# Rosie Maternity Hospital Extension, Addenbrooke's Hospital, Cambridge.

## An Archaeological Evaluation

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## Introduction

An archaeological evaluation was undertaken on land immediately in front of the Rosie Maternity Hospital, Cambridge, (TL 4650/5495), in January 2009 in advance of a planning application for the construction of an extension to the maternity unit.

The Proposed Development Area (PDA) lies approximately 2km to the southeast of the centre of Cambridge on lower chalk that extends from Gog Magog downs south of Cambridge. The current surface level is 14m OD. Prior to the construction of the hospital, the PDA was in agricultural use and comparison with nearby fields demonstrates that local topographic variation is probably a feature of past landscaping. Local variation in geology in the vicinity includes marly grey clay beds with slight sandy matrix.

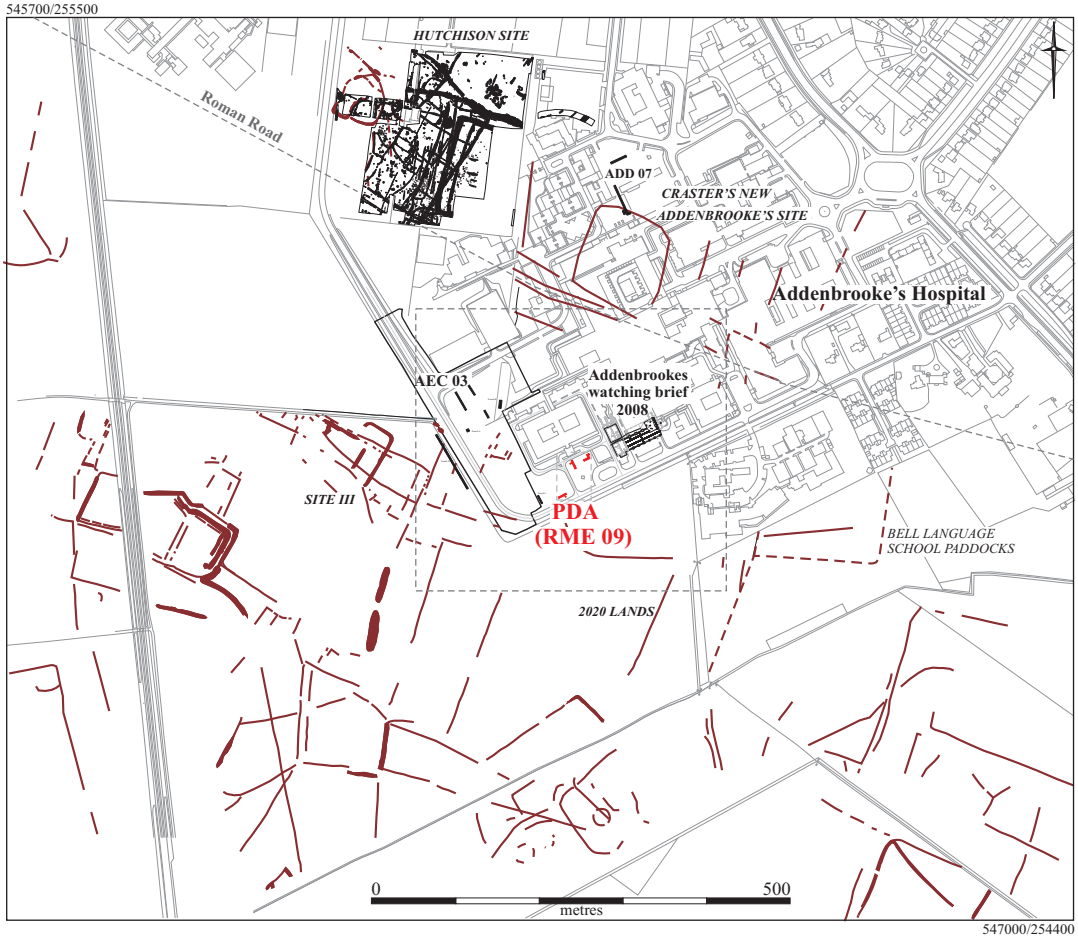
A systematic sample of evaluation trenches was excavated across the PDA in order to determine the presence/absence of archaeological remains and investigate their date, extent, character, significance and state of preservation. Existing services for the hospital extended across the site and these were taken into account for the placement of the trenches. Six test pits were excavated by hand prior to excavation by machine to establish the location of services and to check the depth and condition of the overburden and natural geology. Three trenches were measured out before machining commenced and two trenches (Trench 1 and 2) incorporated previously dug test pits.

The evaluation trenches revealed evidence of truncation of the natural geology during the building of the hospital with the dumping of modern rubble overlaying. There was no evidence of buried soil in any of the trenches. Archaeological remains consisted of a single ditch on a northwest-southeast orientation that was severely truncated and produced no dateable artefacts.

## Archaeological background

Abundant archaeological remains are known from the surrounding landscape and previous fieldwork has revealed a widely utilised landscape with periods of occupation spanning several millennia. A comprehensive landscape study of the area comprising air photo study, geophysical survey, fieldwalking, trial trenching and open area excavations has provided an insight into past settlement and land use who as well as also advances in methodologies and theoretical studies (Evans 2008). A full detailed study of the archaeology in the surrounding landscape can be found in previous desktop studies, (Appleby 2004; Dickens 2000; Evans 2002).

Fieldwork undertaken by the Cambridge Archaeological Unit (CAU) in recent years, within the environs of Addenbrooke's Hospital, has revealed a complex palimpsest of activity. A systematic sampling strategy involving evaluation trenching on the 2020 lands was carried out during 2004 and 2005 in the fields around the southern and western perimeter of Addenbrooke's Hospital between Robinson Way and the nearby railway line. Archaeological evidence consisted of 1st to 3rd century AD Roman settlement, major enclosure ditches and an extensive agricultural field system.

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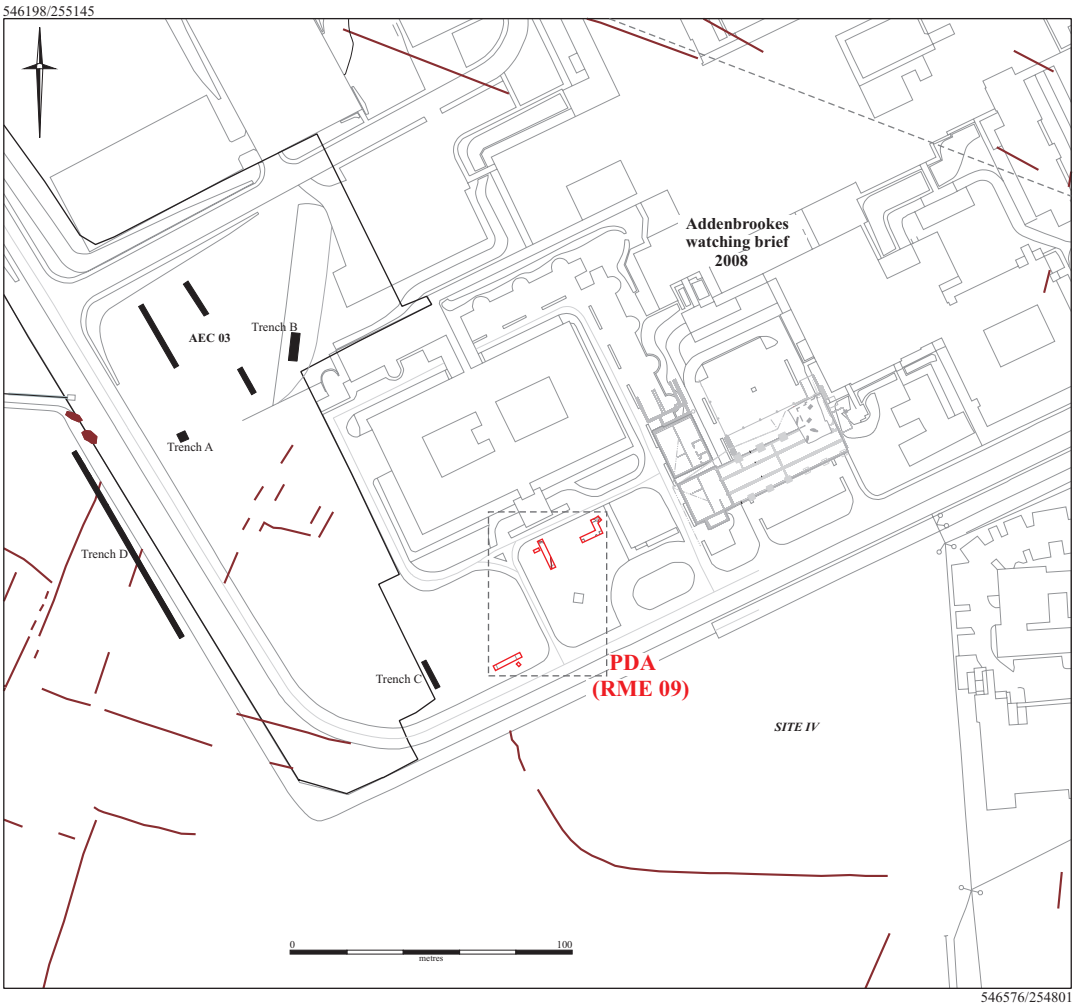


Figure 1. Site location and previous work.

Within 100 metres of the PDA on neighbouring agricultural land , a cluster of Early Roman settlement features was locate during trial trenching (Evans 2005). The site consisted of pits and linear features (on a northwest-southeast and northeast-southwest orientations), which was dated by ceramic evidence to the 1st-2nd centuries AD. Indications of earlier occupation comprising Late Iron Age pottery sherds were also recovered from these features, suggesting a continuity of landscape use into the Roman period. The wider area of the 2020 lands are now part of ongoing excavations conducted by the CAU over the coming years.

To the north of the PDA, an open area excavation on the Hutchison site during 2003 and 2004, revealed a palimpsest of features that were interpreted as many phases of settlement activity (Evans et al 2004, Evans 2008). The earliest evidence from the site comprised small discrete features and residual artefact distribution that was dated to the Late Neolithic/Early Bronze Age. Narrow linears establishing allotted land appeared during the Middle Bronze Age with associated Deverel-Rimbury material culture. During the Iron Age and Conquest period, evidence of permanent settlement comprised of large ditched enclosures and smaller paddocks. Later activity comprised Saxon features in the form of two rectangular posthole structures, and later Medieval/Post Medieval agricultural activity in the form of cultivation furrows across the area. Combined, these settlement features, however permanent or ephemeral, indicate the long term usage of this landscape.

To the southeast of the PDA, an archaeological investigation was undertaken on land adjacent to the Bell Language School (Brudenell 2004). Features pertaining to an open settlement were dated to the Late Bronze Age/ Early Iron Age and included a 'fence line' on a NNE-SSW orientation. This alignment influenced the later layout of Iron Age boundary linears and subsequently co-axial field systems of Romano-British date (2nd to 4th century AD) that spanned the rail line and incorporated features such as possible horticultural beds (Timberlake 2007).

More recently, small scale evaluations have been carried out to the west and northwest of the Rosie Maternity Hospital in 2003 and 2004 on the Elective Care site (Mackay 2004; Tipper 2003). These two evaluations produced little archaeological evidence; both reported on the disturbance and truncation caused by the construction of the hospital. A programme of watching briefs and small scale evaluation were undertaken by the CAU immediately west of the PDA in advance of the construction of 'N' ward located an undated narrow ditch under up to 1.5 metres of upcast spoil dating from the period of 1960s hospital construction (Timberlake 2008).

## Methodology

Prior to opening the trenches by machine, the area was CAT scanned and the location of services plotted in order to assist with trench locations. Six test pits were excavated by hand to check for services, to establish the depth of the overburden and preservation of the natural geology, and to check for artefacts within the topsoil layer. Three test pits were excavated in Trench 1 that were later incorporated into the trench;

two test pits were dug and incorporated within Trench 2, with a further test pit adjacent to the west. One test pit was dug adjacent to the south side of Trench 3.

The trenches were stripped to the archaeological level using a 360˚ tracked excavator with a toothless ditching bucket under supervision of an experienced archaeologist. The CAU modified version of the MoLAS recording system was used; features were planned at 1;50, with sections drawn at 1;10. Archaeological features were assigned a unique number (e.g. F.1) and each stratigraphically distinct episode (e.g. a cut, a fill) was recorded with a unique context number (e.g. [001]).

All work was carried out in strict accordance with statutory Health and Safety legislation and following the recommendations of SCAUM. The site was surveyed into the Ordnance Survey Grid and Ordnance Datum by means of a RTK GPS unit.

## Results

In total, three trenches were excavated, with varying lengths and widths ranging from 6m to 12m and 1.80-2.00m . Trench 1 was extended and boxed out to the northeast in order to give greater exposure of a single feature.

The area of investigation comprised of lawn with trees and flower beds, interspersed by electricity, gas and drainage services. Upon opening the trenches it was discovered that there was varying degrees of disturbance and truncation of the natural geology. Numerous fragments of building rubble (bricks, tarmac and plastic) were mixed with Post-medieval material culture (e.g. fragments of tobacco pipes), probably indicating the mixing and redeposition of the former ploughsoil across the area following original construction of the Rosie hospital. A table showing the depths of overburden can be seen in the Appendix.

There was no evidence of any preserved sub-soil or buried soil, again probably due to former machine stripping across the site. The natural marl was overlain with gravel hardcore over which topsoil and turf was placed. Trench 3 had evidence of more truncation and the dumping of building material

*Trench 1*

This trench was initially planned to form an L shape orientated north-south and east-west. The north-south axis was 6m in length, and the east west was 8m in length and 2m wide. Initially three test pits were excavated by hand at appropriate intervals prior to the removal of overburden by machine to establish levels as well as checking for services.

After the machining of the trench commenced a possible feature was apparent in the northeast corner, therefore this area was extended and boxed out to fully reveal the nature of the feature.

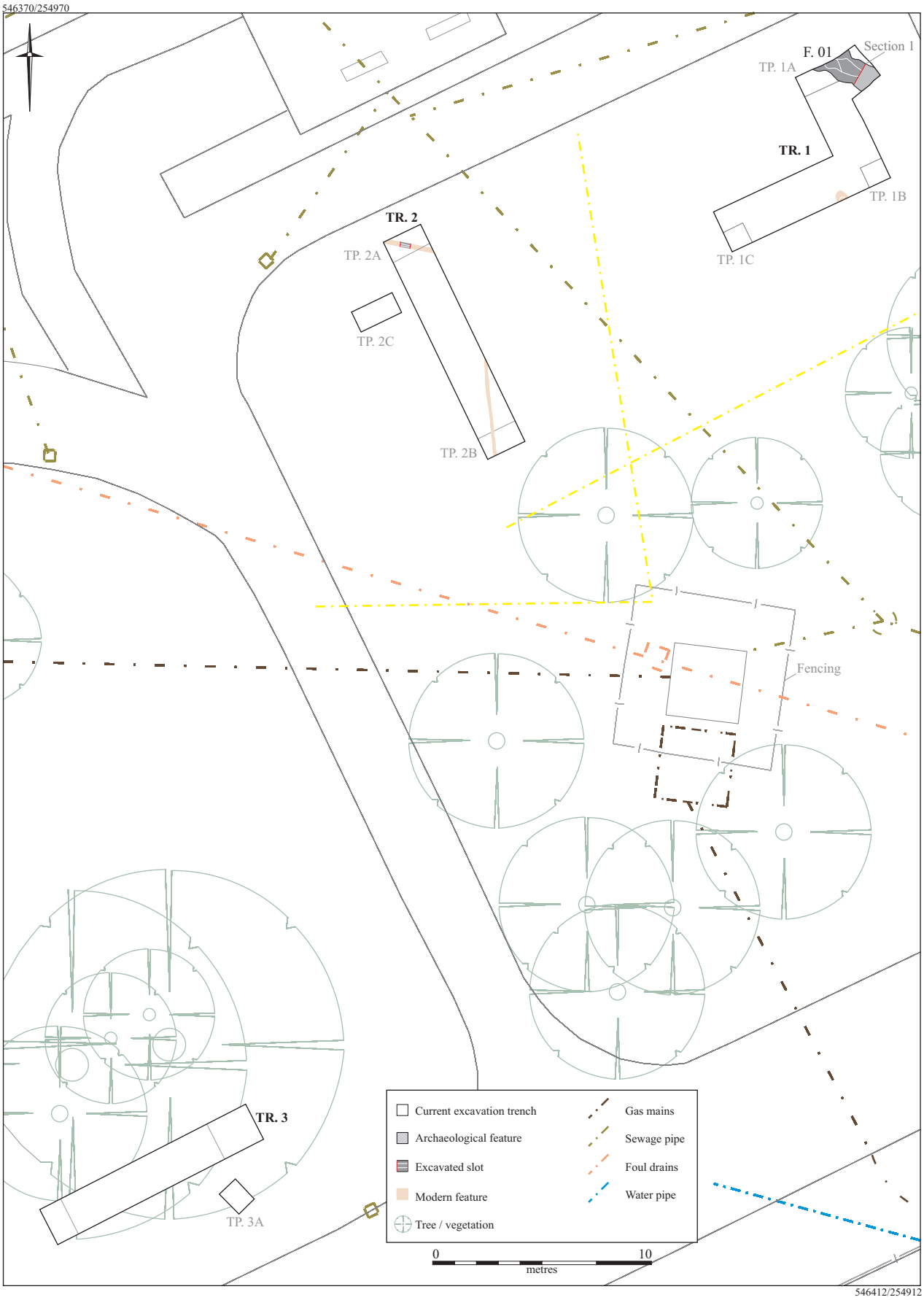


Figure 2. Trench Locations.

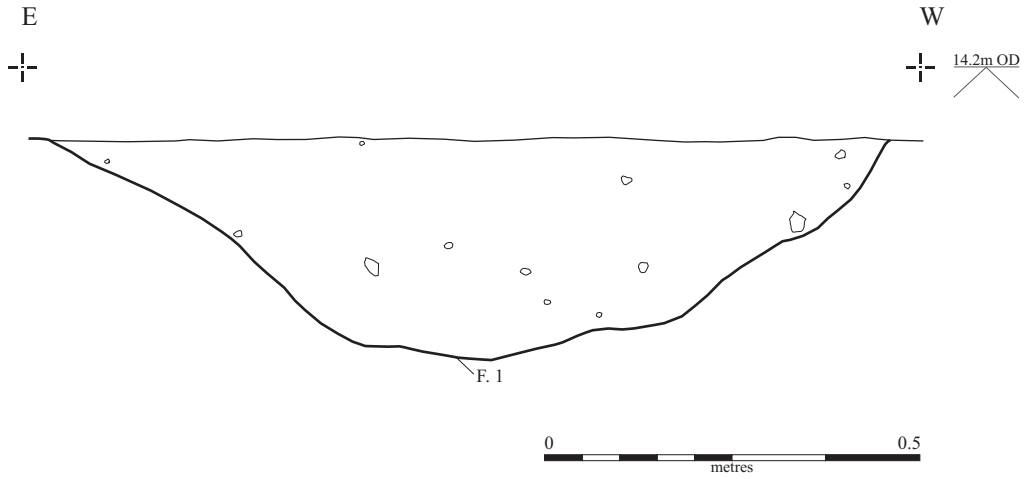



Figure 3. Section and photograph of F. 1.

F.1 was a truncated linear feature on a northwest-southeast orientation that contained a single fill. The upper interface with the placed hardcore was undulating and machine compacted. No artefacts were recovered.

F.1 [001] firm mid grey/brown silty clay with frequent small and medium sub-rounded stones (from natural matrix)
[006] cut 1.15m wide and 0.27m deep with sloping to moderate uneven concave sides with gradual break of slope an uneven concave base

*Trench 2*

This trench was located between services and an existing flowerbed and was 11m in length and 2m wide and orientated on a north-south axis. Two test pits were hand excavated prior to machining at the northern end and another at the southern end to establish the depth of the natural. A third test pit was dug to the west of this trench to investigate and anomalous reading during CAT scanning programme – this demonstrated that the area west of Trench 2 was truncated by modern activity; probably from the construction of the maternity hospital.

Evidence of two field drains was recorded in this trench; one on a north-south orientation and the other westnorthwest-eastsoutheast. The northern field drain contained a clay pipe whereas the southern one contained broken flint nodules. No archaeological features were evident.

*Trench 3*

This trench was placed to the southwest of the previous two trenches, on the opposite side of the Rosie access road. The trench was 10.50m in length and 1.80m wide. There was a large amount of truncation evident on this road side trench, with the dumping of building rubble being capped by redeposited chalk rubble. The trench was machine excavated to a depth of 1.30m+ through the dumped building material. Any archaeological remains previous to the construction of the hospital had been completely truncated.

**Discussion**

The PDA lies within an area of Hospital-related truncation that includes swathes of dumping of soil and previous machine disturbances as evidenced elsewhere in the hospital grounds (e.g. Mackay 2004, Timberlake 2008). The lack of archaeological evidence may in part reflect this truncation, but more likely the PDA is situated outside the zones of main settlement activity at Addenbrooke's.

The earth moving impact from the previous building work has caused severe disturbance in Trench 3 which would have removed any evidence of archaeological remains. There was no evidence of any sub-soil or buried soil across the entire PDA indicating previous stripping and redeposition of spoil before recreating the 'greenfield' appearance in front of the Rosie hospital. Despite extensive hand-sorting of topsoil deposits, no pre-19$^{th}$ century artefacts were recovered from the PDA. In trenches 1 and 2, the truncated natural marl was overlain with gravel hardcore over which topsoil and turf was placed. In this sense, the PDA was considerably more disturbed than some areas within the hospital where past land surfaces have been

buried by upcast spoil (Timberlake 2008), and it could be anticipated that any ephemeral features were removed by machine scraping.

The isolated linear feature in Trench 1 could correspond with the Roman field system recorded in previous investigations, such as F.128 in Trench 30, Field L (part of the 2020 Lands evaluation) which lies on the same orientation and has similar profile and contexts (Evans et al, 2005). These linears are known to extend across the hospital site - to the northwest at the Elective Care Facility evaluation, three trenches revealed archaeology, Trench 3 including a linear F.2, which was on the same orientation to F.1 in the current investigation, and was tentatively dated to the Roman period (Mackay, 2004).

At the time of evaluation, Trench 1 was located outside the proposed building extension zone (A. Bowring *pers comm*.), this area being selected for trenching based on the availability of land due to presence mains services.

This evaluation has not revealed and significant archaeological evidence that would warrant further fieldwork. The trenches revealed that considerable disturbance across the site could have truncated ephemeral features or completely removed archaeological evidence in localised zones. Previous archaeological evaluations within hospital grounds e.g. N Ward and the Elective Care Facility have also revealed comparable ditch features, and given the known settlement foci, it can be suggested that the PDA was situated 'between' settlement locales in an area of open field system in the Iron Age and Roman periods.

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**Appendix**

| Trench No. | Location of measurement | Length | Width | Orientation | Depth (Max) | Depth of topsoil | Modern material |
|---|---|---|---|---|---|---|---|
| 1 | North | 6.00m | 2.00m | N-S | 0.26m | 0.18m | x |
| 1 | South | x | 2.00m | N-S | 0.39m | 0.18m | 0.07m |
| 1 | West | x | 2.00m | E-W | 0.37m | 0.26m | 0.07m |
| 2 | North | 11.00m | 2.00m | N-S | 0.26m | 0.21m | x |
| 2 | Centre | x | 2.00m | N-S | 0.33m | 0.30m | 0.02m |
| 2 | South | x | 2.00m | N-S | 0.40m | 0.23m | 0.09m |
| 3 | East | 10.5 | 1.80m | E-W | 1.00m | 0.21m | 0.44m |
| 3 | Centre | x | 1.80m | E-W | 1.08m | 0.21m | 0.10m |
| 3 | West | x | 1.80m | E-W | 1.30m | 0.21 | 0.28m |