

# Written scheme of investigation for archaeological trial trench evaluation on land at South Caldecotte, Milton Keynes

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SITE NAME: South Caldecotte, Milton Keynes

NATIONAL GRID REF: SP 892 341

CLIENT: CgMs Heritage

DATE: 4th September 2018

ACCESSION NUMBER: TBC

CONTRACTOR: MOLA (Museum of London Archaeology)  
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## 1 INTRODUCTION

- 1.1 MOLA has been commissioned by CgMs Heritage to undertake an archaeological trial trench evaluation on c 62ha of land lying to the south of Caldecotte, Milton Keynes, Buckinghamshire (NGR SP 892 341). The archaeological evaluation works will be carried out in order to further inform decisions regarding the potential impact of the proposed development upon the archaeological resource, in accordance with the National Planning Policy Framework (NPPF; DCLG 2012).
- 1.2 This Written Scheme of Investigation (WSI) has been prepared by MOLA. It will outline the proposed methodology, timetable and resources for the fieldwork. Any further phases of evaluation or mitigation works required will be detailed under future documentation.
- 1.3 MOLA is a Chartered Institute for Archaeologists (CIfA) registered organisation. This document has been prepared in accordance with the current best archaeological practice as defined in the Chartered Institute for Archaeologists' *Code of Conduct* (CIfA 2014a) and *Standard and Guidance for archaeological field evaluation* (CIfA 2014b), as well as the procedural document *Management of Research Projects in the Historic Environment (MoRPHE)* (HE 2015).
- 1.4 An accession number had been requested, and will be used as the site code when confirmed.

## 2 BACKGROUND

### ***Location, topography and geology***

- 2.1 The evaluation area is located to the south of Caldecotte, Milton Keynes and comprises numerous arable and pasture fields with a total extent of c62ha. The main area occupies the roughly triangular space between the A5 to the west, Brickhill Street (V10) to the east and the Bletchley to Bedford railway to the north. It encompasses the site of Crossroads Farm. Two detached parts of the survey area lie along the eastern side of Brickhill Street and a smaller detached part is located at the junction between the A5 and Watling Street (Fig 1).
- 2.2 The evaluation area lies between 65m – 78m aOD. This gently rolling agricultural landscape is broadly level in the east, with a very shallow west facing slope in the west of the main area.
- 2.3 The solid geology of the survey area comprises Jurassic mudstone formations, predominantly of Oxford Clay which is overlain by West Walton formation in the south-east. This solid geology is covered in part by discrete drift deposits of river terrace gravels in the west, towards the River Ouzel, and heads of sands or gravels across the west and centre (BGS 2017). The north east of site has no recorded superficial geology.

**Historical and archaeological background**

- 2.4 The evaluation area has been the subject of an archaeological desk-based assessment (Crothers 2015) and a geophysical survey (Walford and Meadows 2018) on which the following summary is largely based. It has a number of known archaeological remains within its boundary and lies close to the site of the Roman town of *Magiovinium* (Scheduled Monument **1006943**), as well as the Shrunken Medieval Village of Caldecotte (Scheduled Monument **1007941**) which lies to the north of the railway line.

**Roman**

- 2.5 One substantive archaeological site is known to be present within the main part of the site; it consists of a set of probable Iron Age or Roman enclosures which have been identified from cropmarks (Crothers 2015, fig 21). The geophysical survey also recorded at least three enclosures of unknown date within the site (Walford and Meadows 2018).
- 2.6 The full extent of the Roman town of *Magiovinium* is not known although it is known to encompass at least 8ha. It is thought (Neal 1987) that a Roman fort formed the initial core of settlement. The core lay within a large enclosed area, the southern side of which was clearly defined in a geophysical survey undertaken by MOLA in 2014. Excavations from the 1970s onwards as well as more recent survey work have begun to define the suburbs and other extra-mural activity. Excavations in advance of the construction of the A5 dual carriageway and the roundabout uncovered a cemetery (Neal 1987). The town was present throughout the Roman period although evidence for its decline is limited.
- 2.7 The geophysical survey (Walford and Meadows 2018) within the current application area recorded linear anomalies, probably a road or trackway leading north from Watling Street. Either side of it are a dense arrangement of enclosures and boundaries. The detached southern part lies alongside a Roman road, Watling Street, and is located immediately east of the scheduled remains of *Magiovinium*. The plots and boundaries here likely form a continuation of the remains recorded during the earlier excavations (Neal 1987; Hunn et al 1995)
- 2.8 A previous archaeological excavation on the line of the A5 dual carriageway at Dropshort Farm, along the western boundary of the main survey area, revealed 1st-century buildings and other settlement features (Crothers 2015, 18).

**Saxon, medieval and post-medieval**

- 2.9 Saxon activity including a cemetery was recorded at *Magiovinium* in 1956 (Crothers 2015). However the main evidence for Saxon and medieval habitation of the local area is sited at the site of the medieval village at Caldecotte to the north and at Bow Brickhill to the north-east. Excavations at Caldecotte recorded a post built structure and also there are still upstanding earthwork remains defining track ways and plots in existence within the scheduled area. Bow Brickhill is recorded in the Domesday Book of 1086 as *Brichellae*.
- 2.10 The application area was likely under plough as part of the medieval open field system, indeed the geophysical survey clearly shows the remnants of the S-shaped strips (Walford 2018). Local industries such as brickworks and lime kilns are recorded in the post-medieval period at Fenny Stratford (Crothers 2015).

### 3 AIMS AND OBJECTIVES

- 3.1 The general aims of the archaeological evaluation are to determine the location, extent, date, character, condition, significance and quality of any surviving archaeological remains liable to be threatened by the proposed development. Specifically, the work aims to:
- establish the date, nature and extent of activity or occupation on the development site;
  - recover artefacts to assist in the development of type series within the region;
  - and to recover palaeo-environmental remains to determine local environmental conditions.
- 3.2 Specific research objectives will be drawn from national and regional research frameworks documents (English Heritage 1997, Hey and Hind 2014) as relevant depending upon the results of the evaluation.
- 3.3 Given the excellent survival elsewhere of Roman remains the following themes (Fulford 2014) may be considered following the completion of fieldwork:-
- *12.7.1 Our knowledge of towns and their histories of origin, development and change at all levels of the urban hierarchy is very limited.*
  - *12.7.2 The hinterland settlement and mortuary landscape of both 'large' and 'small' towns requires further research.*

## 4 METHODOLOGY

- 4.1 The proposed development area will be subject to archaeological evaluation through trial trench excavation. A total of ninety-one (91) trenches will be excavated across the fields forming the main triangular area as well as a trench to the west of the A5 roundabout. The fields to the east of Brickhill Street will not be evaluated as there is a high pressure gas pipeline in this area. All of the trenches apart from Trench 91 will measure 50m long by 1.8m wide; Trench 91 itself will be 50m long and 4m wide and will target the possible Roman road. The trenches will be positioned to target geophysical anomalies or 'blank areas'. They will also be located away from known utility services which include medium and high pressure gas pipelines, overhead electric and underground sewer/ water pipes.
- 4.2 Trenches will be positioned using Leica VIVA Global Positioning System (GPS) survey equipment using SMARTNET real-time corrections, operating to a 3D tolerance of  $\pm 0.05\text{m}$ . The topsoil and overburden will be removed by a mechanical excavator, fitted with a toothless ditching bucket a minimum of 1.8m wide, to reveal significant archaeological remains or, where these are absent, the natural substrate. The topsoil will be stacked separately from the subsoil and other deposits to allow for appropriate backfilling.
- 4.3 This work will be carried out under direct archaeological supervision. Once the evaluation has been completed, the trench will be backfilled, with the topsoil replaced uppermost and lightly compacted.
- 4.4 Excavation will not normally proceed beyond safe working depths. In the unlikely event that deep archaeological features or deposits are encountered, a methodology will be devised to enable the testing of the depth and nature of the stratigraphy or the safe recording of features, such as stepping of trenches or auguring deep deposits.
- 4.5 Archaeological features will be sample excavated by hand in order to achieve the objectives listed above. Sections excavated through linear features will be at least 1.0m wide, pits and postholes will be half-sectioned. Care will be taken not to compromise the integrity of the archaeological record. Any substantial remains, such as kilns, buildings and other domestic or industrial structures will be investigated sufficiently to date, characterise and determine their principal dimensions. Full excavation will not be conducted and the feature will be left *in situ* pending a suitable excavation strategy.
- 4.6 All archaeological deposits and artefacts encountered during the course of evaluation will be fully recorded. Recording will follow standard fieldwork procedures (MOLA 2014). All archaeological features will be given a separate context number. Deposits will be described on pro-forma context sheets to include details of the context, its relationships, interpretation and a checklist of associated finds.
- 4.7 Archaeological features will be plotted on trench plans at a scale of 1:50. Buildings, other significant remains or areas of complex stratigraphy will be planned in greater detail at 1:20 or 1:10 scale as appropriate. Sections or profiles through features and areas of complex stratigraphy will be drawn at a scale of 1:10 or 1:20 as appropriate. All levels will be related to Ordnance Datum.
- 4.8 The photographic archive will comprise high resolution (12 megapixels or greater) digital photography. Overall shots of the site will be taken prior to excavation and after backfilling. Overall shots of each trench will be taken together with detailed shots of individual features and feature groups as appropriate. All photographs, except general site shots or specific shots for publication will include a north arrow and an ID board showing HER event UID and suitable context number. All photographs, where appropriate, will include a suitable photographic scale.
- 4.9 Finds will be collected from the individual deposits and appropriately packed and stored in stable conditions, by context according to appropriate guidelines (Watkinson and Neal 2001). Significant iron objects and a selection of non-ferrous objects and metallurgical

debris will be x-rayed as appropriate.

- 4.10 If any burials are encountered they will be investigated sufficiently to confirm identification and then left *in situ*. The Buckinghamshire County Council Planning Archaeologist, Milton Keynes Senior Archaeological Officer (MKSAO) and the local coroner will be informed immediately upon discovery of human remains. If removal is required by the Planning Archaeologist this will take place under the appropriate licence and according to the conditions set out therein.
- 4.11 The MOLA Project Manager, the archaeological consultant at CgMs Heritage and Milton Keynes Senior Archaeological Officer (MKSAO) will review the site's palaeo-environmental potential and, if deemed necessary, specialist advice will be sought. Samples will be taken for environmental analysis from all suitable contexts following the guidance for sampling as outlined by Historic England (Campbell *et al* 2011). Bulk environmental soil samples would normally be taken from securely dated, sealed archaeological features or deposits for plant macro fossils, small animal bones and small artefacts. The volume of such samples will be context and sediment specific and will be 40 litres or 100% of feature fills (whichever is less).
- 4.12 All samples will be processed at MOLA, using the flotation technique to retrieve seed, charcoal and mollusc remains. All the resultant residues will then be hand sorted to retrieve bones and other finds.
- 4.13 The excavated area and spoil heaps will be scanned with a metal detector to ensure maximum finds retrieval. Finds coming under the definition of 'treasure' as defined by the Treasure Act 1996 will be reported to the Coroner, the Buckinghamshire County Council Planning Archaeologist and Milton Keynes Senior Archaeological Officer (MKSAO), and dealt with under the procedures of the Treasure Act and Code of Practice. This includes both precious metals and base metals where they are of prehistoric date. Suitable measures will be taken to ensure their security where removal cannot take place.
- 4.14 Monitoring progress meetings will be arranged as necessary with the client, their agent, and the Milton Keynes Senior Archaeological Officer (MKSAO).

## 5 POST-EXCAVATION, REPORTING AND ARCHIVE

- 5.1 A fully cross-referenced archive of the results of all elements of the evaluation will be compiled in accordance with the guidelines of Historic England's procedural document, *Management of Research Projects in the Historical Environment (MoRPHE)* (HE 2015).
- 5.2 The archive will be offered to Buckinghamshire County Museum who, upon acceptance, will issue an accession number for the archive. The archive will be retained at the Northampton MOLA office until the conclusion of the work. A fully integrated archive of the fieldwork results will be fully catalogued and prepared for deposition in accordance with professional standards and guidelines (Walker 1990; MGC 1992; SMA 1993; Brown 2011; ClfA 2014c, d), together with the specific requirements for Buckinghamshire Museums (BCM 2013). Any material requiring special curation will be handled under the recognised guidelines (Watkinson and Neal 2001).
- 5.3 All finds will be cleaned, catalogued and prepared for storage in accordance with the guidelines contained in ClfA (2014c), Walker (1990) and Watkinson and Neal (2001).
- 5.4 Bulk soil samples taken for environmental purposes will be sieved and scanned in accordance with best practise (Campbell *et al* 2011).
- 5.5 The full report will include an introduction, the archaeological background to the project, the aims and objectives of the evaluation, a non-technical summary, the scope of the project and the methodologies used. The evidence will be presented with details of results. The text will be supported by the use of illustrations and photographs. It will also include tabulations of contexts and finds by context.
- 5.6 The report will assess the archaeological significance of the development site and any archaeological deposits present. It will place the evidence in a local and regional context, highlighting any research priorities which it addresses.
- 5.7 Specialist reports will be added as necessary, with acknowledgements, bibliography and contents included. The MPRG's *Minimum Standards for the Processing, Recording, Analysis and Publication of Post-Roman Ceramics* will be adhered to (Slowikowski *et al* 2001). If human remains are encountered the post-excavation assessment will contain an analysis of the remains, address future research potential and options for reburial.
- 5.8 Two copies of the report (one bound 'hardcopy', one digital) will be submitted to the Milton Keynes Senior Archaeological Officer (MKSAO). The report will be entered into the Buckinghamshire and Milton Keynes Historic Environment Records to act as a permanent record of the investigation within six months of submission.
- 5.9 All projects conducted by MOLA contain an Online Access to the Index of Archaeological Investigations (OASIS III) registration form in the front pages of the report. This data is used to keep the online database up to date with the most recent projects conducted by MOLA.

## 6 KEY PERSONNEL AND TIMETABLE

- 6.1 The project will be overseen on behalf of their clients by CgMs Heritage.
- 6.2 MOLA is a CfA registered organisation, under the overall management of **Janet Miller BA MA MCIfA FSA, Chief Executive Officer**. MOLA Northampton is under the management of **Steve Parry BA MA MCIfA FSA, Director**.
- 6.3 The project will be managed for MOLA by **Liz Muldowney MA MCIfA, Senior Project Manager**. The fieldwork will be carried out by one of MOLA's suitably qualified and experienced supervisors supported by a team of qualified project assistants.
- 6.4 All finds will be examined by specialists drawn from within the pool of MOLA employees. Outside specialists will be appointed as required. All staff will be suitably competent to undertake the tasks to which they are appointed. **Tora Hylton, Finds Manager** will examine small finds and appoint outside and internal specialists as required. Specialist analysis will be undertaken by period and artefact specialists regularly used by MOLA. These will be drawn from the following pool as well as specialist staff of MOLA London:

Flint	Dr Yvonne Wolfram-Murray BSc (MOLA) Andy Chapman BSc MCIfA FSA (MOLA)
Prehistoric pottery	Andy Chapman (MOLA) Adam Sutton MA (MOLA)
Roman pottery	Rob Perrin BA MLitt PGCE MCIfA FSA (Freelance specialist) Adam Sutton MA (MOLA)
Medieval pottery	Tora Hylton Finds and Archives Manager (MOLA) Paul Blinkhorn BTech (Freelance specialist)
Ceramic building material	Pat Chapman BA CMS ACIfA (MOLA)
Coins and metalwork	Ian Meadows BA (Freelance specialist) Paul Clements (MOLA)
Small finds	Tora Hylton (MOLA)
Conservation/ x-ray photography	MOLA London
Faunal remains	Dr Philip Armitage (Freelance specialist) Dr Rebecca Gordon (MOLA)
Plant macrofossils	Sander Aerts (MOLA) Val Fryer BA MCIfA (Freelance specialist)

- 6.5 Fieldwork will begin on 1/10/2018 and will take place over the course of approximately four weeks. Monitoring will be organised by CgMs Heritage and agreed with the Milton Keynes Senior Archaeological Officer, who will be given advanced notice prior to commencement.



## **7 HEALTH AND SAFETY**

- 7.1 A site specific risk assessment and safety plan (RAMS) will be prepared before the start of the project and will be updated throughout the project if appropriate. All site staff are inducted in the site specific risk assessment and made aware of potential hazards before they commence the works on site.
- 7.2 MOLA is a responsible employer and all work is conducted in accordance with MOLA's established Health and Safety Policy. This provides a practical framework for the implementation of the Health and Safety at Work Act 1974, the management of Health and Safety at Work regulations 1992, and other relevant legislation.

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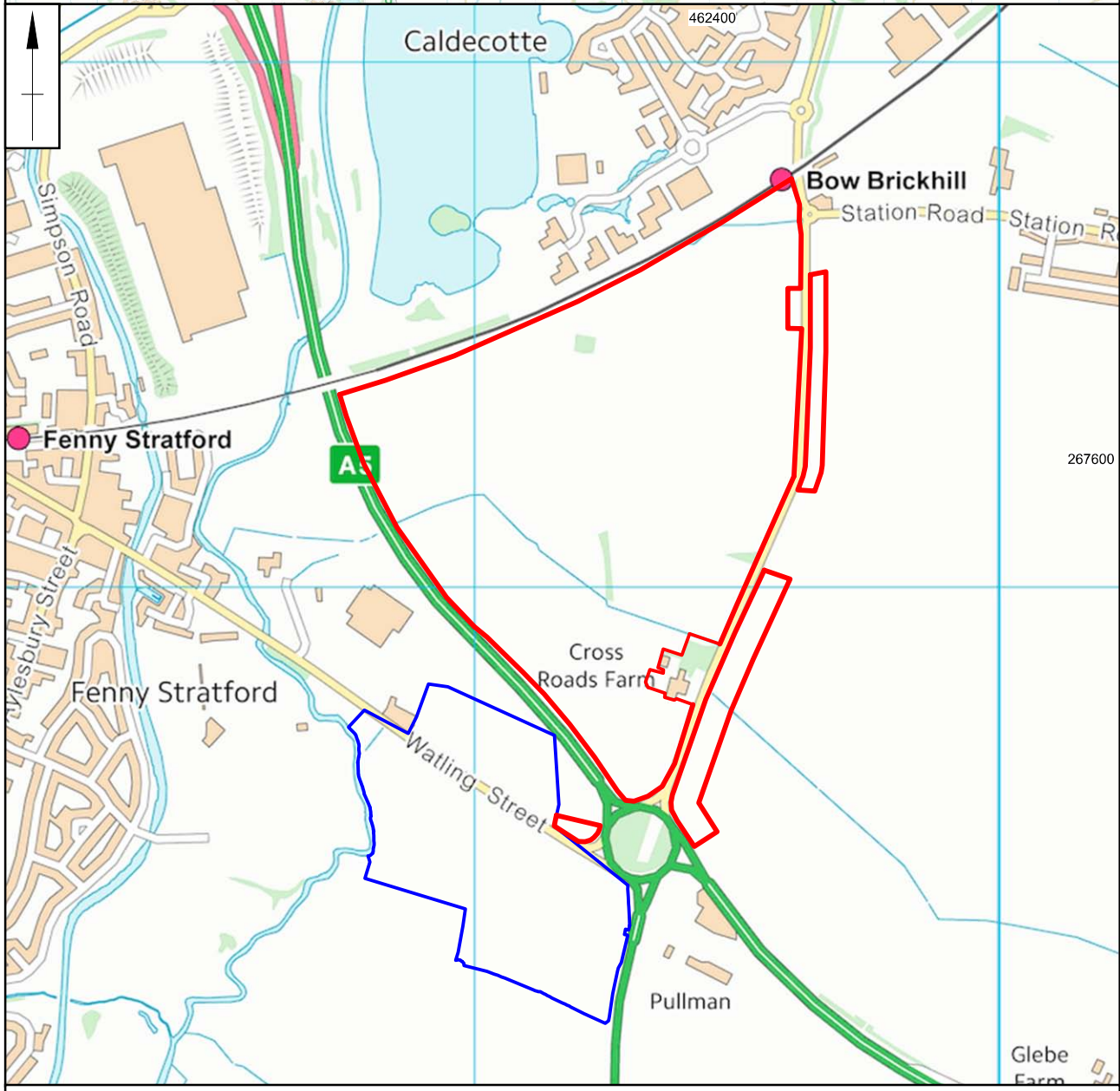
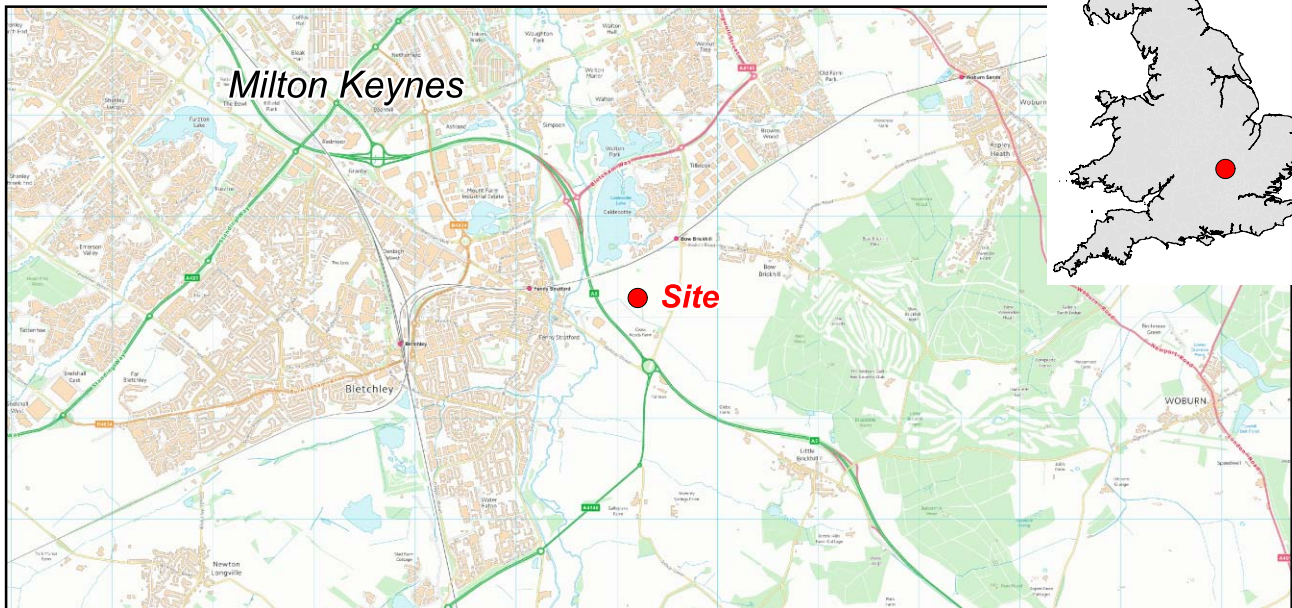
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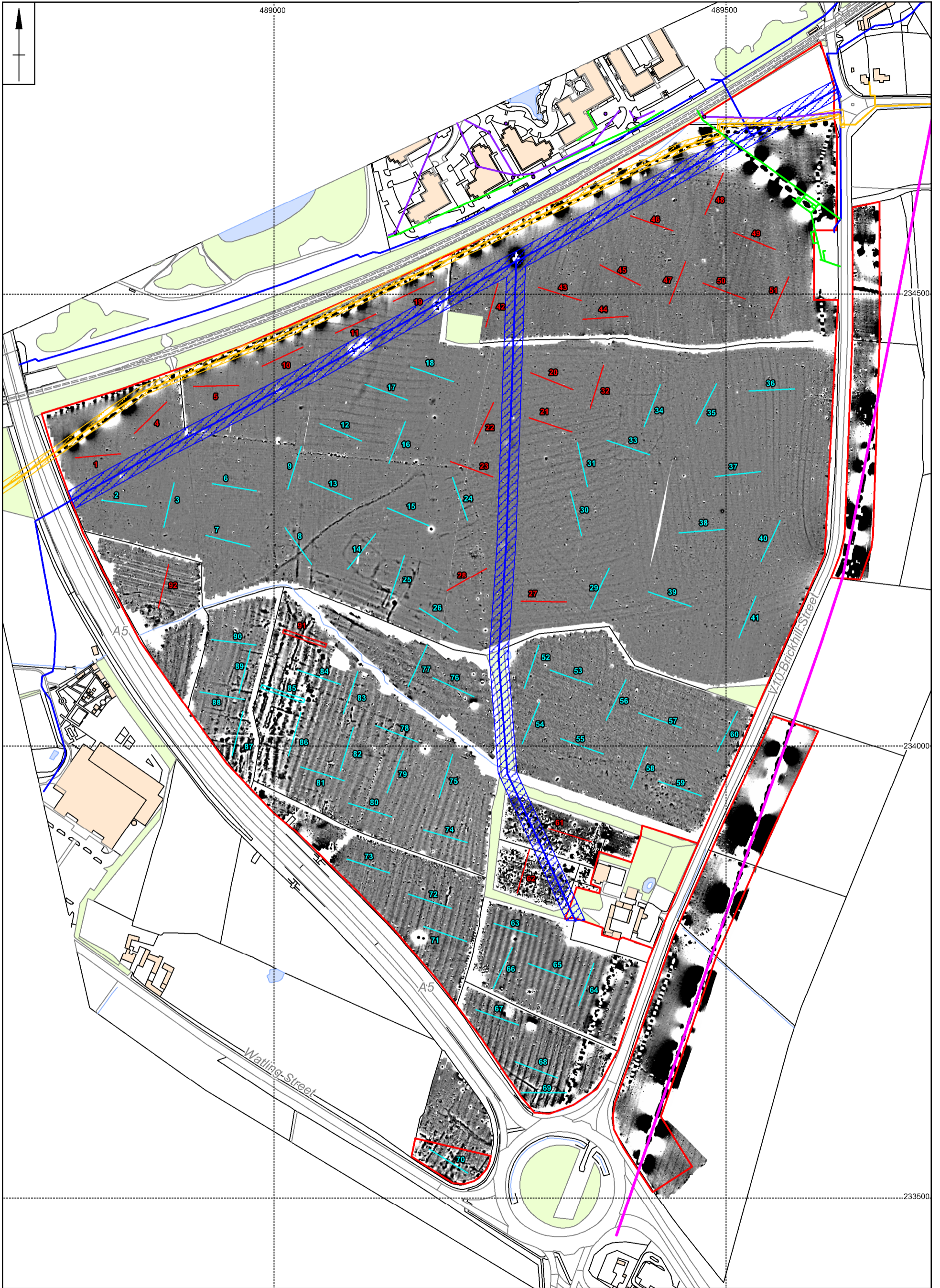
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Scale 1:12,5000

Site location Fig 1



Magnetic anomaly (nT)

-4nT      0      +4nT

0      200m

Sewer	Electrical cable	Medium pressure gas main	Site location
High pressure gas main	5m medium gas main exclusion zone	Proposed trench	Moved/additional trenches
Water pipe	10m overhead exclusion zone		

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