebble surface (at depth of 2m). This is noted as being on the line of a Roman road
WCM 100088	Burials, former Baptist church, Silver Street	Event	Post-medieval	Watching brief during construction of City Wall Road found burials with 18 <sup>th</sup> century tombstones. No earlier than 1680
WCM 100089	St Martin's Gate/City Walls Road	Event		Watching brief with no notable result
WCM 100177 see 96181				
WCM 100178 see 96076				
WCM 100412	Hill Evans Vinegar Works	Event	Post-medieval	Building survey Goodbury 1992. At one time largest vinegar works in the country
WCM 100435	49 Lowesmoor	Event		Watching brief in cellar. Natural sand and gravel overlain by soil, below redeposited natural. Edwards 1991
WCM 100520	County Furnishing car park, Silver Street	Event	Medieval to post-medieval	Evaluation (Brown 1990). Medieval and later features. Residual Roman pottery and slag. Structural remains. Moulds from bell founding and copper slag. Tile kiln.

Reference number, status and associated records	Site name	Record type	Date	Description
				Borehole survey Edmondson 1991
WCM 100523	Site clearance, former Renault garage, St Martin's Gate	Event		Watching brief. Unknown results
WCM 100581 see 98327				
WCM 100582 see 96181				
WCM 100583 see 96181				
WCM 100719 see 96180				
WCM 100733 see 96181				
WCM 100748/9	Former Renault garage, St Martin's Gate	Event	Roman	Excavation and watching brief (Dingwall and Ramsey 2002). 1 <sup>st</sup> – 3 <sup>rd</sup> century, iron smelting and smithing. Roman deposits sealed by Dark Earth. Roman ditch running north to south. Roman deposits at depth of c 1.8m. Possible structures. Environmental remains. Possible Civil War ditch 3m deep 5.5m wide, running north to south
WCM 100783 see 96181				
WCM 100862	28/30 Lowesmoor	Event	Post-medieval	Building survey by Smith (WCHER). c 1800
WCM 100955	Cornmarket (H&E Burnham, garage)	Event		Sand observed (Richardson 1955)
WCM 100956	36 Lowesmoor	Event	Post-medieval	Evaluation (Napthan 2002b). Heavily disturbed but late medieval soil and residual Roman pottery. Earliest structures late 17 <sup>th</sup> /early 18 <sup>th</sup> century at depth of 0.8m

Reference number, status and associated records	Site name	Record type	Date	Description
WCM 100968	36 Lowesmoor (Winwood's)	Event		Natural sand and gravel at 1.37m (Richardson 1957)
WCM 100972 see 96181				
WCM 100995	29 Lowesmoor	Event	Medieval to post-medieval	Watching brief (Napthan 2002a). Residual Roman pottery and iron slag. Medieval pits. Post-medieval features and structures
WCM 101000 see 96181				
WCM 101011	72 Lowesmoor	Event		Building survey by Bridges (WCHER)
WCM 101012	68/70 Lowesmoor	Event		Building survey by Bridges (WCHER)
WCM 10123	County Furnishings, Silver Street	Event		Borehole survey (Edmondson 1991). Up to 2.8m of made ground, over sands
WCM 101055	33-35 Lowesmoor	Event	Post-medieval	Watching brief (Napthan 2003b). 18 <sup>th</sup> century truncation and later structures
WCM 101093	36 Lowesmoor	Event	Post-medieval	Watching brief (Napthan 2003a). 18 <sup>th</sup> century truncation and later structures. Better preservation observed for adjacent properties
WCM 101164	Worcester central sewer rehabilitation - Lowesmoor	Event		Watching brief (Goad and Darch 2003).
WCM 101170	Lowesmoor Trading Estate development – general number	Event		Building assessment (Joyce 2002)
WCM 101171 see 96181				
WCM 101177 see 96471				

Reference number, status and associated records	Site name	Record type	Date	Description
WCM 101187 see 96471				
WCM 101206 see 98410				
WCM 101269	Rear of 45 Lowesmoor	Event	Medieval to post-medieval	Watching brief (Napthan 2004). Medieval tile kiln in south-west corner. Post-medieval pits and structures (19 <sup>th</sup> century)
WCM 101280 see 98496				
WCM 101282 see 98496				
WCM 101314 see 96471				
WCM 101365 see 96647				
WCM 101366	13/17 Lowesmoor	Event		Lift shaft. No further information
WCM 101367	13/17 Lowesmoor	Event		Watching brief. No further information
WCM 101368	13/17 Lowesmoor	Event		General number. No further information
WCM 101375	Land south of Pierpoint Street	Event	Post-medieval	Watching brief (Napthan 2005). Natural at 0.9-1.6m. 19 <sup>th</sup> century bottling plant. Nothing of real significance



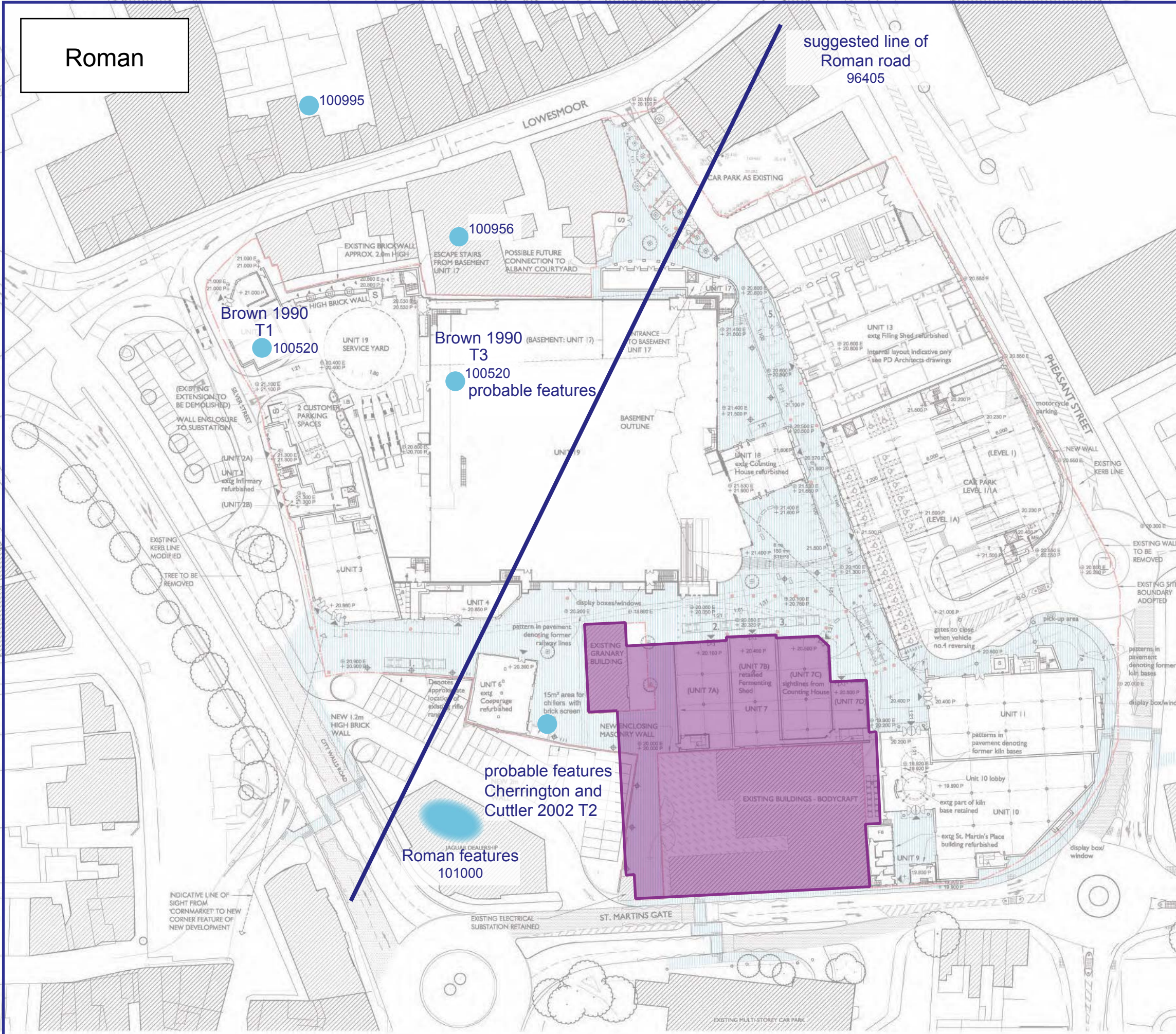
Location of the site.

Figure 1



Roman

suggested line of Roman road 96405



BUILDING NO.	DESCRIPTION	GROUND FLOOR / BASEMENT				UPPER FLOORS			
		GIA (m <sup>2</sup> )	GIA (ft <sup>2</sup> )	REMARKS / DIVISIONS	GEA (m <sup>2</sup> )	GIA (m <sup>2</sup> )	GIA (ft <sup>2</sup> )	REMARKS / DIVISIONS	GEA (m <sup>2</sup> )
1	Retail - 4.75 m clear height	221	2,300		248				
1	Residential above - 2 storeys with flat: 4x20 and 2x30	115	1,240	residential lobby	151	1,600	5,920		806
2	Existing Majestic wine warehouse (old infirmary) refurbished: areas exclude existing single storey extension	53	570	Retail - Unit 2A	86			212	2,280
2		141	1,520	Alternative A1/A2/A3 uses Unit 2B	172				257
2		3	105	residential lobby	14	108	1,170	2x 20' x 10' retail units above Unit 2A	141
3	Retail	507	5,400		552	5,600	6,400	6,400	6,400
3	4.70m clear @ ground floor: 3.6x7m clear @ first floor with 2.4m mezzanine								
4	Retail	194	2,000		227	2,440	2,630	2,630	2,630
4	4.70m clear @ ground floor: 3.5m clear @ first floor								
5	(not used)								
6	Retail - Existing building	291	3,100		299				
6		1,105	11,800	Unit 7A = 345 3,710 Unit 7B = 320 3,440 Unit 7C = 300 3,230 Unit 7D = 35 1,020 Shed = 45 480	1,105	11,800	Unit 7A = 345 3,710 Unit 7B = 320 3,440 Unit 7C = 300 3,230 Unit 7D = 35 1,020 Shed = 45 480	368	372
7	Retail - existing building refurbished (Unit 7B) with two side extensions added (Units 7A, 7C and 7D)								
8	(not used)								
9	Residential - Existing building refurbished: 3x20 on 2 floors	40	430		53	560	1,440		165
10	Retail (incorporates entrance lobby - internal street)	929	10,000	includes 24sq.m remote stairwell; does not include entrance lobby (see below)	970	1,080	20,330	overall Unit 11	1,060
11	Retail	291	3,100	entrance lobby - internal street	260	1,700	1,830	gallery over entrance lobby	162
11		987	9,900	includes 15sq.m display window	994				
12	(not used)								
13	TA in existing Filing Shed	1,508	17,000	ref. pd architects drawings	1,726	1,994	17,180	ref. pd architects drawings - includes 2nd floor plant	1,777
14	(not used)								
15	(not used)								
16	(not used)								
17	Restaurant in existing basement	1,348	14,510	including ground floor lobby	1,510				
18	Retail - Existing Counting House converted to ASDA entrance lobby	232	2,300		261				
19	ASDA - existing Counting House	5,619	60,480	incl. 35sq.m display windows	5,716	4,932	53,090		5,018
<b>SUMMARY - ALL FLOORS</b>		<b>GIA (m<sup>2</sup>)</b>	<b>GIA (ft<sup>2</sup>)</b>	<b>GEA (m<sup>2</sup>)</b>	<b>GIA (m<sup>2</sup>)</b>	<b>GIA (ft<sup>2</sup>)</b>	<b>GEA (m<sup>2</sup>)</b>	<b>RETAIL AREAS BREAKDOWN -</b>	<b>GEA (m<sup>2</sup>)</b>
MOD - TA		3,178	34,220	3,506				RETAIL AREAS BREAKDOWN -	
RETAIL STORAGE OR BY USE TOTAL		212	2,280	257				RETAIL AREAS BREAKDOWN -	
CAFE / RESTAURANT TOTAL		1,348	14,510	1,512				RETAIL AREAS BREAKDOWN -	
RESIDENTIAL TOTAL (10 fls)		957	10,300	1,130	5,919	60,480	ASDA ground floor	5,716	
RETAIL TOTAL		19,184	206,810	20,296	4,932	53,090	ASDA first floor	5,018	
A1/A2/A3 USE TOTAL		141	1,520	172	232	2,300	ASDA Counting Hse	261	
<b>GRAND TOTAL</b>		<b>25,031</b>	<b>268,440</b>	<b>26,873</b>	<b>8,411</b>	<b>90,540</b>	<b>ASDA total</b>	<b>11,017</b>	<b>8,279</b>

RESIDENTIAL AREAS BREAKDOWN - INDIVIDUAL FLATS (EXCL. COMMUNAL STAIRWELLS)	UNIT	2 bedroom	3 bedroom	4 bedroom	GIA (m <sup>2</sup> )	GIA (ft <sup>2</sup> )	NO. OF FLATS	GIA (m <sup>2</sup> )	GIA (ft <sup>2</sup> )
	1	2 bedroom	2 x		64	690		128	1,380
	2	2 bedroom	2 x		69	740		138	1,480
	3	3 bedroom	1 x		96	1,030		96	1,030
	4	3 bedroom	1 x		105	1,130		105	1,130
	5	2 bedroom	1 x		118	1,270		118	1,270
	6	2 bedroom	1 x		74	800		74	800
	7	2 bedroom	1 x		66	710		66	710
	8	2 bedroom	1 x		83	890		83	890
<b>TOTAL</b>		<b>10 units</b>	<b>8x2b and 2x3b</b>					<b>810</b>	<b>8,720</b>

NOTE: ALL PEDESTRIAN CROSSINGS ARE SUBJECT OF FURTHER ANALYSIS

KEY:

- (//) CYCLE RACKS
- BENCHES
- ⊕ LIGHTING AND BANNER COLUMNS
- ADOPTED SITE BOUNDARY
- 'ACTIVE' SHOP FRONTS
- ⊕ 20.400 E EXISTING LEVELS
- + 21.400 P PROPOSED LEVELS
- ⊕ EXISTING TREE TO BE RETAINED
- ⊕ EXISTING TREE TO BE REMOVED
- ⊕ NEW TREE
- ⊕ BINS / BOLLARDS
- ⊕ RETRACTABLE BOLLARDS
- ⊕ BIN STORE
- ⊕ POSSIBLE TROLLEY PARKS
- ⊕ LIFT MACHINE ROOM
- ⊕ ELECTRICAL SUBSTATION
- ⊕ VEHICLE UNLOADING POSITION

ACCESS RAMPS AMENDED 03.11.06 VS rev.AL

SPRINKLER REMOVED 15.09.06 JH rev.AJ

UNIT 16 REMOVED 15.09.06 JH rev.AJ

MINOR AMENDMENTS 21.03.06 DT rev.AG

MINOR AMENDMENTS 15.03.06 DT rev.AF

MINOR AMENDMENTS 13.03.06 DT rev.AE

MINOR AMENDMENTS 22.02.06 DT rev.AD

SERVICE YARDS REVISED 13.02.06 DT rev.AC

UNITS 3, 7 & 13 REVISED 27.01.06 DT rev.AB

GENERALLY UPDATED, GEAs ADDED 12.01.06 AB-DT rev.AA

GENERALLY UPDATED 14.12.05 DT rev.Z

GENERALLY UPDATED 06.12.05 DT rev.V

GENERALLY UPDATED 07.11.05 DJC rev.U

UNITS 7, 8, 10&11 REVISED 12.10.05 DT rev.T

GENERAL REVISION 16.09.05 DT rev.S

GENERAL REVISION 22.07.05 DE rev.R

MOD, HOTEL ADDED & GENERAL REVISION 15.06.05 DE rev.P

TRACKING OMITTED 17.03.05 DT rev.N

UNIT 4 REVISED, UNIT 5 OMITTED 10.03.05 DT rev.M

STREET FURN. ADDED, UNITS 1, 3, 4, 5&7 REVISED 14.02.05 DT rev.L

BUILDING SURVEY UPDATED, UNIT 2 REVISED 01.02.05 DT rev.K

UNITS 7, 8, 10&11 REVISED 16.11.04 DT rev.J

UNIT 2 CORNER REVISED 02.11.04 DT rev.H

GENERAL AMENDMENTS 11.11.04 DT rev.G

VINEGAR HOUSE DEVELOPED 02.11.04 DT rev.F

GENERAL UPDATE 27.10.04 DT rev.E

AMENDMENTS ON HIGHWAYS, UNITS 2, 6& 10&12 22.10.04 DT rev.D

SITE LEVELS UPDATE, CHANGES AS MARKED 13.10.04 DT rev.C

UNITS 1, 9, 2, 4 AND 13 UPDATED 30.09.04 DT rev.B

GENERAL AMENDMENTS 23.09.04 NH rev.A

Residual Roman artefacts

probable features Cherrington and Cutler 2002 T2

Roman features 101000

probable features Brown 1990 T3

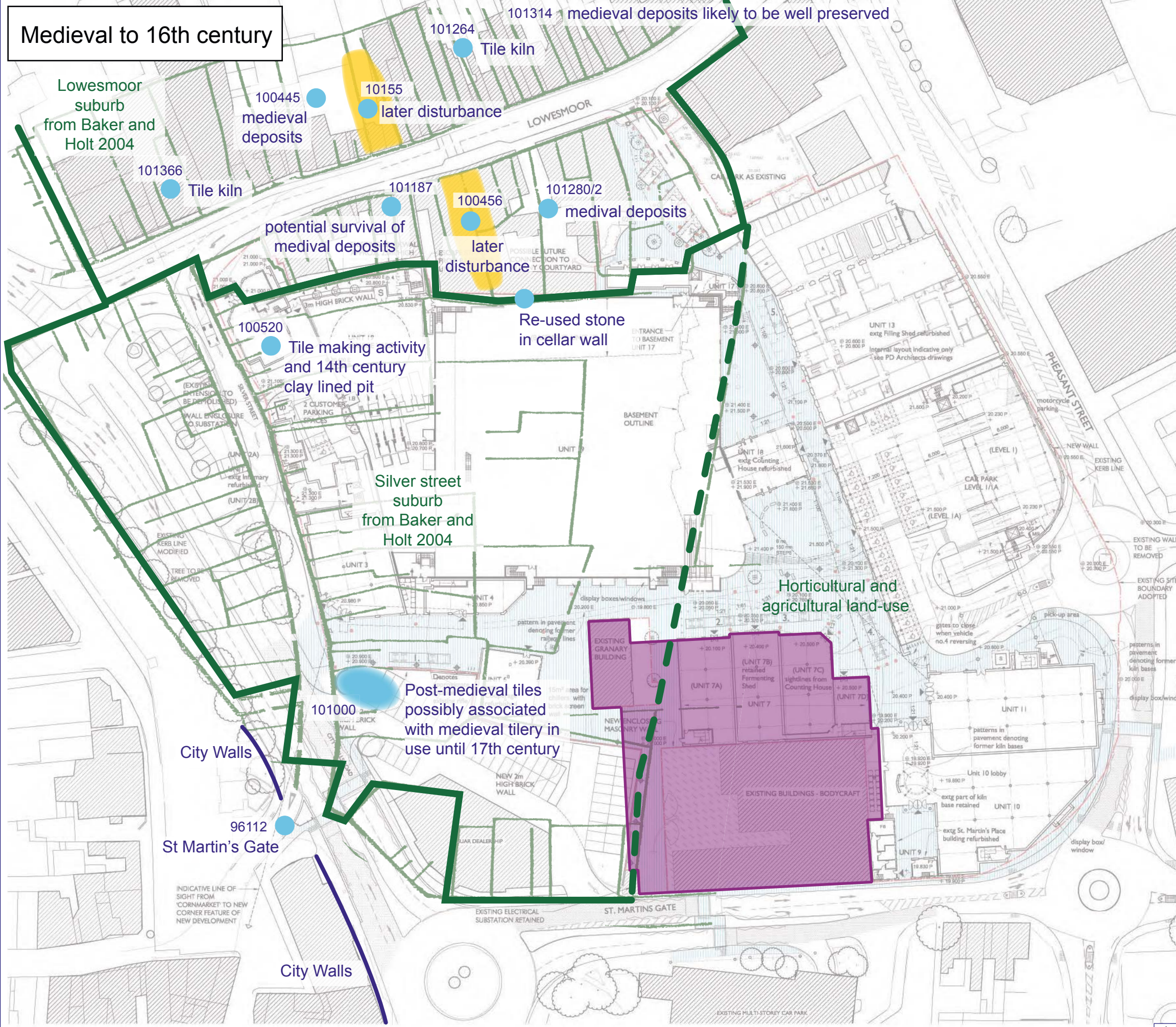
probable features Brown 1990 T1

Roman features in the vicinity of the development area

Figure 2



# Medieval to 16th century



BUILDING NO.	DESCRIPTION	GROUND FLOOR / BASEMENT						UPPER FLOORS									
		GIA (m²)	GIA (ft²)	REMARKS / DIVISIONS	REMARKS / DIVISIONS	REMARKS / DIVISIONS	REMARKS / DIVISIONS	GIA (m²)	GIA (ft²)	REMARKS / DIVISIONS	REMARKS / DIVISIONS	REMARKS / DIVISIONS	REMARKS / DIVISIONS				
1	Retail - 4.75 m clear height	221	2,300				248	2,667				500	5,392				
2	Existing Majestic wine warehouse (old infirmary) refurbished; areas exclude existing single stony extension	53	570	Retail - Unit 2A			86	917				212	2,280	retail storage or B1 use - Unit 2C on two upper floors (above Unit 2B)			
3	4.70m clear @ ground floor. 3.6x3.7m clear @ first floor with 2.4m mezzanine	141	1,520	Alternative A1/A2/A3 uses			172	1,838				14	149	1.175 to split level mezzanine above Unit 2A)			
4	4.70m clear @ ground floor. 3.5m clear @ first floor	3	32	residential lobby			14	149				106	1,132	2x split level mezzanine above Unit 2A)			
5	Retail - Existing building	507	5,400				503	5,385				505	5,400	full cover 1st floor (484sq m) and 111 sq m staff mezzanine over			
6	Retail - Existing building	194	2,090				227	2,441				244	2,630	1st floor: full cover; also overalls site escape alley / tan access			
7	Retail - existing building refurbished (Unit 7B) with two side extensions added (Units 7A, 7C and 7D)	281	2,700				299	3,198				1,105	11,800	Unit 7A = 345 3,710 356 Unit 7B = 320 3,440 372 Unit 7C = 300 3,230 337 Unit 7D = 35 1,020 114 Shared 45 480 58			
8	(not used)																
9	Residential - Existing building refurbished 3x2b on 2 floors	40	430				53	567				134	1,440				
10	Retail (incorporates entrance lobby - internal street)	929	10,000	includes 24sq m remote stairwell; does not include entrance lobby (see below)			970	10,389				2,030	21,780	overall Unit 11			
11	Retail	291	2,700	entrance lobby - internal street			290	3,070				170	1,830	gallery over entrance lobby			
12	(not used)																
13	TA in existing Filing Shed	1,505	17,000	ref. pd architects drawings			1,726	18,584				17,180	ref. pd architects drawings - includes 2nd floor plant				
14	(not used)																
15	(not used)																
16	(not used)																
17	Restaurant in existing basement	1,348	14,510	including ground floor lobby			1,510	16,160									
18	Retail - Existing Counting House converted to ASDA entrance lobby	232	2,500				261	2,780									
19	ASDA - existing Counting House	5,819	60,480	incl. 35sqm display windows			5,718	60,480				4,932	53,090	ASDA ground floor			
SUMMARY - ALL FLOORS		GIA (m²)	GIA (ft²)	GEA (m²)	GEA (ft²)	GIA (m²)	GIA (ft²)	GEA (m²)	GEA (ft²)	GIA (m²)	GIA (ft²)	GEA (m²)	GEA (ft²)	GIA (m²)	GIA (ft²)	GEA (m²)	GEA (ft²)
MID - TA		3,178	34,220	3,506	3,766												
RETAIL STORAGE OR BY USE TOTAL		212	2,280	257	2,760												
CAFE / RESTAURANT TOTAL		1,348	14,510	1,512	1,628												
RESIDENTIAL TOTAL (10 Res)		957	10,300	1,130	12,130			5,819	60,480			4,932	53,090	ASDA ground floor	5,718		
RETAIL TOTAL		19,184	206,810	20,286	219,300			4,932	53,090			ASDA roof floor	5,018				
A1/A2/A3 USE TOTAL		141	1,520	172	1,838			232	2,500			ASDA Counting Hse	281				
GRAND TOTAL		25,031	268,440	26,873	289,400			8,411	90,540			ASDA total	11,017				
												Other retail units	8,279				

RESIDENTIAL AREAS BREAKDOWN - INDIVIDUAL FLATS (EXCL. COMMUNAL STAIRWELLS)	UNIT	NO. OF UNITS	NO. OF BEDS	GIA (m²)	GIA (ft²)	GEA (m²)	GEA (ft²)	
1	2 bedroom	2	x	64	690	-	329	3,550
2	2 bedroom	2	x	69	740	-	328	3,540
3	3 bedroom	1	x	98	1,050	-	98	1,050
4	3 bedroom	1	x	105	1,130	-	105	1,130
5	2 bedroom	1	x	118	1,270	-	118	1,270
6	2 bedroom	1	x	74	800	-	74	800
7	2 bedroom	1	x	66	710	-	66	710
8	2 bedroom	1	x	83	890	-	83	890
TOTAL		10 units	8x2b and 2x3b				810	8,720

NOTE: ALL PEDESTRIAN CROSSINGS ARE SUBJECT OF FURTHER ANALYSIS

KEY:

- (//) CYCLE RACKS
- BENCHES
- ⊕ LIGHTING AND BANNER COLUMNS
- ADOPTED SITE BOUNDARY
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- ⊕ 20.400 E EXISTING LEVELS
- + 21.400 P PROPOSED LEVELS
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- ⊕ BIN STORE
- ⊕ POSSIBLE TROLLEY PARKS
- ⊕ LIFT MACHINE ROOM
- ⊕ ELECTRICAL SUBSTATION
- ⊕ VEHICLE UNLOADING POSITION

REVISIONS:

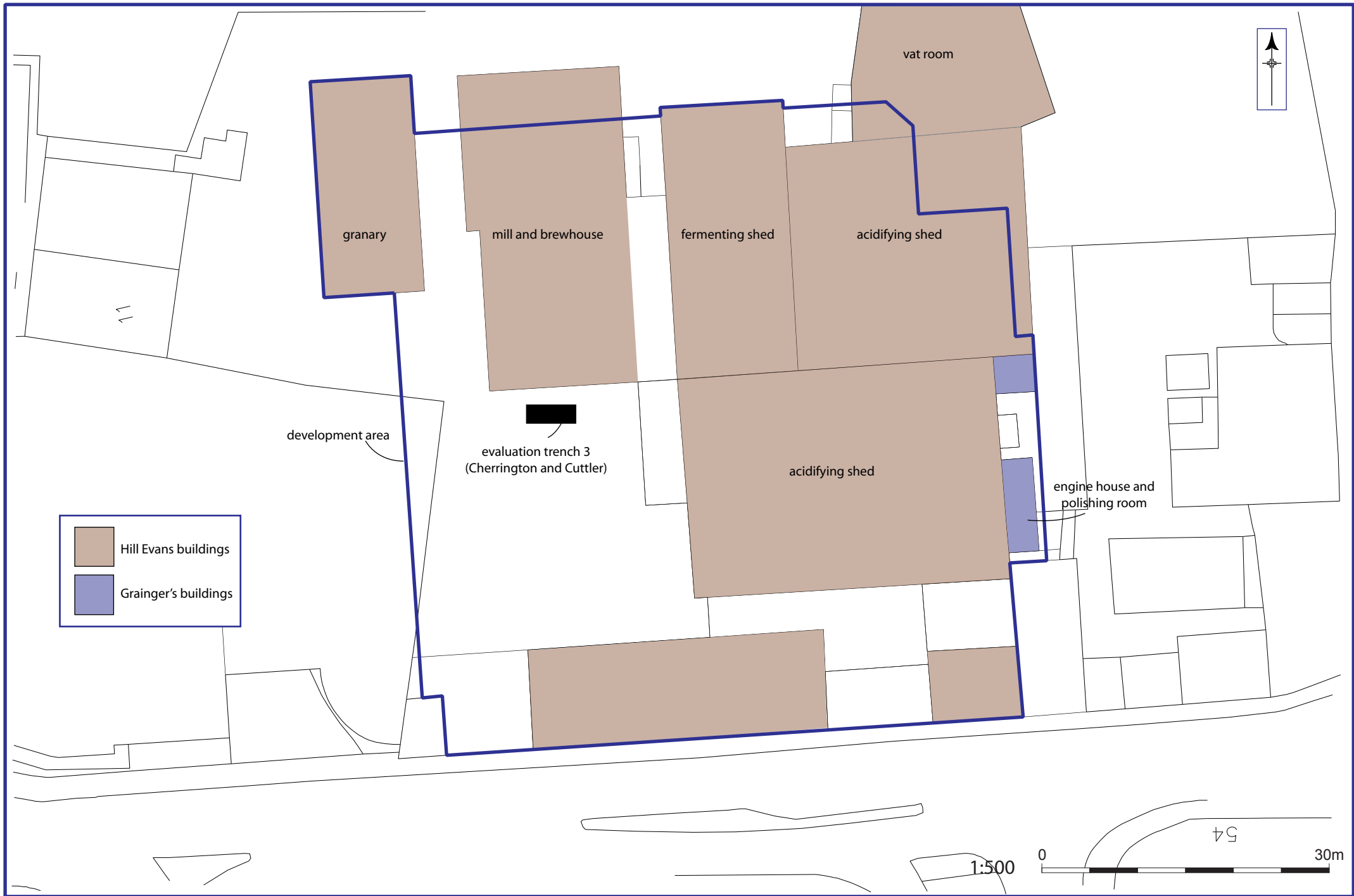
- 03.11.08 VS rev.AL SPRINKLER REMOVED
- 15.09.06 JH rev.AC UNIT 16 REMOVED
- 15.09.06 JH rev.AJ MINOR AMENDMENTS
- 21.03.06 DT rev.AG MINOR AMENDMENTS
- 15.03.06 DT rev.AF MINOR AMENDMENTS
- 13.03.06 DT rev.AE MINOR AMENDMENTS
- 22.02.06 DT rev.AD SERVICE YARDS REVISED
- 13.02.06 DT rev.AC UNITS 3,7 & 13 REVISED
- 27.01.06 DT rev.AB GENERALLY UPDATED, GEA'S ADDED
- 12.01.06 AB-DT rev.AA GENERALLY UPDATED
- 14.12.05 DT rev.Z GENERALLY UPDATED
- 08.12.05 DT rev.V GENERALLY UPDATED
- 07.11.05 DJC rev.U UNITS 7,8,10&11 REVISED
- 12.10.05 DT rev.T GENERAL REVISION
- 19.09.05 DT rev.S GENERAL REVISION
- 22.07.05 DE rev.R MOD. HOTEL ADDED & GENERAL REVISION
- 15.06.05 DE rev.P WRACKING OMITTED
- 17.03.05 DT rev.N UNIT 4 REVISED, UNIT 5 OMITTED
- 16.03.05 DT rev.M STREET FURN. ADDED, UNITS 1,3,4,5&7 REVISED
- 14.02.05 DT rev.L BUILDING SURVEY UPDATED, UNIT 2 REVISED
- 01.02.05 DT rev.K UNITS RENUMBERED, UNITS 10&11 REVISED
- 18.11.04 DT rev.J UNIT 2 CORNER REVISED
- 12.11.04 DT rev.I GENERAL AMENDMENTS
- 11.11.04 DT rev.H VINEGAR HOUSE DEVELOPED
- 02.11.04 DT rev.G GENERAL UPDATE
- 27.10.04 DT rev.F AMENDMENTS ON HIGHWAYS, UNITS 2,6&10&12
- 22.10.04 DT rev.E SITE LEVELS UPDATE, CHANGES AS MARKED
- 13.10.04 DT rev.C

Areas affected by quarrying

Baker and Holt 2004

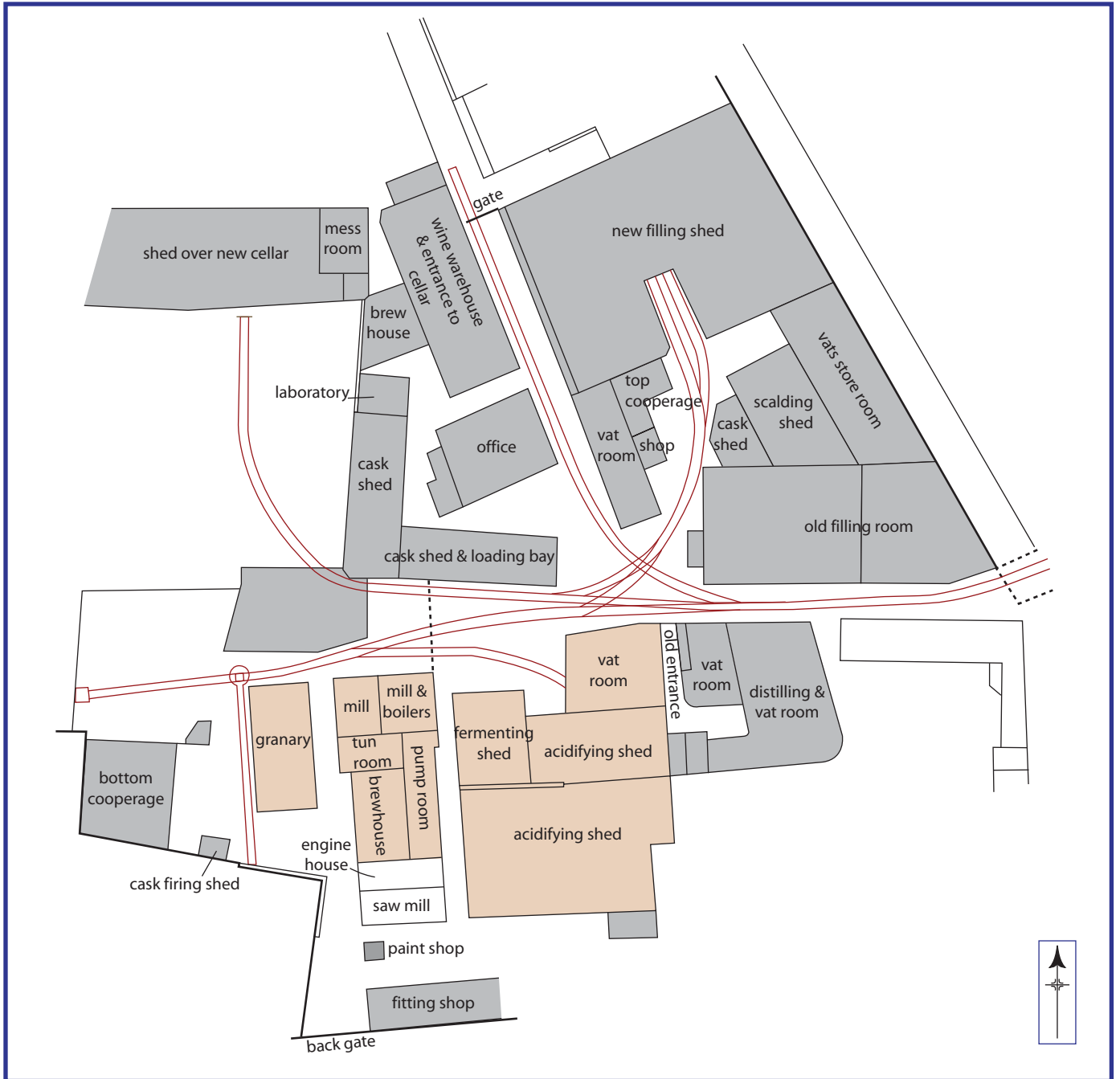
Medieval features in the vicinity of the development area

Figure 3



Locations within development area

Figure 4

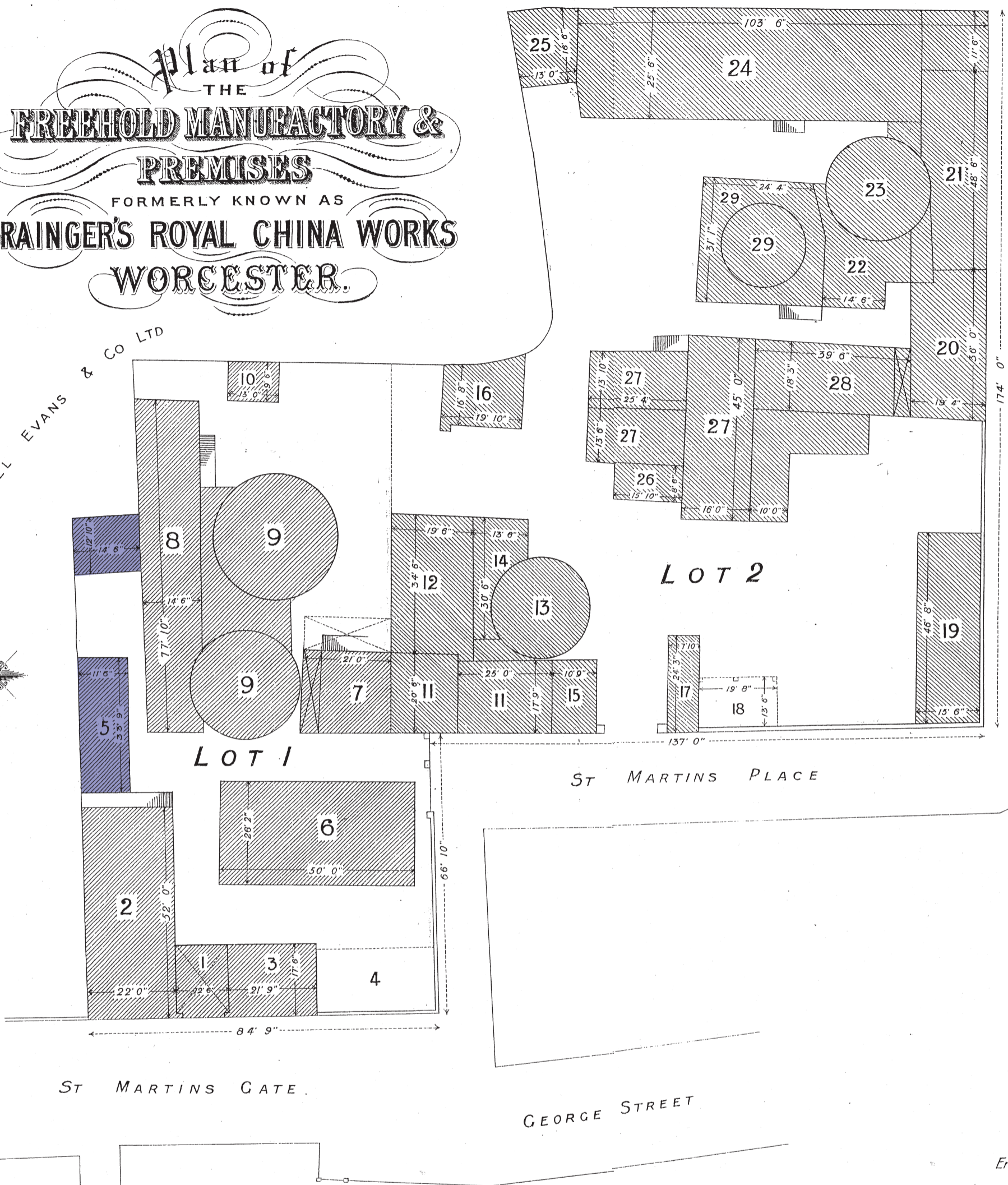
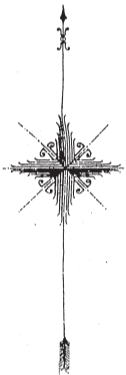


*Buildings of Hill Evans & Co Vinegar Works whilst operational, based on survey of c1875 (as reproduced by H W Gwilliam)*

*Figure 5*

Plan of  
THE  
**FRIETHOLD MANUFACTORY &  
PREMISES**  
FORMERLY KNOWN AS  
**GRAINGER'S ROYAL CHINA WORKS  
WORCESTER.**

HILL EVANS & CO LTD



Scale: 20 Feet to an Inch

Enlarged by

Grainger's Porcelain Works Sale Particulars of 1903, shaded buildings within development site

Figure 6