

**ESSEX AND SUFFOLK WATER OFFICES  
HALL STREET  
CHELMSFORD  
ESSEX**

**ARCHAEOLOGICAL DESK-BASED  
ASSESSMENT**



**Essex County Council**

**Field Archaeology Unit**

**December 2007**

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CHELMSFORD  
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## CONTENTS

	page
<b>SUMMARY</b>	<b>1</b>
<b>1.0 INTRODUCTION</b>	<b>3</b>
<b>2.0 LOCATION AND SITE DESCRIPTION</b>	<b>4</b>
<b>3.0 AIMS AND OBJECTIVES</b>	<b>4</b>
<b>4.0 METHOD</b>	<b>5</b>
<b>5.0 RESULTS</b>	<b>7</b>
5.1 Designations	7
5.2 Prehistoric	7
5.3 Roman	8
5.4 Medieval and Post-medieval	12
5.5 Victorian and Modern	12
<b>6.0 THE 1985 ARCHAEOLOGICAL TRENCHES</b>	<b>15</b>
6.1 Introduction	15
6.2 Trench 1	15
6.3 Trench 2	16
6.4 Trench 3	16
6.5 Trench 4	16
6.6 Conclusions	17
<b>7.0 CONCLUSIONS AND ASSESSMENT OF RESULTS</b>	<b>17</b>
7.1 Summary	17
7.2 Prehistoric	17
7.3 Roman	18
7.4 Medieval and Post-medieval	19
7.5 Victorian and Modern	19
7.6 Archaeological Deposit Survival	20
7.7 Proposed Trial-Pit Evaluation	22
<b>ACKNOWLEDGEMENTS</b>	<b>22</b>
<b>BIBLIOGRAPHY</b>	<b>23</b>
<b>MAPS AND SURVEYS CONSULTED</b>	<b>24</b>

## **FIGURES**

(at end of report)

1. Site location and detailed site plan with location of the 1985 trenches (1-4)
2. EHER sites in the Hall Street area
3. Roman Chelmsford, 2nd century topography, with the octagonal temple added in the 4th century (after Wickenden 1996)
4. Roman topography – period IV (late 1st century AD)
5. Roman topography – period V (late 1st-early 2nd century AD)
6. Roman roads - period V (late 1st-early 2nd century AD)
7. Roman roads - period VI (mid-late 2nd century AD)
8. Roman topography – period VI (mid-late 2nd century AD)
9. Roman topography – period VII (3rd century AD)
10. Roman topography – period VII (4th century)
11. Tithe map, 1842-3
12. First edition Ordnance Survey (1861-1876)
13. Fourth edition Ordnance Survey (1936-1947)
14. CF13, trench 3, section (reversed)
15. CF13, trench 4, section
16. Site plan, showing existing buildings, known below-ground structures and location of proposed trial pits (1-5)

## **PLATES**

(at end of report)

1. The pump house of the original water works, built in 1854, viewed from the north
2. The western end of the pump house, viewed from the north-east
3. The Hall Street frontage of the 1858 silk mill, converted in 1899 by Marconi as his first radio factory, with the manager's house in the left background
4. The manager's house
5. The silk mill/radio factory viewed from Mildmay Road, showing the added office block
6. The north end of the silk mill/radio factory viewed from Mildmay Road

**ESSEX AND SUFFOLK WATER OFFICES,  
HALL STREET, CHELMSFORD,  
ESSEX**

**ARCHAEOLOGICAL DESK-BASED  
ASSESSMENT**

**Client:** Essex and Suffolk Water PLC

**Planning Reference:** pre-planning application

**NGR:** TL 7097 0633

**Listed Building No:** 352506

**ECC FAU Project Number:** 1767

**OASIS Index Number:** essexcou1-32581

**SUMMARY**

*An archaeological desk-based assessment was carried out on the site of the Essex and Suffolk Water Company offices at Hall Street, Chelmsford, to establish the site's archaeological potential to support a future planning application for a residential development.*

*The site lies within the area of Roman Chelmsford, a posting station and small town established on the London-Colchester road south of the crossing of the rivers Can and Chelmer. The area around the site has been extensively excavated over the last 30 years, including small-scale trenching carried out on the site itself before construction of the new computer block in 1985. The assessment established that there is a high potential for significant prehistoric and Roman remains to survive on the site. Large numbers of prehistoric artefacts have been recovered from adjacent sites, occasionally from pits or post-holes. A Roman gravelled road crossed the site on a roughly north-west to south-east alignment, forming a side-road of the main London-Colchester road (whose line survives as modern Moulsham Street). The road was first laid out in c. AD 70-75, and a complex sequence of road metallings and roadside buildings and yards, dating from the late 1st to 4th centuries, has been recorded on excavations immediately to the*

west of the site. To the east, a small excavation in Rochford Road shows that the road was realigned to the south in the early 2nd century to avoid the temple precinct, located to the east of the site between Mildmay Road and the Odeon Roundabout on Parkway. Roman road gravels, 0.4m thick, and the southern roadside ditch were recorded at a depth of 1.0m in the 1985 trenching, dated by pottery to the 2nd to 4th centuries. This suggests the survival of Roman remains in at least some areas of site, although about half of the site area is likely to have been disturbed by recent building foundations, an underground reservoir and services.

In the medieval period, Chelmsford was re-established as a market town to the north of the river crossing. Moulsham, which grew up in the area of the former Roman town, was no more than a small suburb, and the site lay in an area of small fields and gardens until the 1850s. The 1985 trenching recorded a cultivated loam soil up to 0.7m thick above the Roman strata, and there is therefore only a very low potential for medieval and post-medieval remains to be present.

A group of important industrial buildings survive on the site, and have been described in surveys of the public water supply and radio electronics industries in Essex carried out in 1999 by the Royal Commission on Historic Monuments of England (RCHME). The pump house of the original water works, established by the Chelmsford Board of Health in 1853-4, survives in the north-west corner of the site, and an underground reservoir was added to the south in 1868. In the east of the site John Hall built a silk mill in 1858, and Hall Street was laid out. The main mill building and an added office block survive on the corner of Hall Street and Mildmay Road, with a manager's house on Hall Street. The silk mill was bought by Samuel Courtauld and Co, who operated it between 1866 and 1894. In 1899 the mill was acquired by Marconi's Wireless and Signal Co. Ltd (later Marconi's Wireless Telegraph Co Ltd) and became the world's first radio factory until Marconi's moved to their present site in 1912.

The 1858 silk mill/radio factory is Grade II listed. The manager's house and the 1854 pump house are not listed but the site lies within the Moulsham Conservation Area and they should be considered as curtilage-listed. There is a presumption in favour of retention of all of the 19th-century buildings in any redevelopment. The mill and the pump house have been stripped of all machinery, and probably also their internal fittings. The RCHME considers they have only limited potential for further understanding of the public water supply and radio electronics industries, and recommends only a low level of recording before any future conversions.

## **1.0 INTRODUCTION**

This report presents a desk-based assessment of the potential survival and significance of archaeological and historic building remains at the offices of Essex and Suffolk Water Company, Hall Street, Chelmsford to support a future planning application for a residential development. The desk-based assessment was carried out following initial consultation between Essex and Suffolk Water and the Essex CC Historic Environment Management team (ECC HEM), who advise local planning authorities on archaeological matters. The assessment report was prepared by the Essex CC Field Archaeology Unit (ECC FAU) on behalf of Essex and Suffolk Water PLC, in accordance with Planning Policy Guidance note 16 (DoE 1990), and followed a methodology agreed with Pat Connell of the ECC HEM team.

It was known from previous archaeological excavations in and around Hall Street that the site was located in the area of the former Roman town. Archaeological evaluation by trial-trenching was impracticable as the site was still in use. Since a large amount of information on the Roman town already exists, including a report on small-scale trenching on the site in 1985, it was decided to carry out a desk-based assessment instead. The assessment would be focused on the results of previous archaeological work both on the site itself and on adjacent sites. It was also agreed to follow the desk-based assessment with recording of trial pits to evaluate the survival and depth of archaeological deposits across site. The overall aim of the desk-based assessment, and of the trial pit evaluation that will follow, is to provide sufficient information to formulate an archaeological mitigation strategy to accompany a future planning application.

Copies of this report have been supplied to Essex and Suffolk Water PLC and the Essex CC Historic Environment Management team, and will be regarded as confidential until Essex and Suffolk Water give permission for wider distribution. Report copies will be supplied for Essex and Suffolk Water to forward to the Chelmsford Borough Council Planning Department when the planning application is submitted. When wider distribution is approved, copies of the report will be also sent to the Essex Historic Environment Record and a digital copy of the report will be uploaded onto the Online Access to Index of Archaeological Investigations (OASIS) (<http://ads.ahds.ac.uk/project/oasis>).

## **2.0 LOCATION AND SITE DESCRIPTION**

The Essex and Suffolk Water Company offices are situated in the Moulsham suburb of Chelmsford, 0.5km to the south of the modern town centre, and in the area of the former Roman town, known as *Caesaromagus* (Fig. 1; TL 7097 0633).

The site is rectangular, measuring 82m east-west by 45m north-south, and occupies a corner site, bounded by Hall Street to the south and Mildmay Road to the east. Most of the offices have been converted from former mid 19th-century industrial buildings. Along the east side of the site a former mill/factory range, with a small office block attached, fronts onto Hall Street and extends back parallel with Mildmay Road. There is a house to its west, on Hall Street, and the pump house of the original water works survives in the site's north-west corner. A modern computer block was constructed immediately to the west of the house on Hall Street in 1985. The yard area behind the house has been paved and planters and shrubs have been added. Most of the western half of the site is a staff car park surfaced in tarmac, which overlies an underground reservoir, now infilled. Access to the site is from an entrance off Hall Street, with a tarmac roadway linking the car park with an exit in the north-east of the site onto Mildmay Road. A survey carried out in April 2007 has detected a dense network of underground services across the site, especially along its northern edge.

The modern ground surface slopes gently down from 20.9m OD in the north-west to 20.0m OD in the south-east. The surface geology of the area is brickearth above first terrace gravels of the river Chelmer.

## **3.0 AIMS AND OBJECTIVES**

The aim of this desk-based assessment report is to prepare a synthesis of readily available archaeological and documentary/cartographic information relating to the site and its immediate surrounds, to assess the site's archaeological potential, both in terms of below-ground remains and the surviving listed buildings. The assessment will contribute to the general aim of the archaeological evaluation process, which is to evaluate the location, extent, date, character,



condition and significance of any archaeological remains in the site area, and to make recommendations for appropriate mitigation measures in support of the planning application.

The specific objectives of the desk-based research were:

- To assess the site's archaeological potential, especially for surviving remains related to the Roman town, based on the results of recent excavations carried out on adjacent sites;
- To assess, as far as possible, the survival of below-ground archaeological deposits, based on the results of previous trenching on the site in 1985;
- To assess the site's historical development;
- To assess the significance of the site's historic buildings;
- To assess the impact of below-ground disturbances;
- To recommend the locations of trial pits to be excavated for further evaluation of the survival and character of archaeological deposits on the site.

## **4.0 METHOD**

This desk-based assessment follows the guidelines laid down by the Institute of Field Archaeologists' *Standard and Guidance for Archaeological Desk-based Assessments* (IFA 1999). It is based on a search of readily available documents, maps and both published and unpublished archaeological reports held at the Essex Historic Environment Record (EHER), the Essex Record Office (ERO) and Chelmsford Museum.

The desk-based assessment is based on consultation of the following:

- The Essex Historic Environment Record (EHER) (Sites and Monuments Record)
- The Schedule of Ancient Monuments
- The Register of Listed Buildings
- Historical maps held in the Essex County Record Office
- Ordnance Survey maps
- Published local histories

- Published archaeological reports
- Unpublished archaeological reports archived in the EHER and Chelmsford Museum
- The Royal Commission on Historic Monuments of England (RCHME) reports on the Public Water Supply and Radio Electronics Industries in Essex

Since a large body of information already exists on the archaeology of the Roman town, much of it published, the desk-based assessment gives a brief overview of the town's development and focuses on the evidence from the immediate area of the site. The assessment of archaeological remains is based on published excavation reports (Drury 1988; Wickenden 1992) and an unpublished draft (Isserlin and Wickenden in prep.) on the street frontage sites in the north of the Roman town (i.e. the Moulsham Street/Hall Street area). A report held in the EHER on the 1985 trenching on the site (Andrews and Gee 1985) is summarised in this report to present evidence of the survival, character and depth of archaeological deposits, in the centre of the site at least. Sites are referenced in the text and figures primarily by site codes (e.g. site V, site CF13 etc). EHER references are also given, although for the most part these are a synopsis of information appearing in excavation reports.

The 19th-century industrial buildings on site have previously been assessed in surveys carried out by the Royal Commission on Historic Monuments of England (RCHME) of the public water supply and radio electronics industries in Essex (Crosby 1999; Cocroft and Menuge 1999), and their results are summarised in this report.

Historic maps were consulted to assess topographical development, and are reproduced in this report only where relevant. Recent site surveys (including underground services) completed in 1985 and 2007 were also consulted. It was not necessary to consult historical documents as a highly detailed history of Chelmsford has been written, in two volumes (Grieve 1988; 1994), as well as a more general illustrated account (Jones 2003).

## **5.0 RESULTS**

### **5.1 Designations**

No scheduled monuments are known on the site or in its immediate vicinity. The nearest scheduled monument is the 1787 stone bridge over the river Can, 250m to the north of the site.

The former silk mill and radio factory on the corner of Hall Street and Mildmay Road, built in 1858, is Grade II listed (Listed Building No. 352506), but the house to its west on Hall Street, and the 1854 water works pump house in the north-west of the site, are not listed. The site lies within a Conservation Area, however, and the unlisted 19th-century buildings should be considered as curtilage-listed.

### **5.2 Prehistoric (Figs 2 and 3)**

There is sporadic evidence of prehistoric activity in the area that later became the Roman town, related to a buried soil at the surface of the natural brickearth. Prehistoric remains have been recorded on the temple site (sites K and CF1) immediately to the east of the Hall Street site (Fig. 2, EHER 5862-4 and 5933). Around 400 Mesolithic and Neolithic flint artefacts were found in the buried soil or were residual in later features. In addition, 83 sherds of Late Bronze Age/Early Iron Age pottery were recovered from the buried soil and from post- and stake-holes sealed beneath surfaces related to the Roman temple (Wickenden 1992, 16-17). This suggests the presence of Late Bronze Age/Early Iron Age activity on the Roman temple site, although the theory put forward by Drury (1972, 14-15), that an Iron Age ritual mound preceded the Roman temple, has since been discounted (Wickenden 1992, 17). A Mesolithic pit containing flint artefacts, and residual prehistoric pottery, were also excavated to the south-west of the site (site T, EHER 5859-60; Drury 1988, 43). A group of Late Iron Age roundhouses has been recorded at 27-33 Moulsham Street (not on EHER, see Fig. 6, site AG for location), 70m to the west of the site, suggesting the presence of a farmstead in the period immediately preceding the Roman town (Wickenden 1996, 80-1 and fig. 4).

## 5.3 Roman

### 5.3.1 General topography (Fig. 3)

The site lies in the area of Roman Chelmsford, a posting station and small town established on the London-Colchester road south of the crossing of the rivers Can and Chelmer. Several overviews of the Roman town and its development have been published (Drury 1975; Wachter 1994; Black 1995; Wickenden 1996), as well as an assessment of the town's archaeological potential (Medlycott 1998).

The line of the Roman London-Colchester road survives as modern Moulsham Street, 80m to the west of the site. A small fort was established in the aftermath of Boudica's revolt of AD 60-61, but this was short-lived and from c. AD 70-75 a small civilian settlement developed along the London-Colchester road and a side-road extending to its east, projected as running through the Hall Street site. The temple precinct immediately to the north-east of the site was first laid out at this time, as were the earliest elements of the *mansio* (posting station) to the south of the site, in the form of a series of enclosures beside the London-Colchester road and a small bath house.

The Roman town underwent a major re-organisation in the early 2nd century and assumed its final plan form (Fig. 3), with few changes until its abandonment in the early 5th century. The side-road projected as running through the Hall Street site appears to have been extended eastwards in the early 2nd century, following a new alignment south of the temple precinct. The area to the south of Hall Street was occupied by the *mansio* (posting station), which had been rebuilt as large courtyard building with a bath house, within a much-enlarged official precinct. The town grew to its greatest extent in the 2nd century, with timber houses/shops/workshops extending along the main London-Colchester road, and along the side-road as far as the area of Rochford Road to the east of the site. The area to the immediate west of the site was the centre of a horn-working industry.

In the later 2nd century the town was provided with earthwork town defences, which are projected as running along the eastern boundary of the Hall Street site, separating it from the temple precinct to the east. The temple precinct was provided with an impressive stone-built octagonal shrine in the early 4th century. Timber buildings along the road frontages continued

to be replaced in the 3rd and 4th centuries, although by the second half of the 4th century there is evidence of decline, with roads falling into disrepair and some building plots being left vacant.

### **5.3.2 Detailed topography** (Figs 2 and 4-10)

Detailed evidence of Roman remains on the site and adjacent sites is described below, following the chronology of town periods established by Drury (1988). This review includes the following sites:

- Prince of Orange Public House (Isserlin and Wickenden in prep.; EHER 5884-6)
- Site V: Elim Church, Hall Street (Isserlin and Wickenden in prep.; EHER 5884-6)
- Site R: Orchard site (Isserlin and Wickenden in prep.; EHER 17742)
- Site CF1: 16 Mildmay Road (Wickenden 1992; EHER 5934)
- Site CF13: Hall Street Water Works (Andrews and Gee 1985; 1986; EHER 5940, 5879).

The results of the 1985 trenching on the site are also summarised below (see 6.0).

Where relevant, sites to the east, in the area of the temple precinct, and on the south side of Hall Street, are also referred to:

- Site K: 1-8 Rochford Road (Wickenden 1992; EHER 5865)
- Site D: 29-31 Rochford Road (Wickenden 1992; EHER 17114)
- Site T: Hall Street Hall, Hall Street (Drury 1988; (EHER 5861, 5907)

### Period IV, later 1st century AD (Fig. 4)

The side-road extending eastwards from the main London-Colchester road was recorded immediately to the west of the site (site V and the Prince of Orange site). It was 10m wide and was flanked by roadside ditches and a timber building. The earliest Roman surfaces on these sites were recorded at a depth of 0.8-1.0m below modern ground level. The road was laid out in c. AD 70-75 as part of the primary road layout of the town. A small area of road gravels and the southern roadside ditch were found at a depth of 0.8-1.1m on the Hall Street site itself (site CF13, trenches 3 and 4). The correlation of road lines is not as good as for later periods, most likely because the original road edge at the Hall Street site has been lost through later recutting of the roadside ditch. At the Prince of Orange the southern half of the road overlay an earlier

road line belonging to the fort, but otherwise no clear evidence of the fort has been found adjacent to the Hall Street site.

A north-south boundary ditch and an area of metalled surfacing to the north-east of the site (site CF1) represent the western edge of the temple precinct (Wickenden 1992, 54-7 and 126-7), presumably extending into the eastern part of the site. This suggests that in its earliest phase the east-west road led to the temple precinct which, according to Wickenden (1992, 23), had a sacred grove as its central focus (see Fig. 6). Two north-south ditches to the north of the site (Orchard site) represent further boundaries at right angles to the road and these may also have extended into the site area.

#### Period V, late 1st-early 2nd century AD (Figs 5 and 6)

The road was resurfaced but it had become narrower through encroachment of its southern edge (site V and Prince of Orange site). The southern roadside ditch is much more closely aligned with the roadside ditch recorded on the Hall Street site (CF13, trenches 3 and 4). To the west of the site, a timber building and a large number of rubbish pits (sites V and R) provide evidence of continued activity either side of the road. The temple precinct boundary ditch to the north-east (site CF1) remained open, and the eastern end of the site presumably still lay within the temple precinct.

#### Period VI, mid-late 2nd century AD (Figs 6, 7 and 8)

The east-west road was resurfaced and new timber buildings were built to its north (site V). The roadside ditches had silted up and were replaced by shallow drainage gullies and fence lines. By contrast, on the Hall Street site (site CF13, trench 4), the southern roadside ditch had only partially silted by the 2nd century and was still recognisable as a ditch (see 6.0 below). To the north-east (site CF1) the ditch marking the western boundary of the temple precinct was infilled.

A second road can be projected across the Hall Street site on the basis of a previous excavation at 29-31 Rochford Road (site D), 70m to the south-east (Fig. 7). Here, a road aligned south-east to north-west was first laid out at the end of period V or the beginning of period VI, in c. AD 120. The road was 9.7m wide with a roadside ditch on its south side. When projected, this road alignment crosses the Hall Street site at an angle, forming a junction with the other road near the western limit of the site. This eastern length of road represents an extension of the original

road, with the realignment to the east of the site necessary to divert the road to the south of the temple precinct. The new road line is reflected in changes at the southern edge of the temple area. A small apsaidal temple built in period V (Fig. 6, site K, S.11) was replaced in period VI by a domestic building (Fig. 7, site K, S.12) on a new alignment, obviously aligned on the road (Wickenden 1992, 33).

In c. AD 120 the northern boundary of the enlarged precinct for the *mansio* (posting station) was established immediately to the south of Hall Street (Fig. 7, site T). In the later 2nd century the town was provided with earthwork defences. The ditch for the eastern side of the defensive circuit has been recorded during sewer construction in Mildmay Road (Drury 1988, 42) and its projected line runs up the eastern edge of the Hall Street site (Fig. 7). The defences would have physically separated the site from the temple precinct to the east, and there would presumably have been a gate at the eastern limit of site to allow the road to pass through the defences.

#### Period VII, 3rd and 4th centuries AD (Figs 9 and 10)

To the west of the site, the east-west road was not resurfaced again, but remained in use up to the end of the Roman period, as timber buildings and yards continued to be set out on either side of it on the previously established frontage lines (sites V and R). The road continued in use at the Hall Street site itself (site CF13, trenches 3 and 4), as pottery in the southern roadside ditch suggests it did not finally silt up until the later 4th century. The eastern extension of the road, to the south of the temple precinct (site D, see Fig. 7), also continued in use up to the 4th century, although by this time it was much narrower and its surface had become degraded (Wickenden 1992, 14-15).

Limited evidence of activity to the south of the road has been recovered from the Hall Street site, in the form of a gravel surface containing 3rd-century pottery (site CF13, trench 2). A coin of Licinius (AD 307-24) has been recovered as a chance find in the south-west of the site (Fig. 2, EHER 5879). In the late 3rd and 4th centuries the area to the south of Hall Street (site T, see Fig. 7) appears to have been a marginal area outside the northern boundary of the *mansio* (posting station) precinct. There is evidence of a small inhumation cemetery, votive deposits and rubbish pits (Drury 1988, 43-9). Although bone preservation is poor, possibly five burials were recorded, including an adult and an infant. The cemetery shows no signs of systematic

organisation and appears to have developed piecemeal. The votive deposits include a fine set of 4th-century jet and shale jewellery (Drury 1988, 107-10).

#### **5.4 Medieval and Post-medieval (Figs 2 and 11)**

The Roman town was abandoned, along with the bridges at the river crossing. The history of Saxon settlement in the area is summarised by Grieve (1988). Saxon settlement was focused on villages in the surrounding area, and by the late Saxon period the main settlement locally was the royal manor at Writtle, 5km to the north-west. However, small settlements also sprang up either side of the river crossing in the late Saxon period, Chelmsford to the north at the fording point of the Chelmer, and Moulsham to the south, in the area of the former Roman town. Moulsham was focused on the former Roman road (Moulsham Street), 70m to the west of the site, and there is no evidence of Saxon remains in the area of the site itself. The Domesday Book of 1086 records Moulsham as held by Westminster Abbey and having twelve households, while Chelmsford had only four households (Rumble 1983). By the 12th century a new bridge had been built across the river Can, and in 1199 Chelmsford was re-founded as a market town, but Moulsham remained a small suburb until its expansion in the mid-late 19th century.

The earliest map of Chelmsford and Moulsham, produced by John Walker in 1591, shows the site as lying in an area of small fields, orchards and gardens to the rear of building plots on Moulsham Street to the west and Baddow Road to the north. The Tithe Map of 1842-3 (Fig. 11), surveyed only a decade before the site became built up, shows the field and plot boundaries as virtually unchanged since 1591. Medieval and post-medieval ditches and rubbish pits have been recorded both to the west and north-east of the site (Fig. 2, EHER 5885 and 5935-6). These represent activity at the rear of plots fronting onto Moulsham Street and Baddow Road. The 1985 trenches on the Hall Street site recorded up to 0.7m of loam soil above the Roman stratigraphy, sealed by later 19th- and 20th-century deposits and surfaces (EHER 5941; see 6.0 below). Although undated, this soil almost certainly represents medieval and post-medieval cultivation, as indicated by the historical map evidence.

#### **5.5 Victorian and Modern (Figs 1, 2, 12 and 13; Plates 1-6)**

Chelmsford was transformed by the break-up of the Mildmay estate in 1838-9 (Grieve 1994, 306-7). The estate, which included most of the land in and around Chelmsford and Moulsham had been held in entail since 1563, but while this device kept it intact, by the early 19th century



the Mildmays had become absentee landlords. An Act of Parliament of 1833 removed the legal restraints on the sale of entailed land and the Mildmay family took full advantage. In 1838 land was sold to the Eastern Counties Railway Company to build a railway through Chelmsford, which was completed in 1843 and attracted industry to the town. Large-scale sales of Mildmay land followed in May 1839, including the sale of 475 acres of farmland east of Moulsham Street (the area round the site) as freehold building land. This led to rapid expansion of the Moulsham suburb, and the construction of Mildmay Road in the 1840s provided the basis for the development of the area for housing. Hall Street, laid out in 1858, was an exception however, as the site area was developed as a water works and silk mill. The 1st edition Ordnance Survey of 1861-76 shows the initial development of the site, with the water works to the west and the silk mill to the east (Fig. 12).

The water works was a classic Victorian public works project. From the 1830s the rapid growth of urban populations and frequent outbreaks of cholera had led to increasing concern over standards of public health. The Public Health Act of 1848 gave powers to local boards to develop systems of sewage disposal and public water supply, and the Chelmsford Board of Health first met in September 1850 (Grieve 1994, 331; Jones 2003, 71-2). The board's first priority was to develop a sewer system, but in 1853 two gardens west of Mildmay Road (the north-west of the site) were purchased to build a water works (Grieve 1994, 344-7). This was supplied by gravity from two new reservoirs on high ground to the north and south of the town, at Burgess Well and at the top of Wood Street. An artesian well was sunk on the site and a pump house fitted with steam-powered pumps was built over it. The pump house, completed in 1854, survives in the north-western corner of the site (EHER 15572; Plates 1 and 2). It has previously been described in a survey of the water supply industry in Essex carried out by the RCHME (Crosby 1999). It has been stripped of its machinery and was until recently used as an office.

In 1858 John Hall, a silk manufacturer based in Coggeshall, built a silk mill in the east of the site on the corner of Mildmay Road and the newly built Hall Street, to which he gave his name. The mill survives, fronting onto Hall Street and extending back parallel with Mildmay Road, and is Grade II listed (Listed Building No. 352506; EHER 15083; Plates 3, 5 and 6). It has two storeys and a double-ridged roof, and a small office block attached on the street corner. The manager's house survives to the west of the mill, on Hall Street (Plates 3 and 4). The original silk mill

complex included other buildings that have now been demolished: a steam engine and boiler house to the north, and other outbuildings to the west, enclosing a small yard behind the manager's house. The silk mill, and its subsequent use as a radio electronics factory, has been previously described in a survey of the radio electronics industry carried out by the RCHME (Cocroft and Menuge 1999).

In 1858-60 the water works yard to the west of the silk mill was expanded to include the entire western half of the site, extending up to the newly constructed Hall Street. The pump house was extended and new pumps and a new main were installed (Grieve 1994, 352). In 1867-8 an underground reservoir with a capacity of 112,000 gallons was built to provide a reserve supply (Grieve 1994, 356-7). The reservoir (Fig. 16) measured 25 x 13m and 2m deep, and was built of brick lined with cement, with a galvanised iron roof. The fully developed plan of the water works and the silk mill is shown on the 1st edition Ordnance Survey of 1861-76 (Fig. 12).

After John Hall's business failed, the silk mill was sold in 1866 to Samuel Courtauld and Co., who operated it, initially for silk throwing and latterly for the manufacture of crape, until 1894 when the business went into liquidation. In 1899 the mill was acquired by Guglielmo Marconi's Wireless and Signal Co. Ltd (later Marconi's Wireless Telegraph Co Ltd) and became the world's first radio electronics factory until Marconi's moved to their present site in 1912. Chelmsford Borough Council building control plans show that Marconi's were constantly improving and expanding the Hall Street site (Cocroft and Menuge 1999, 13), and its cramped nature no doubt dictated their decision to move to new premises. Outbuildings were added in the yard to the west of the mill and other buildings on land south of Hall Street. In 1911 a four-bay drawing office block with a radio mast was built in the north-east of the site for research and development. The research and development facilities were retained after production was moved, until 1919 at least, before they too were re-established on a new site. These ancillary buildings have all been demolished.

Successive editions of the Ordnance Survey show the same basic site plan for the water works and mill/factory retained throughout the first half of the 20th century, with only minor changes. The 4th edition Ordnance Survey of 1936-47 shows buildings added either side of the pump house on the north side of the water works yard as well as additions to the underground

reservoir. Otherwise the similarity between the 1861-76 and 1936-47 maps is striking (Figs 12 and 13).

The former silk mill/radio factory was used as a repository until converted to offices. The RCHME survey states that all fittings have been stripped out (Cocroft and Menuge 1999, 14). When the water works became redundant, the underground reservoir was filled in, and the Essex Water Board and their successors, Essex and Suffolk Water, took over all the other buildings on site for use as offices, with the former water works yard becoming a staff car park. The most recent change has been the construction in 1985 of the new computer block to the west of the house and mill. This involved the demolition of the stables and a garage behind the house, resulting in a rationalisation of the site, and only the house, mill and pump house have been retained.

## **6.0 THE 1985 ARCHAEOLOGICAL TRENCHES**

### **6.1 Introduction (Fig. 1)**

Four small trenches were excavated by D. Andrews and M. Gee of the Essex County Council Archaeology Section in 1985 before construction of the new computer building. The main objective of the trenching was to confirm the line of the east-west Roman road recorded on previous excavations to the west. The trenches provide details of the survival, character and depth of archaeological deposits in the central part of the site, and the summary of results set out below is based on a report lodged in the EHER (Andrews and Gee 1985). The sections shown on Figs 14 and 15 are reproduced from original site drawings.

### **6.2 Trench 1 (Fig. 1)**

Trench 1 in the south-east of the new building measured 1.0 x 1.0m and was excavated to a depth of 1.0m without reaching natural brickearth. In the west of the trench was a backfilled cellar that extended beyond the trench, while the rest of the trench recorded a blackish garden soil, containing 19th-century artefacts.

### **6.3 Trench 2 (Fig. 1)**

Trench 2 in the south-west of the new building measured 2.5 x 1.0m and was excavated down to the top of the natural brickearth at a depth of 1.5m. A disturbed brickearth deposit above this was probably a levelling layer, which was capped by a thin layer of gravel in the eastern part of the trench. Nine sherds of Roman pottery were recovered from the gravel, including Samian ware and a sherd of a Colchester-type folded beaker dated to the late 2nd-mid 3rd century. Black garden soil 0.7m thick sealed the gravel layer, above which was modern overburden.

### **6.4 Trench 3 (Figs 1 and 14)**

Trench 3 immediately to the north of the new building measured 2.3 x 1.3m and was excavated down to the surface of the natural brickearth at a depth of 1.4m. Above this were Roman road gravels, comprising fine pebbles in yellow-brown silty sand, 0.4m thick, with their surface 1.0m below modern ground level. The road gravels occupied the northernmost 0.3m of the trench, and were flanked to the south by a roadside ditch 0.75m deep and at least 1.0m wide (its southern edge lay beyond the limits of the trench). Fragments of Roman tile were recovered from the ditch fill, but no pottery. The Roman road and ditch were overlain by brown 'silty loam' 0.4m thick, probably a cultivated soil. A hard pebbly cement surface was inserted into the loam soil, at a depth of 0.7m, probably in the 19th century. It was overlain by brown garden soil, 0.3m thick, and modern tarmac on a gravel base.

### **6.5 Trench 4 (Figs 1 and 15)**

Trench 4 at the north-east corner of the new building measured 3.2 x 1.0m and was cut at right angles to trench 3, across the line of southern edge of the Roman road. It was excavated down to the top of the natural brickearth at a depth of 1.3m. The south wall of the stable block behind the house on Hall Street ran along the north side of the trench. The Roman road gravels did not survive, but the gravelly fill of the foundation trench for the stable block suggest that they were disturbed when this was dug. Most of the cross-section across the roadside ditch survived, at a depth of 0.8-1.0m below modern ground level. The ditch was at least 2.4m wide and over 0.6m deep (it was not quite bottomed). Its lower fill was very dark pebbly green-grey-brown 'silty loam', with charcoal at the top, with an upper fill of dark 'silty loam'. Three sherds of Roman pottery were recovered from the lower ditch fill, including a sherd dated to the early 2nd century. Seven sherds of pottery recovered from the upper fill included typical late Roman material dated to the mid-late 4th century, in particular sherds of an Oxford red colour-coated ware footring

base and a Hadham oxidised ware bead-rimmed jar, as well as residual early Roman pottery. The roadside ditch was overlain by brown 'silty loam' 0.7m thick, above which was a modern tarmac surface on a gravel base.

## **6.6 Conclusions**

Natural brickearth was consistently located at a depth of 1.3-1.5m. The southern edge of the east-west Roman road was identified in trenches 3 and 4, running immediately to the north of the computer block. Road gravels 0.4m thick were recorded in trench 3, at a depth of between 1.0 and 1.4m, and to the south a roadside ditch up to 0.75m deep in both trenches. The pottery dating for the roadside ditch in trench 4 suggests that it began to silt in the 2nd century and finally filled up by the later 4th century. A probable 3rd-century gravel surface was recorded in trench 2. In trenches 3 and 4 there was a build-up of up to 0.7m of cultivated soil, probably of medieval and post-medieval date, with 19th- and 20th-century garden and yard features above. Trenches 1 and 2 on the Hall Street frontage were generally more disturbed, with recent garden soil and a cellar down to a depth of over 1m.

## **7.0 CONCLUSIONS AND ASSESSMENT OF RESULTS**

### **7.1 Summary**

The desk-based assessment has demonstrated that there is a high potential for significant below-ground archaeological remains relating to Roman Chelmsford to survive on the Hall Street site. The assessment has also established the context and significance of the surviving historic buildings on the site. The assessment results will enable a mitigation strategy to be formulated for both below-ground and standing building remains on site to accompany a future planning application.

### **7.2 Prehistoric**

Excavations in the surrounding area, especially at the temple site to the east, suggest that prehistoric remains may survive in a buried soil at the top of the natural brickearth. Large numbers of Mesolithic and Neolithic flint artefacts have been recovered, along with evidence of Mesolithic and Late Bronze Age/Early Iron Age features. This evidence is ephemeral and its

incidence is difficult to predict, but it is likely that prehistoric artefacts, and possibly also features, may be encountered sealed beneath Roman deposits.

### **7.3 Roman**

Excavations on adjacent sites, and the 1985 trenching on the Hall Street site itself, indicate that there is the potential for well-preserved Roman remains to survive on the site. These could include complex sequences of road surfaces, roadside and boundary ditches, timber buildings, yard surfaces and rubbish pits. The previous excavations in the area have recorded a continuous sequence of activity throughout the Roman period, dating from the later 1st to the late 4th centuries. Roman sequences recorded immediately to the west and north of the site are around 0.5m thick and are generally present at a depth of between 0.8 and 1.4m, with deep features such as ditches and pits occasionally cutting to a depth of almost 2.0m. Despite some areas of truncation by modern foundations and other disturbances, Roman stratigraphy in the area is usually sealed beneath medieval and post-medieval cultivated soil. It is highly likely that Roman remains will survive in any areas of the site that have escaped major ground disturbance from 19th- or 20th-century building foundations or other intrusions.

The assessment has related the site to the topography of the Roman town, most importantly in projecting the line of a Roman road across it. The 1985 trenching on the site confirmed that the Roman road recorded to the west ran across the northern end of the site, immediately to the north of the new computer block. This road was part of the town's primary road layout in c. AD 70-75. A second Roman road line, recorded to the east of site, can be projected as running diagonally across it from south-east to north-west, making a junction with the first road near the site's western limit. This second road was constructed a little later, in c. AD 120, and represents an eastward extension of the original road on a new alignment to avoid the temple precinct immediately to the east of the site. From the early 2nd century the road was clearly a through-road leading eastwards out of town, but the original later 1st century road may merely have led to the temple precinct. In the later Roman period the original road line would have terminated in a dead-end.

The site's location is significant for understanding the development of the Roman town, as the Roman remains expected to survive on site would relate to one of the town's main streets and commercial areas. On the evidence of previous excavations immediately to the west, a detailed

sequence of road surfaces, commercial buildings and yards would be expected on the site, in its western half at least (Figs 4-10). In the late 1st and early 2nd centuries the east of the site most likely lay within the temple precinct (Figs 4-6). The extension of the road to the east in the early 2nd century was accompanied by commercial buildings being built at the southern fringe of the temple area (Figs 6-7), but by the end of the 2nd century the site would have been separated from the temple precinct and any suburban development by the construction of the town defences. Any new Roman evidence on the site would help understand the interrelationships between the road, commercial development, the temple precinct and the town defences, and therefore how Roman Chelmsford changed through time.

#### **7.4 Medieval and Post-medieval**

The assessment has demonstrated that there is very low potential for significant medieval or post-medieval remains being present on site, as historic map evidence shows it to lie outside the built-up area of the Moulsham suburb of Chelmsford. It was situated in an area of small fields, orchards and gardens behind plots extending back from Moulsham Street to the west and Baddow Road to the north, until the site was built on in the 1850s. The 1985 trenching on the site recorded a 0.7m-thick layer of loam which, although not dated, was almost certainly a medieval or post-medieval cultivated soil.

#### **7.5 Victorian and Modern**

The assessment has placed the surviving mid 19th-century industrial buildings on the site within their historical context and outlined their preservation and significance. The assessment of the buildings is largely based on the surveys of the public water supply and the radio electronics industries in Essex carried out by the RCHME (Crosby 1999; Cocroft and Menuge 1999).

The water works, which occupied the west of the site, was first established by the newly-formed Chelmsford Board of Health in 1853-4, was expanded in 1858-60, and a large underground reservoir was added in 1867-8. A silk mill was built in the east of the site in 1858 by John Hall, who gave his name to the newly-constructed Hall Street. In 1866 the silk mill was purchased by Samuel Courtauld and Co., who operated it until 1894. The mill was acquired by Marconi in 1899 and became the world's first radio electronics factory, but Marconi's plans for expansion were thwarted by the cramped nature of the site and he moved production to a new site in 1912. The research and development facilities were retained until they too were moved to a new site

some time after 1919. The mill/factory became a repository until the water company took over all the buildings on site for their offices.

The original pump house for the water works, built in 1854 and enlarged in 1858-60, survives in the north-western corner of the site. It has been stripped of its internal machinery, but is a good example of its type and period and the RCHME survey recommends further recording if any new works are carried out on it.

The only elements of the silk mill/radio electronics factory that survive are the main mill building and its attached office, and the manager's house on Hall Street. All other buildings, including the engine house and other ancillary structures around the mill yard, the stables behind the house, and Marconi's research and development block and radio mast, have been demolished. The surviving buildings have some architectural merit, but are typical examples of their type and period. The mill/radio factory is of historical interest for its connections with Courtauld's and Marconi's, but all traces of the original machinery and fittings have been stripped away. The RCHME survey concludes that the building has limited potential for further understanding of either the silk or radio electronics industries, although it is of considerable historical importance for its association with Marconi and the first development of radio.

The silk mill/radio factory is Grade II listed, and while the manager's house and pump house are not listed, the site is located within a Conservation Area. There is thus a presumption in favour of the historic buildings being retained in any new development, and the local planning authority's historic buildings advisor should be consulted over any proposed new works to be carried out on them.

## **7.6 Archaeological Deposit Survival (Fig. 16)**

The assessment has concluded that natural brickearth on site is located at a depth of 1.3-1.5m below modern ground level, and that Roman deposits, around 0.5m thick, survive above this, to 0.8-1.0m below the modern ground surface. In two of the 1985 trenches, at the northern limit of the modern computer block, the Roman stratigraphy was well preserved beneath a 0.7m-thick layer of probably medieval or post-medieval cultivated soil. This degree of survival is typical of sites in the Hall Street area.



However, it is clear that Roman deposits have been truncated by 19th- and 20th-century foundations in some areas, for example in trench 4 of the 1985 trenching on the site, where the Roman road was disturbed by the foundations for the stable block to the rear of the house on Hall Street. Trench 1 dug in 1985 located a small cellar belonging to a building, now demolished, to the west of the house on Hall Street. The 1985 survey of the site shows that a garage was demolished to make way for the new computer block. It is likely that there are other areas of disturbance relating to previously demolished buildings.

It is assumed that the three historic buildings, the pump house, the silk mill/radio factory and the house to its west, will be retained in any new development and that there will be no requirement for below-ground archaeological investigation in these locations. The degree of disturbance caused by the construction of the new computer building in 1985 is at present unknown, and will need to be assessed if the development proposals include demolition of this building. It is possible that strip-foundation construction may have left areas of potential survival of archaeological deposits in the interior of the building. The underground reservoir built in 1867-8 occupies an area of at least 25 x 13m in the centre and east of the modern car park, and extending beneath the computer building. The 1985 Essex Water Board site survey (drawing HAL/GL/200P) describes the reservoir as 6ft 8in (2.0m) deep, and this will certainly have destroyed any archaeological deposits in its area, possibly with further disturbance from construction around it. Finally, both the 1985 survey and that recently completed by Scott Wilson (drawing GL-02 rev. C2) record a dense network of below-ground water mains, surface water drains, inspection chambers and electricity and telecom cables in most areas of the site, especially in the northernmost 20m of the site and in line with the entrance off Hall Street. The depth of these services is at present unknown, but it is likely that some of them will have disturbed archaeological deposits.

To summarise, while the potential survival of archaeological deposits, especially of Roman date, is considered to be good, it is likely that they will survive undisturbed in some areas of the site and will have been truncated in others. The main areas of likely survival of Roman deposits are as follows (Fig. 16):

1. An L-shaped area along the western and southern limits of the site, measuring 30 x 10m and 20 x 5m, although the north of this area may be disturbed by water mains.

2. An east-west strip around 20 x 5m wide to the north of the new computer building. This could be widened to 10m if the area along the north of the site is not disturbed by water mains.
3. A north-south strip around 15 x 10m between the old silk mill/radio factory and the new computer building.

### **7.7 Proposed Trial Pit Evaluation**

As previously agreed with Essex and Suffolk Water and ECC HEM, the desk-based assessment will be followed by excavation of trial pits to evaluate the character and depth of potential archaeological deposits in these areas further. The proposed locations of five trial pits, to be dug to a depth of 1.5m, are shown on Fig. 16 (1-5). These locations are indicative and may be changed in the light of more detailed assessment of the locations of below-ground services, or according to the requirements of the consultant site engineer. The design of the trial pit evaluation works will be finalised after consultation of all parties, and it is intended that a report on the trial pit results will be produced as a supplement to this report. This should provide a more detailed appraisal of deposit survival across site and, ultimately, should enable a mitigation strategy to be developed for below-ground archaeological remains in support of a future planning application.

### **ACKNOWLEDGEMENTS**

The Essex CC Field Archaeology Unit thanks Essex and Suffolk Water PLC for commissioning the archaeological desk-based assessment, especially David Harvey for his help throughout. The report was prepared by Patrick Allen of the ECC FAU and the plans and maps were prepared by Andrew Lewsey. Particular thanks are due to Nick Wickenden of Chelmsford Museums Service for providing copies of drawings from the unpublished report draft on previous excavations in the site area. Thanks also to Sally Gale for undertaking a search of the Essex Historic Environment Record and for locating a copy of the report on the 1985 trenching. The project was managed by Patrick Allen, and was monitored by Pat Connell and Teresa O'Connor of the Essex CC Historic Environment Management team.

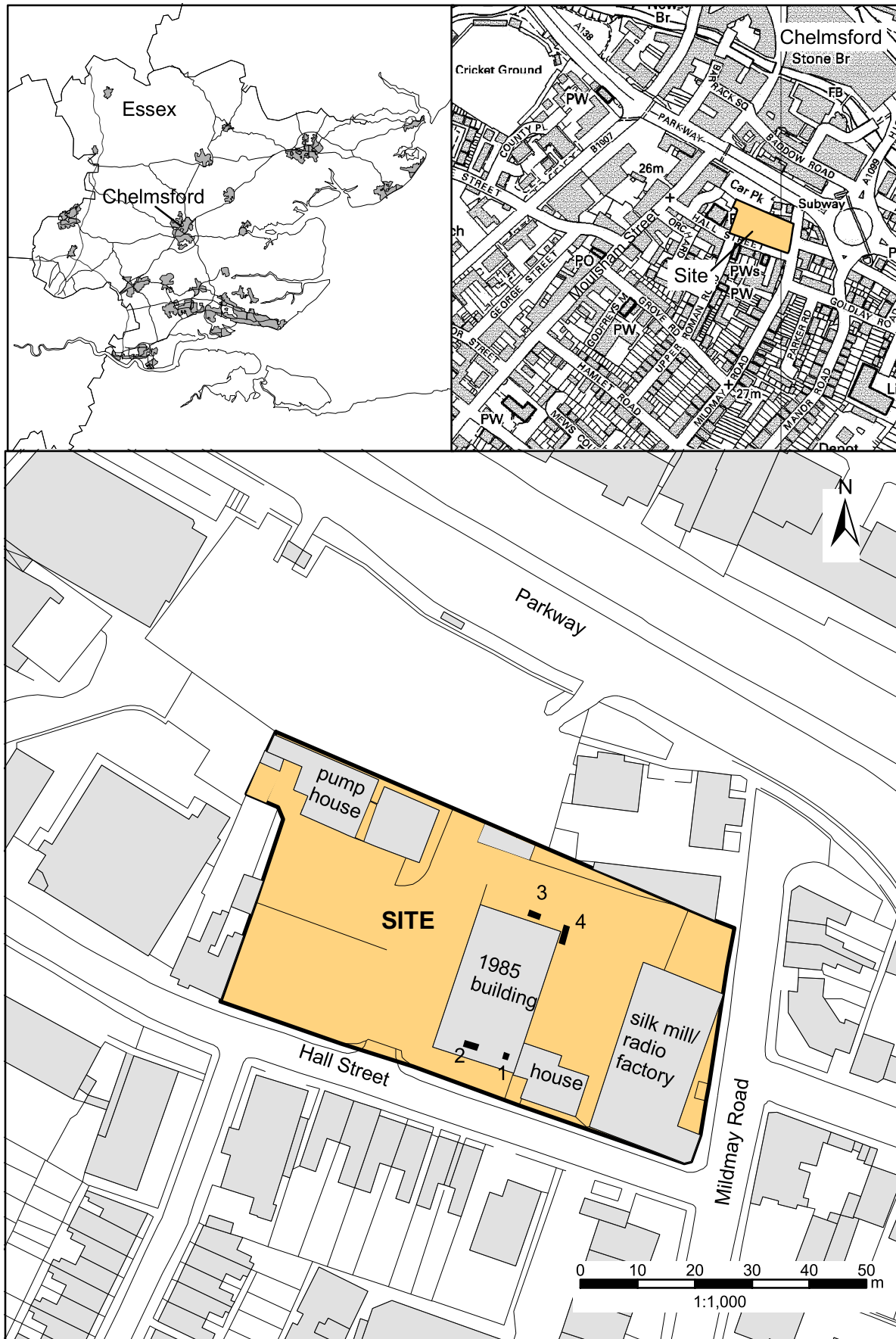
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## MAPS AND SURVEYS CONSULTED

1591	<i>A Trew platt of the manor and hamlett of Moulsham</i> , surveyed by John Walker for Sir Thomas Mildmay (ERO D/DM P2)
1842-3	Tithe map for Chelmsford and Moulsham (ERO B/CT 72)
1861-76	Ordnance Survey, First Edition, 6" (1: 10,560)
1936-47	Ordnance Survey, Fourth Edition, 6" (1: 10,560)
1985	<i>Hall Street, Chelmsford: External Services and Water Mains</i> (Drawing No. HAL/GL/200P), surveyed by the Essex Water Company, held in the Chelmsford Museum archives (1:100)
2007	<i>Hall Street, Chelmsford: Survey of Services</i> (Drawing No. GL-02 rev. C1), surveyed by Scott Wilson for Northumbrian Water (1:200)



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Fig.1. Site location and detailed site plan with location of 1985 trenches (1-4)

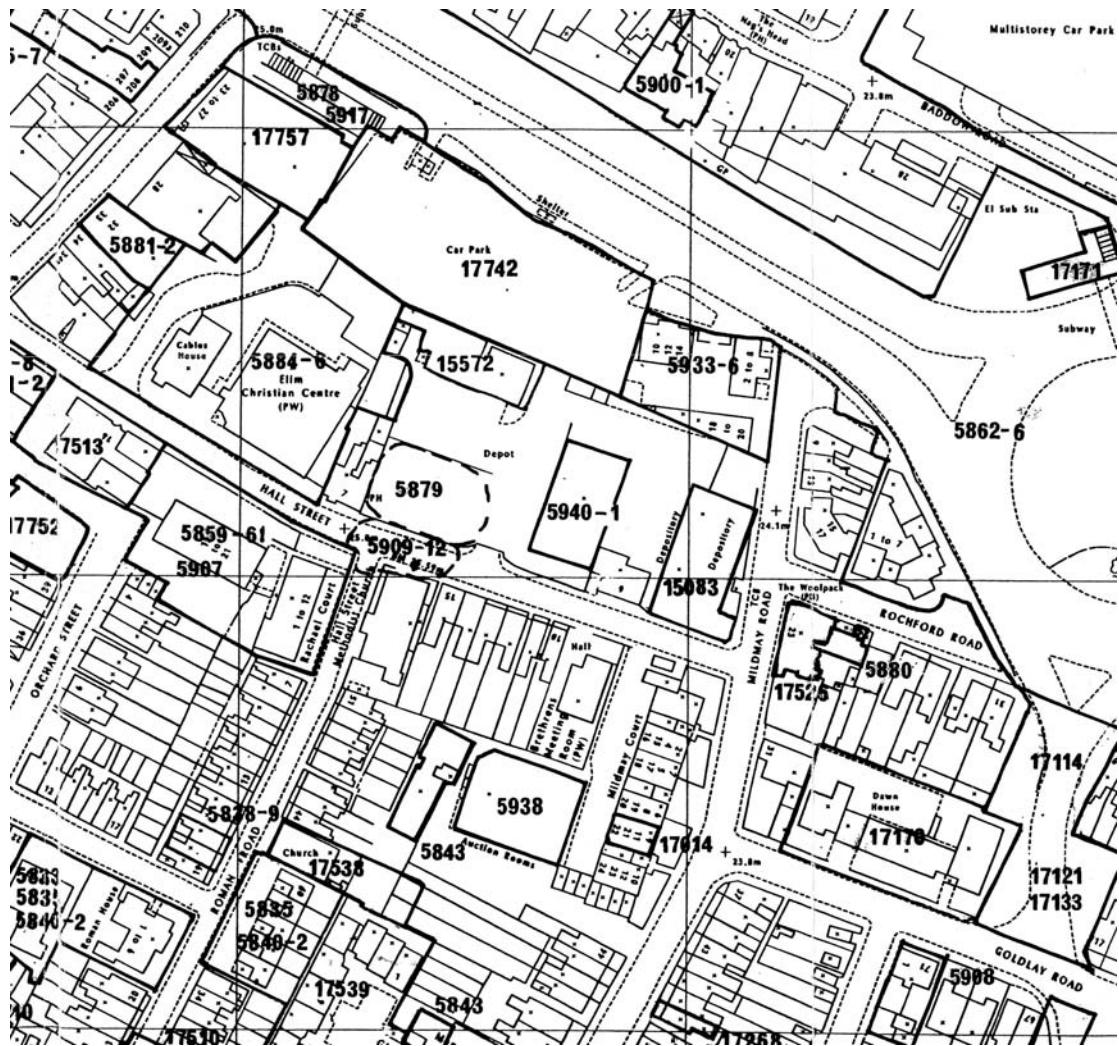


Fig.2. EHER sites in the Hall Street area

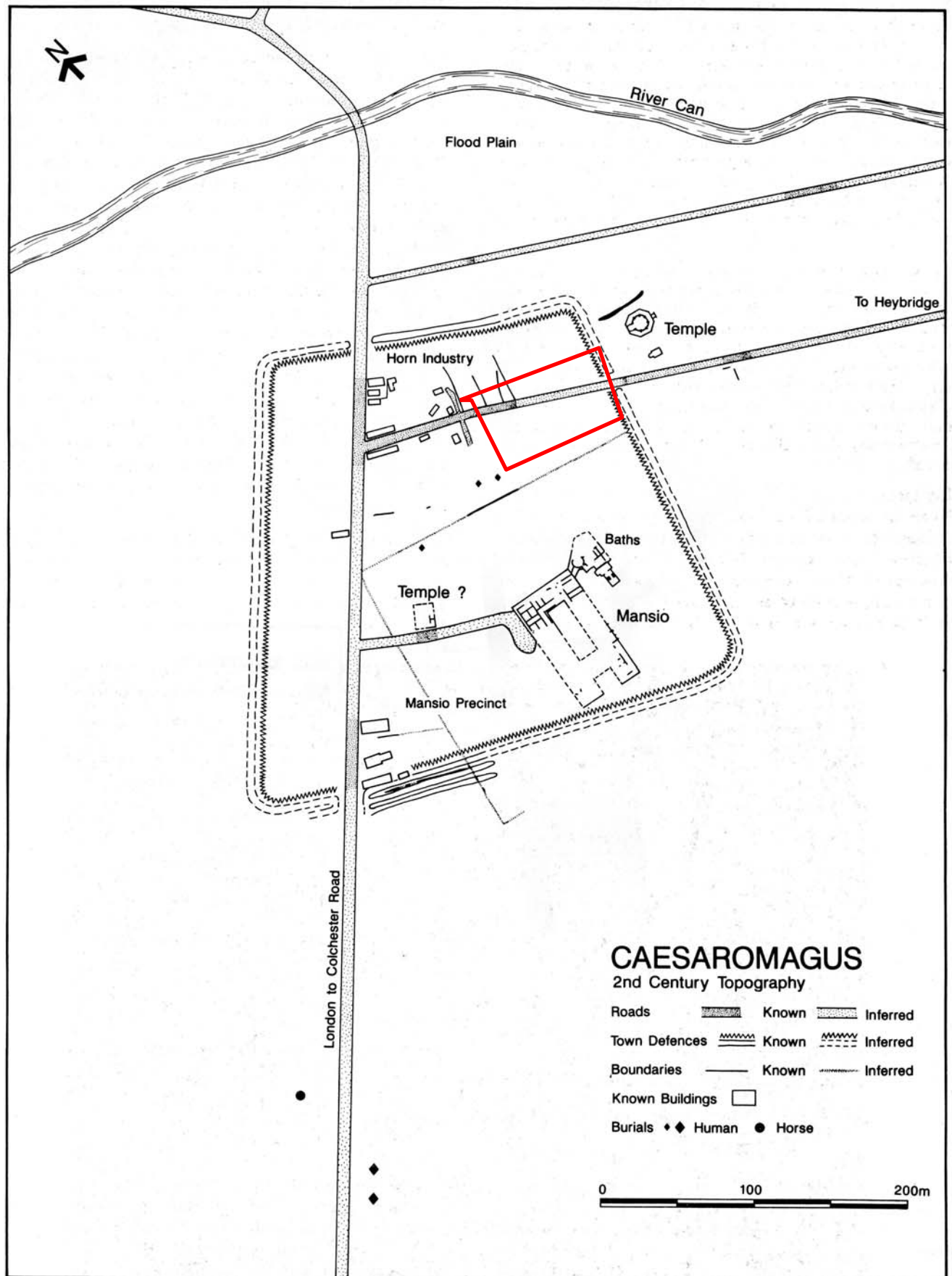


Fig.3. Roman Chelmsford, 2nd century topography, with the octagonal temple added in the 4th century (from Wickenden 1996)



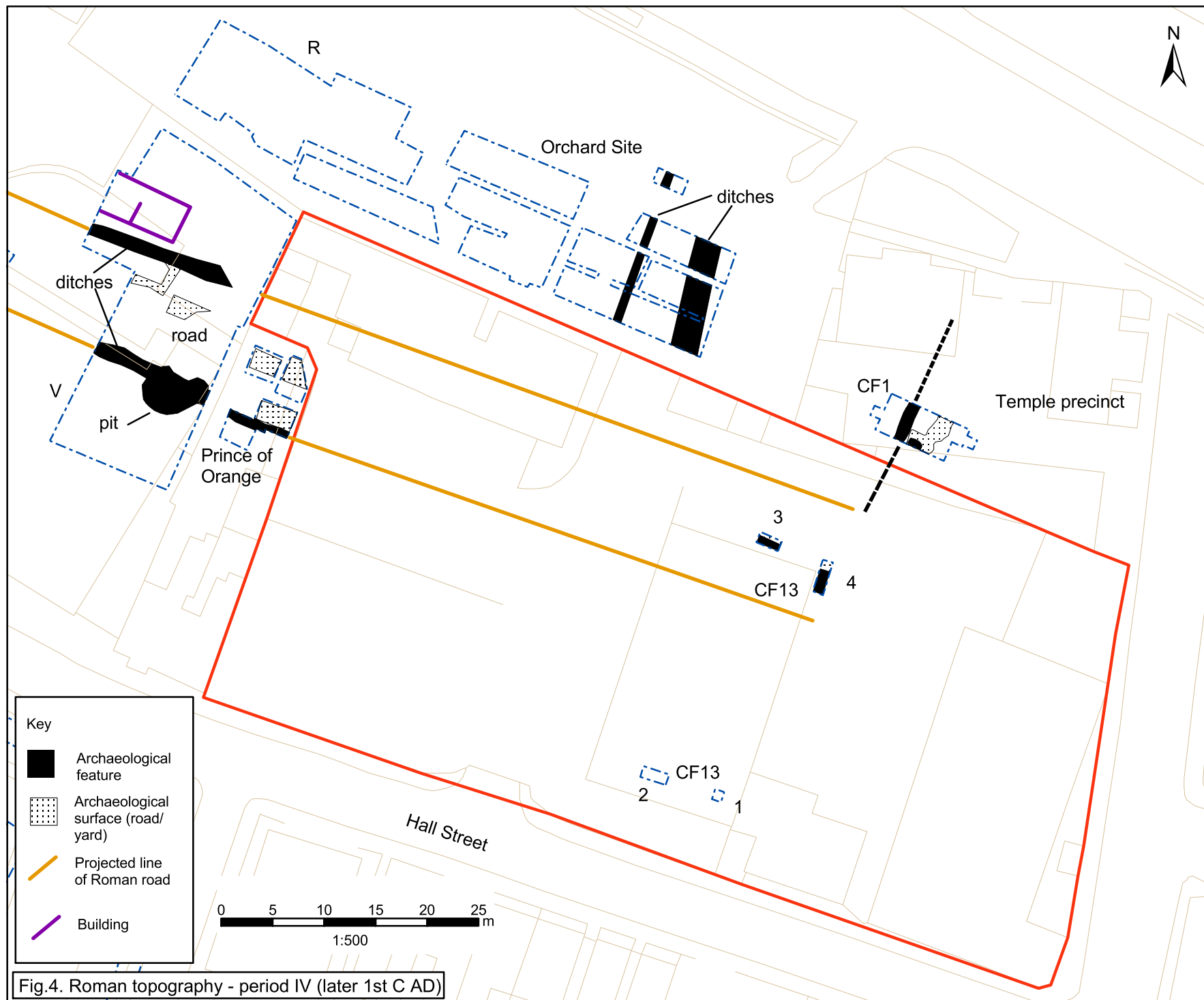
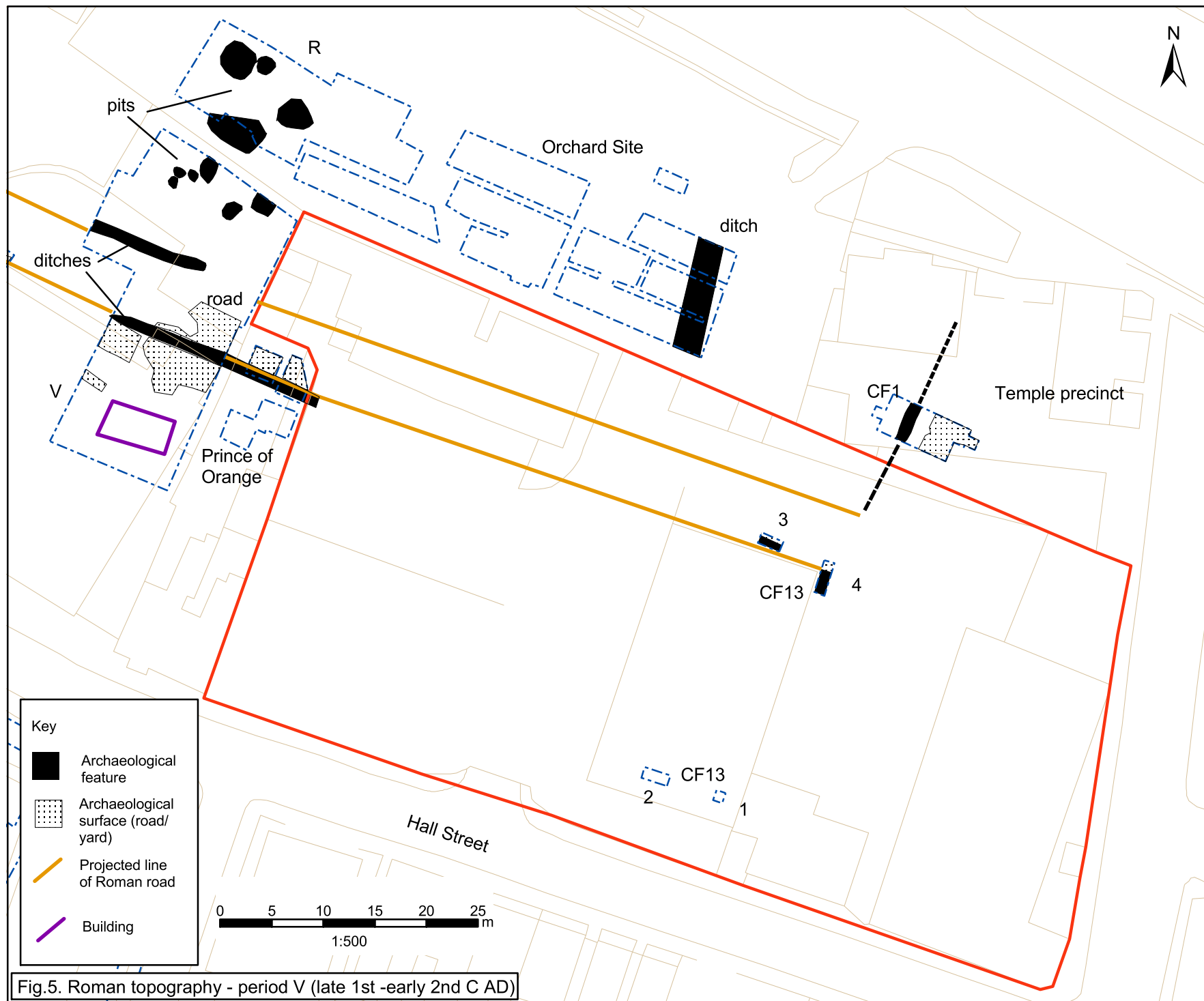


Fig.4. Roman topography - period IV (later 1st C AD)





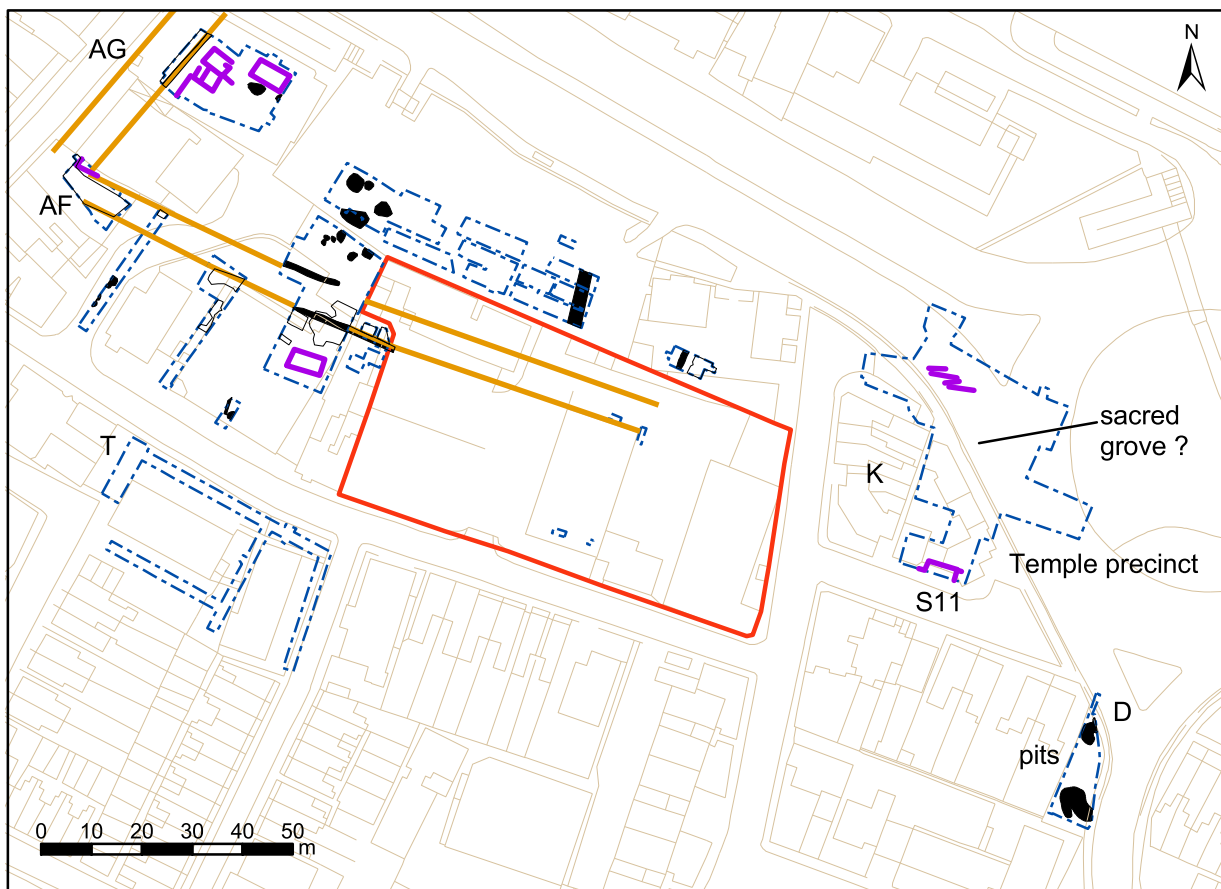


Fig.6. Roman roads - period V (late 1st - early 2nd C AD)

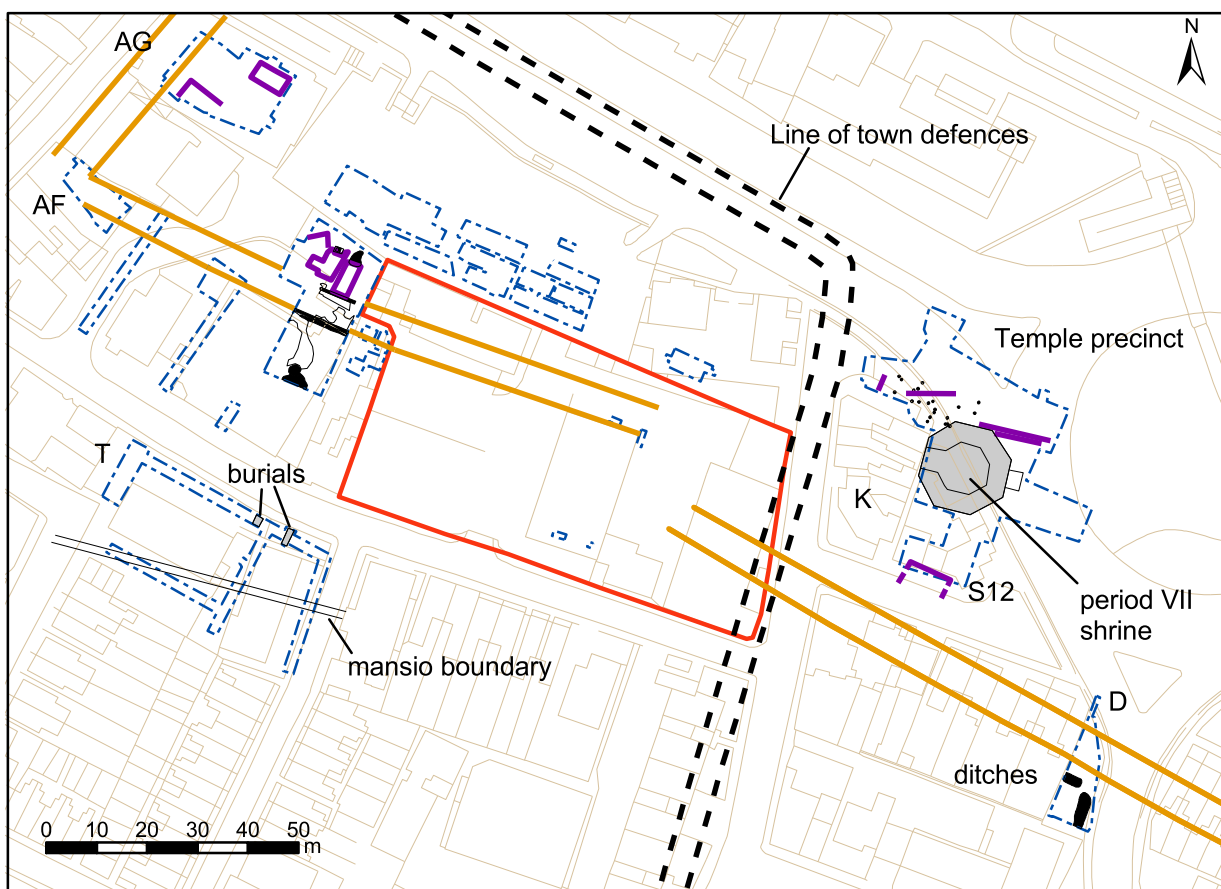
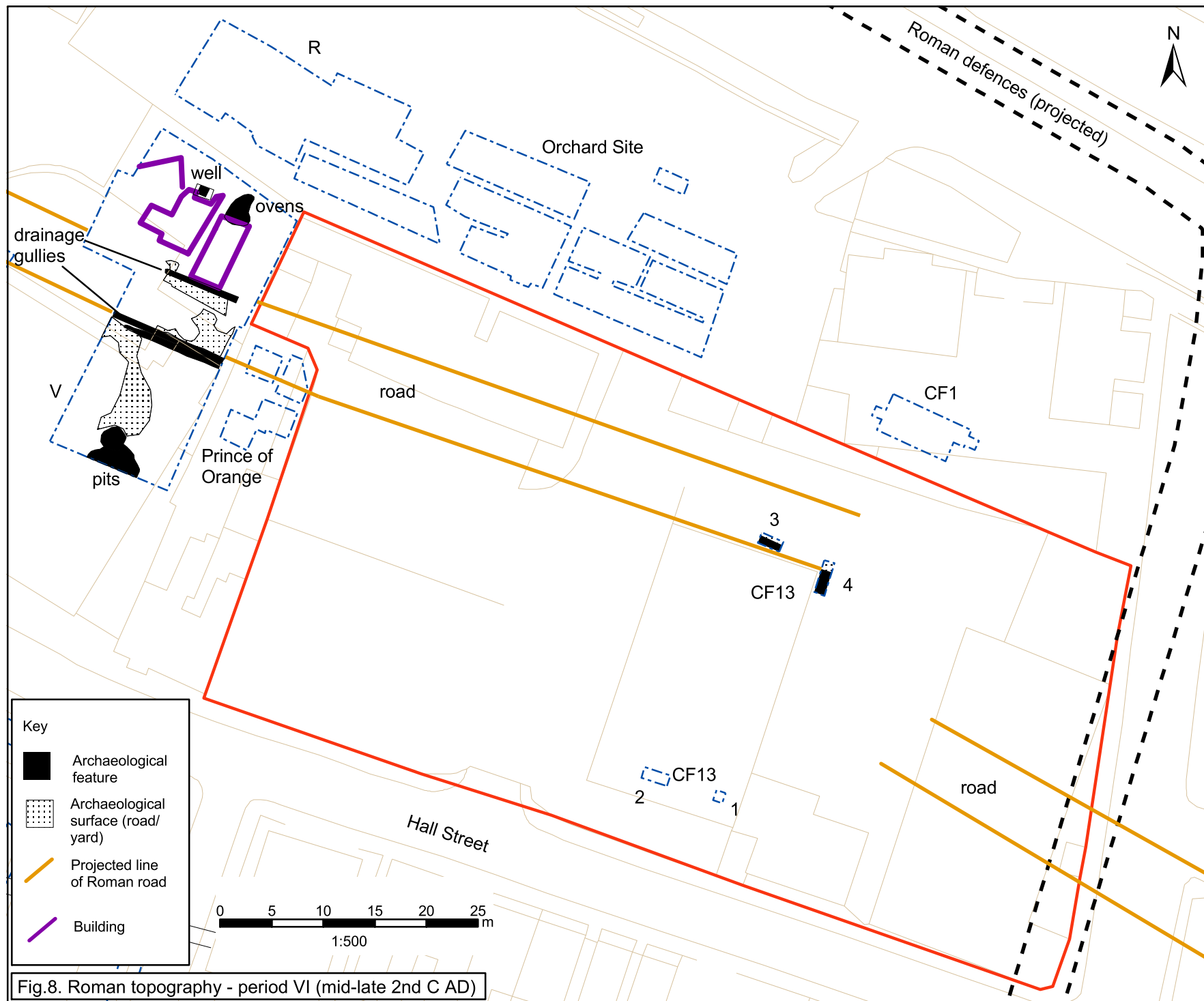
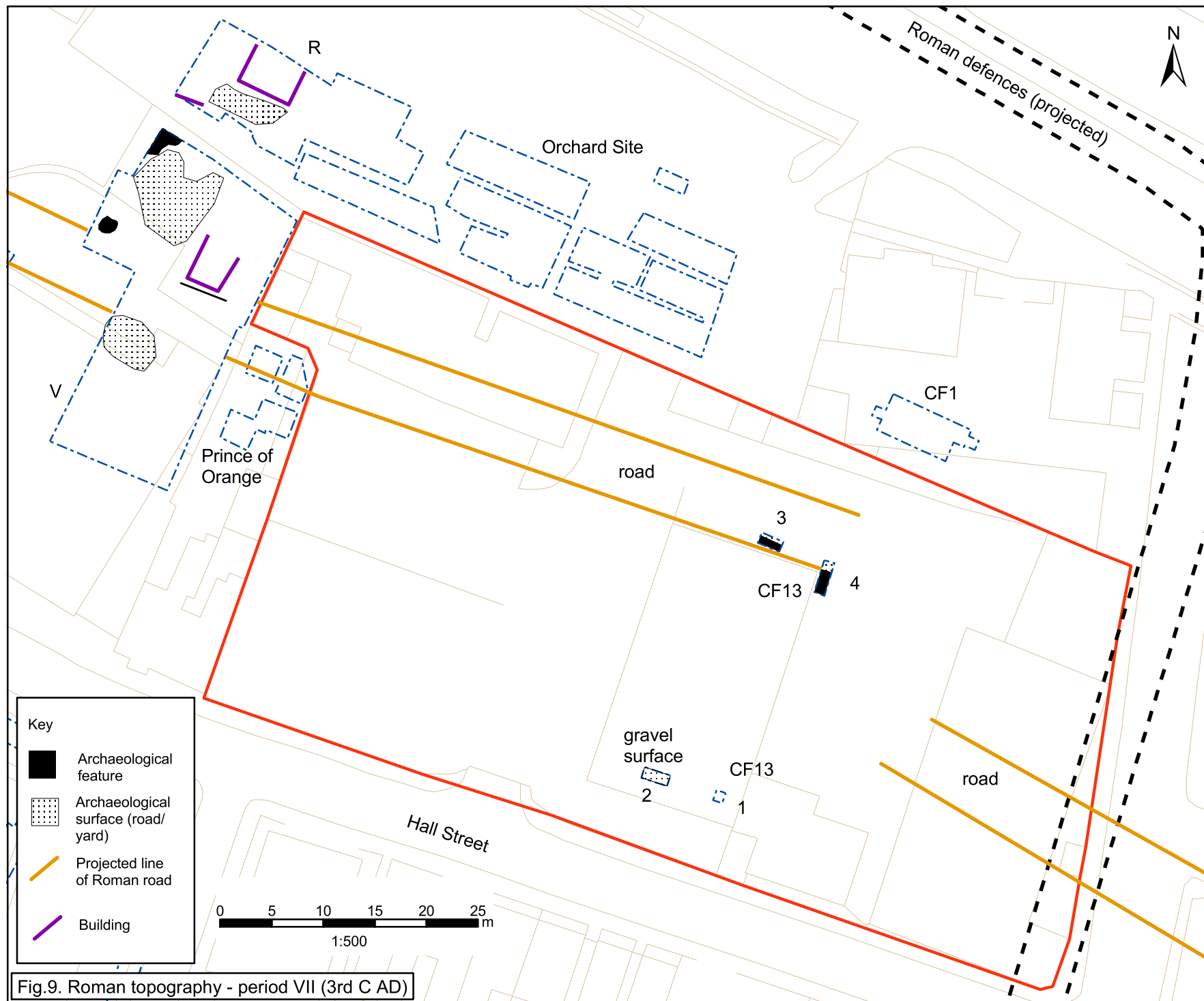


Fig.7. Roman roads - period VI (mid-late 2nd C AD)  
with octagonal temple and burials from period VII (4th C AD)





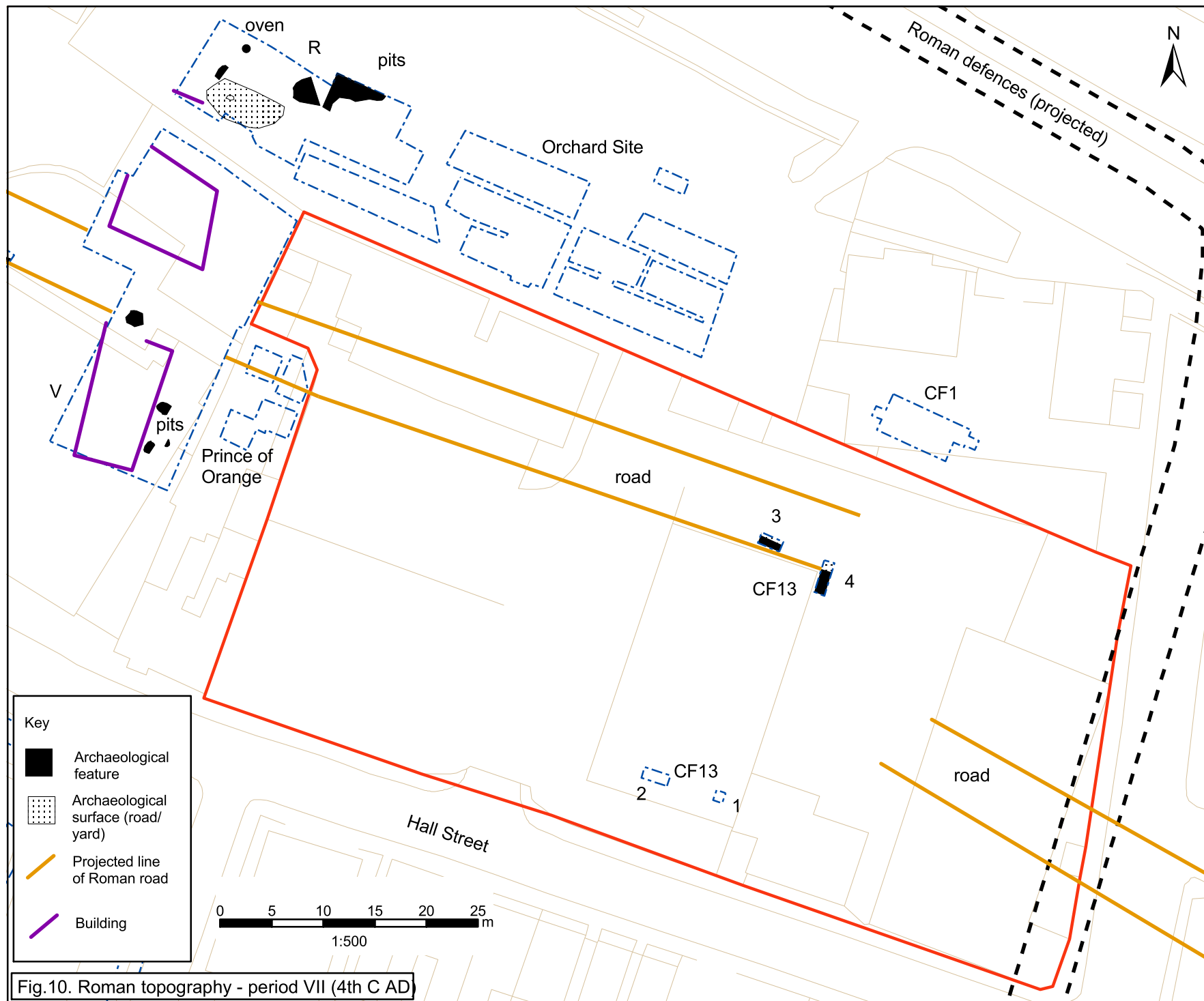


Fig.10. Roman topography - period VII (4th C AD)



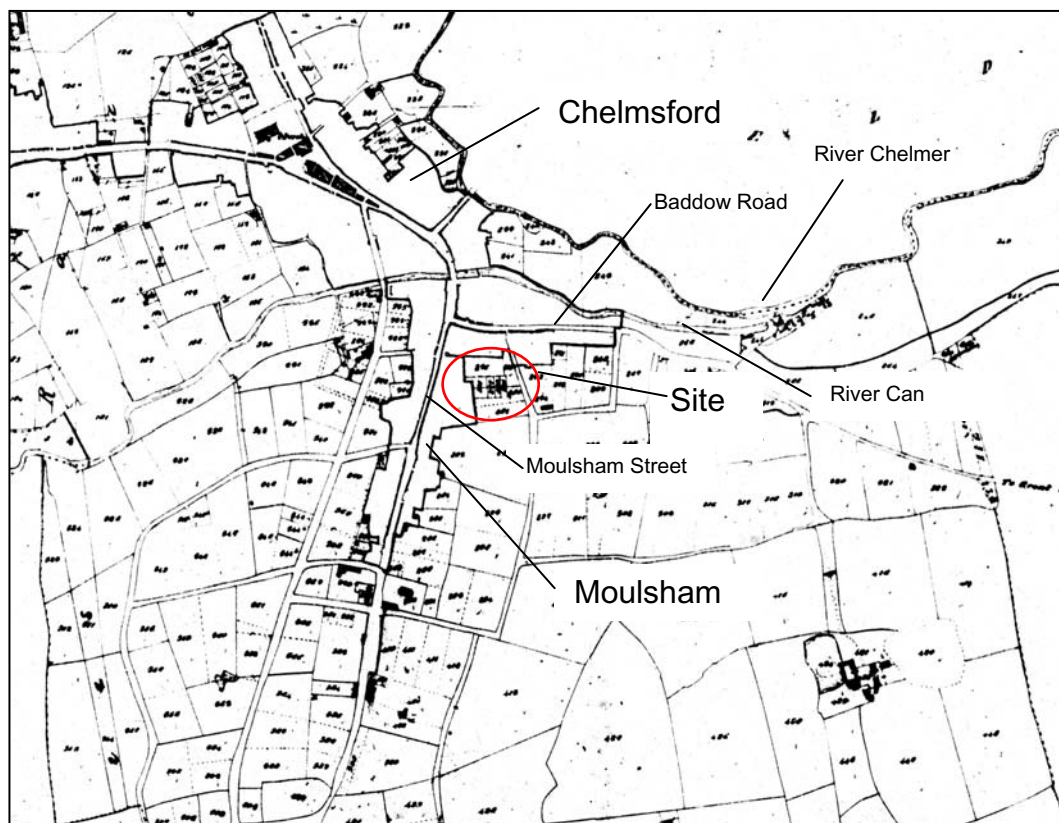


Fig.11. Tithe map, 1842-3. Note that the built-up areas are left blank.

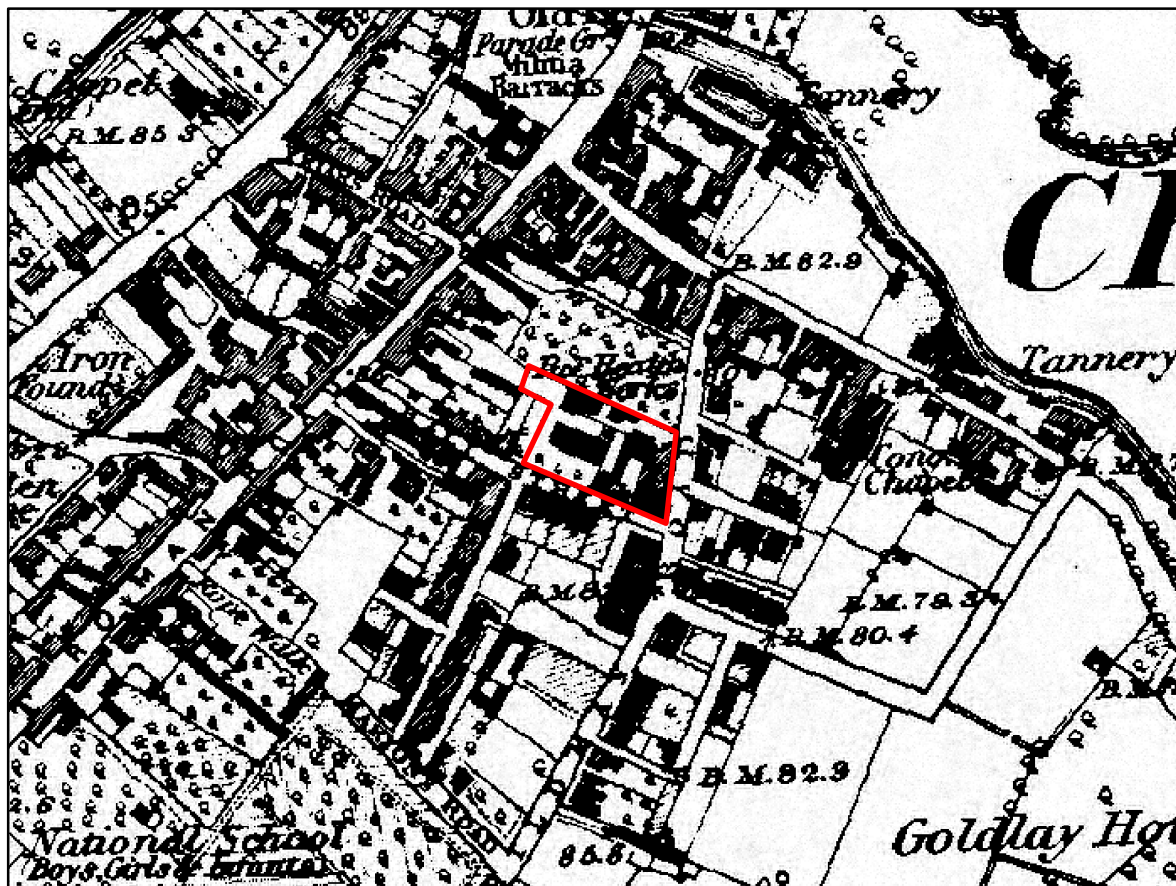


Fig.12. First edition Ordnance Survey (1861-1876) with site outline. 1:4000.

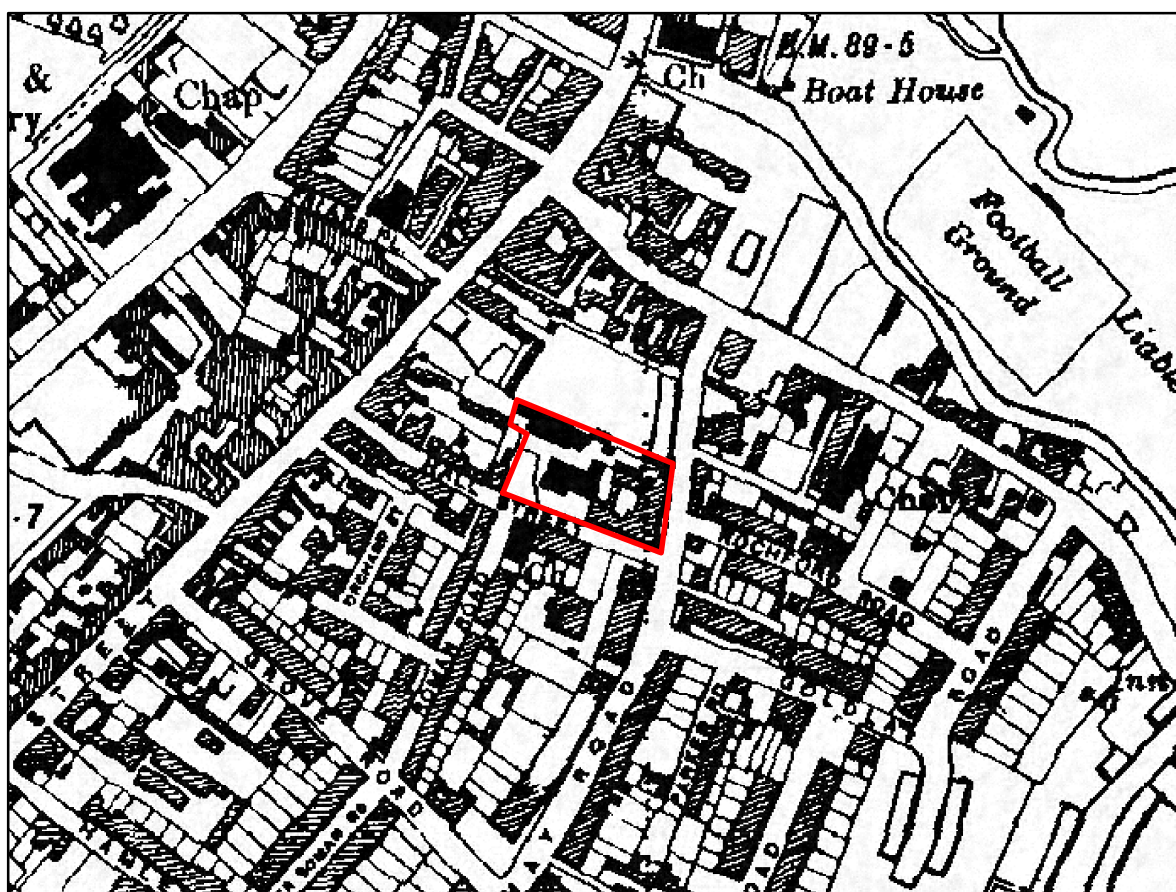


Fig.13. Fourth edition Ordnance Survey (1936-1947) with site outline. 1:4000.

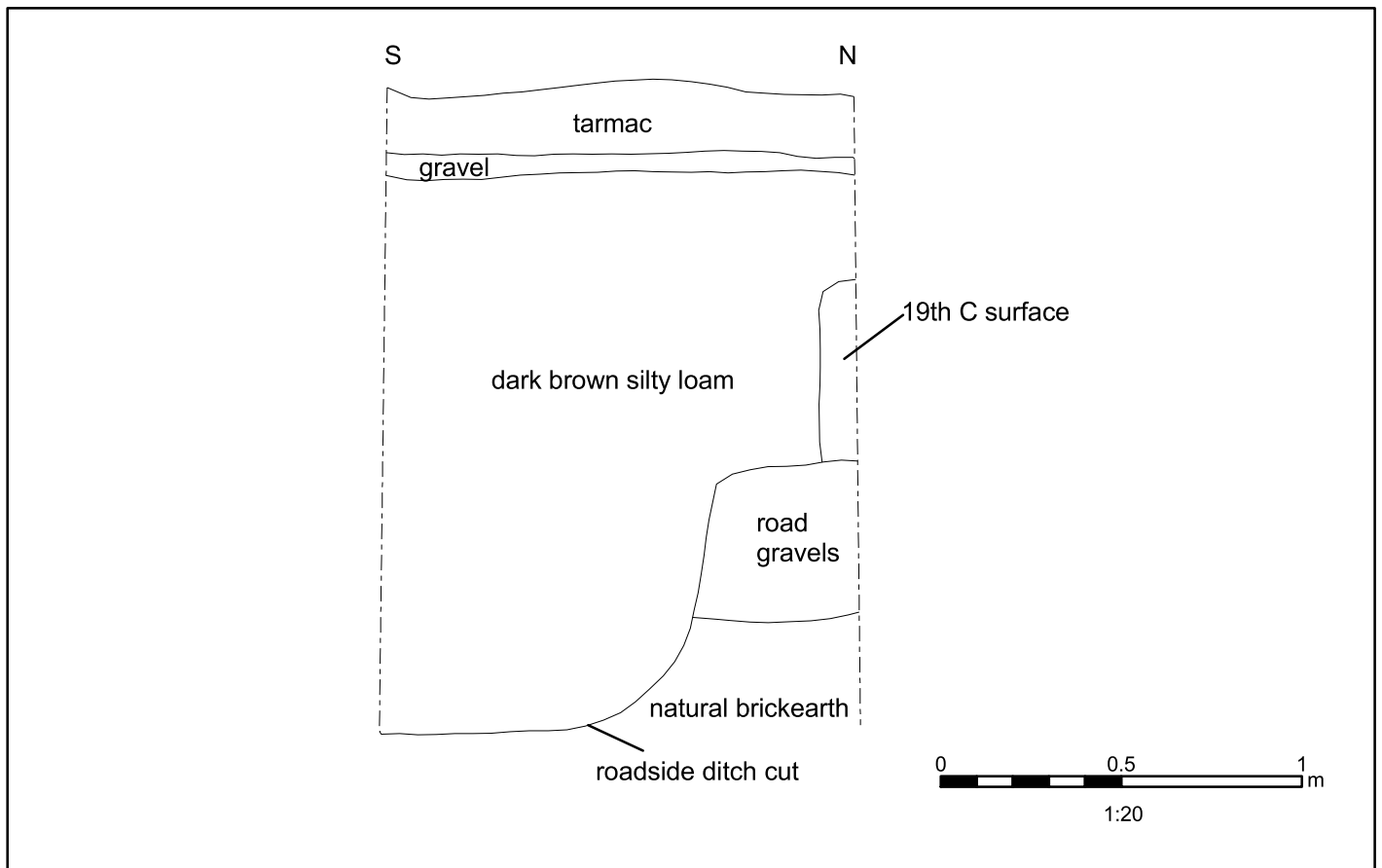


Fig.14. CF13, trench 3, section (reversed)

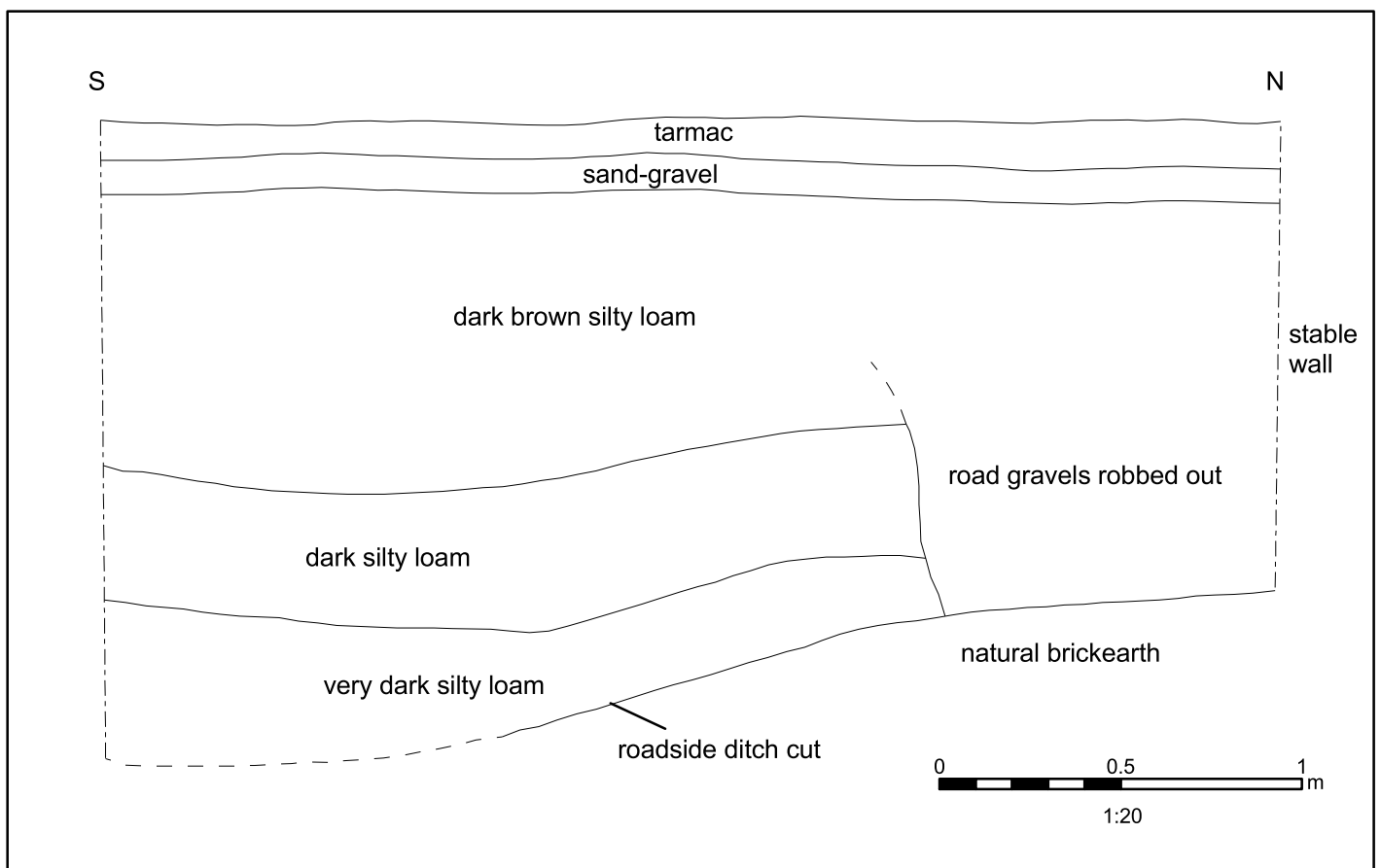


Fig.15. CF13, trench 4, section



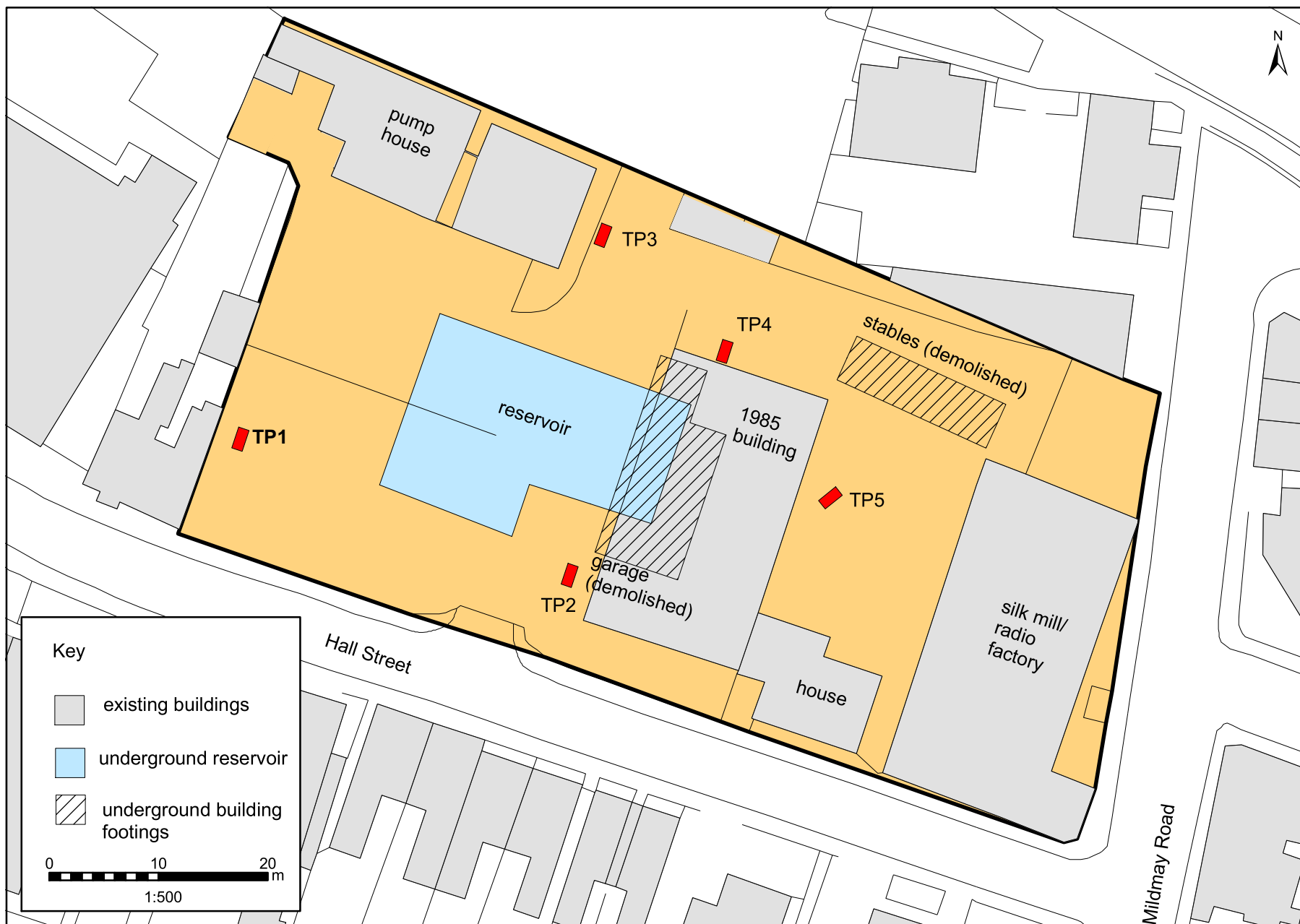


Fig.16. Site plan, showing existing buildings, known below-ground structures and location of proposed trial pits (1-5)



Plate 1. The pump house of the original water works, built in 1854, viewed from the car park to the north.



Plate 2. The western end of the pump house, viewed from the north-east.





Plate 3. The Hall Street frontage of the 1858 silk mill, converted in 1899 by Marconi as his first radio factory, with the manager's house in the left background.



Plate 4. The manager's house





Plate 5. The silk mill/radio factory viewed from Mildmay Road, showing the added office block on the left.



Plate 6. The north end of the silk mill/radio factory viewed from Mildmay Road.