



**Station Fields,
Foxton**

DRAFT

**Archaeological
Appraisal**

Prepared by:
**The Environmental
Dimension
Partnership Ltd**

On behalf of:
**Axis Land
Partnerships**

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Contents

Non-technical Summary

Section 1	Introduction.....	1
Section 2	Legislation and Planning Guidance.....	3
Section 3	Methodology.....	7
Section 4	Existing Information.....	13
Section 5	Potential Impact Assessment	35
Section 6	Conclusions.....	39
Section 7	References.....	41

Image

Image EDP 1

Appendix

Appendix EDP 1 Geophysical Survey

Plans

Plan EDP 1	Designated Archaeological Assets (edp5958_d001 06 December 2019 GY/MM)
Plan EDP 2	Known Non-designated Archaeological Assets (edp5958_d002 06 December 2019 GY/MM)
Plan EDP 3	Cropmarks within Site (edp5958_d003 06 December 2019 GY/MM)
Plan EDP 4	Extract from (a) Foxton Tithe Map (1839) and (b) 1938 Edition Ordnance Survey Map (edp5958_d004 06 December 2019 GY/MM)

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Non-technical Summary

- S1 This Archaeological Appraisal has been prepared by The Environmental Dimension Partnership Ltd (EDP) on behalf of Axis Land Partnerships to inform the allocation of land at Station Road, Foxton (hereafter referred to as 'the site') in the emerging *Greater Cambridge Joint Plan*.
- S2 In terms of designated and non-designated archaeological remains, there is every reason to believe that the site should be allocated for the level of development proposed, and that this would be sound and robust in terms of relevant policy and legislation covering archaeology.

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Section 1 Introduction

- 1.1 This report has been prepared by The Environmental Dimension Partnership Ltd (EDP) on behalf of Axis Land Partnerships and presents the results of an archaeological appraisal of land at Station Road, Foxton (hereafter referred to as 'the site'). This document has been produced to inform the site's promotion in the emerging *Greater Cambridge Joint Plan*.
- 1.2 Given that the site is currently being considered for allocation, it is recognised in the following appraisal that the eventual form of development will be determined through the planning application process. As such, there is no fixed masterplan and the appraisal will instead consider the principle of developing the site for the quantity of housing and associated infrastructure it is promoted.
- 1.3 This report has therefore been drafted with the specific aim of identifying whether the site has any archaeological constraints which could not be satisfactorily dealt with and would therefore either prevent or restrict its proposed development.
- 1.4 With regard to this over-arching aim, the report covers two areas; namely (1) whether the site includes or contains any archaeological sites, features, deposits and/or remains of such significance that its development would be very much curtailed and (2) whether it contributes to the setting and significance of designated archaeological assets in its surroundings in a way that would be either eliminated or diminished as a consequence of it being developed for housing.
- 1.5 In accordance with best practice guidance, desktop sources have been augmented through the completion of a site walkover survey, which was undertaken in October 2019.

Location, Boundaries, Topography and Geology

- 1.6 The site is located to the north west of Foxton, on the opposite side of the A10, which forms its south eastern boundary. It is centred on National Grid Reference 539835, 248780 and comprises a series of agricultural fields and a small number of modern farm buildings, as well as a sewage works.
- 1.7 It is bounded to the north by a farm track and Foxton Road, to the east by Barrington Road, to the south east by the A10 and to the west by a brook.
- 1.8 The site is broadly flat and lies at c. 20m above Ordnance Datum (aOD). It is located on chalk of the West Melbury Chalk Formation, which is overlain by River Terrace Deposits 1 to 2, except for the northern and western edges which are instead overlain by accumulations of alluvium (www.bgs.ac.uk).

Proposed Development

- 1.9 The proposed development is for between 900-1,800 residential units, public open space, a transport hub (including local retail facilities and parking), increased pedestrian links to the surrounding villages and local employment opportunities.

Section 2 Legislation and Planning Guidance

- 2.1 This section summarises the key elements of the legislative and planning policy context, in respect of archaeological matters, at both national and local levels.

Legislation

- 2.2 A scheduled monument is a historic building (not in ecclesiastical use and most often in a redundant/ruinous state) or site of archaeological remains, the significance of which is identified as being sufficiently high to be of national importance.
- 2.3 The relevant legislation concerning the treatment of scheduled monuments is the *Ancient Monuments and Archaeological Areas Act 1979* (HMSO 1979). This act details the designation, care and management of scheduled monuments, as well as detailing the procedures needed to obtain permission for works that would directly impact upon their preservation. The act does not confer any statutory protection on the setting of scheduled monuments, although this is considered as a policy matter in paragraph 194 of the NPPF.

National Planning Policy

- 2.4 The NPPF was revised in February 2019. Section 16 sets out the government’s approach to the conservation and management of the historic environment through the planning process.
- 2.5 The opening paragraph, 184, recognises that heritage assets are an irreplaceable resource, and should be conserved in a manner proportionate to their significance, so that they can be enjoyed for their contribution to the quality of life of existing and future generations.
- 2.6 Paragraph 185 discusses heritage in local plan making:

“Plans should set out a positive strategy for the conservation and enjoyment of the historic environment, including heritage assets most at risk through neglect, decay or other threats. This strategy should take into account:

a) the desirability of sustaining and enhancing the significance of heritage assets, and putting them to viable uses consistent with their conservation;

b) the wider social, cultural, economic and environmental benefits that conservation of the historic environment can bring;

c) the desirability of new development making a positive contribution to local character and distinctiveness; and

d) opportunities to draw on the contribution made by the historic environment to the character of a place.”

- 2.7 Paragraph 193 considers the weighting given within the planning decision with regard to impacts on designated heritage assets, stating that:

“When considering the impact of a proposed development on the significance of a designated heritage asset, great weight should be given to the asset’s conservation (and the more important the asset, the greater the weight should be). This is irrespective of whether any potential harm amounts to substantial harm, total loss or less than substantial harm to its significance.”

- 2.8 Paragraph 194 considers the level of harmful effects on designated heritage assets and states that:

“Any harm to, or loss of, the significance of a designated heritage asset (from its alteration or destruction, or from development within its setting), should require clear and convincing justification. Substantial harm to or loss of:

- a) Grade II listed buildings, or grade II registered parks or gardens, should be exceptional;*
- b) Assets of the highest significance, notably scheduled monuments, protected wreck sites, registered battlefields, Grade I and II* listed buildings, Grade I and II* registered parks and gardens, and World Heritage Sites, should be wholly exceptional.”*

- 2.9 Footnote 63 clarifies that:

“Non-designated heritage assets of archaeological interest, which are demonstrably of equivalent significance to scheduled monuments, should be considered subject to the policies for designated heritage assets.”

- 2.10 With regard to the decision-making process, Paragraphs 195 and 196 are of relevance. Paragraph 195 states that:

“Where a proposed development will lead to substantial harm to (or total loss of significance of) a designated heritage asset, local planning authorities should refuse consent, unless it can be demonstrated that the substantial harm or total loss is necessary to achieve substantial public benefits that outweigh that harm or loss, or all of the following apply:

- a) the nature of the heritage asset prevents all reasonable uses of the site; and*
- b) no viable use of the heritage asset itself can be found in the medium term through appropriate marketing that will enable its conservation; and*
- c) conservation by grant-funding or some form of not for profit, charitable or public ownership is demonstrably not possible; and*

d) *the harm or loss is outweighed by the benefit of bringing the site back into use.*"

2.11 Paragraph 196 states that:

"Where a development proposal will lead to less than substantial harm to the significance of a designated heritage asset, this harm should be weighed against the public benefits of the proposal including, where appropriate, securing its optimum viable use."

2.12 With regard to non-designated heritage assets, Paragraph 197 states that:

"The effect of an application on the significance of a non-designated heritage asset should be taken into account in determining the application. In weighing applications that directly or indirectly affect non-designated heritage assets, a balanced judgement will be required having regard to the scale of any harm or loss and the significance of the heritage asset."

Local Planning Policy

South Cambridgeshire Local Plan 2018

2.13 The *South Cambridgeshire Local Plan*, which was adopted in 2018, contains Policy NH/14: Heritage Assets, which is relevant to this proposed allocation:

"Policy NH/14: Heritage Assets

1. *Development proposals will be supported when:*

a. *They sustain and enhance the special character and distinctiveness of the district's historic environment including its villages and countryside and its building traditions and details;*

b. *They create new high quality environments with a strong sense of place by responding to local heritage character including in innovatory ways.*

2. *Development proposals will be supported when they sustain and enhance the significance of heritage assets, including their settings, as appropriate to their significance and in accordance with the National Planning Policy Framework, particularly:*

c. *Designated heritage assets, i.e. listed buildings, conservation areas, scheduled monuments, registered parks and gardens;*

d. *Non-designated heritage assets including those identified in conservation area appraisals, through the development process and through further supplementary planning documents;*

e. *The wider historic landscape of South Cambridgeshire including landscape and settlement patterns;*

f. Designed and other landscapes including historic parks and gardens, churchyards, village greens and public parks;

g. Historic places;

h. Archaeological remains of all periods from the earliest human habitation to modern times.”

2.14 The plans and policies listed above have all been considered in the preparation of this appraisal.

Section 3 Methodology

- 3.1 This report has been produced in accordance with the *Standard and Guidance for Historic Environment Desk-Based Assessment* issued by the Chartered Institute for Archaeologists (CIfA, 2017). These guidelines provide a national standard for the completion of desk-based assessments.
- 3.2 The appraisal principally involved consultation of readily available archaeological and historical information from documentary and cartographic sources. The major repositories of information comprised:
- Cambridgeshire Historic Environment Record (HER) on known archaeological sites, monuments and findspots within the vicinity of the site;
 - Maps and documents held by the Cambridgeshire Archives and online sources;
 - The Historic England Archives for aerial photographs;
 - The National Heritage List for England (NHLE) curated by Historic England; and
 - The results of a geophysical survey which was undertaken by Headland Archaeology in November 2019 (see **Appendix EDP 1**).
- 3.3 This report provides a synthesis of relevant information for the site derived from a search area extending up to 1km from its boundaries, hereafter known as the ‘study area’, to allow for additional contextual information regarding its archaeological interest and/or potential to be gathered.
- 3.4 The information gathered from the repositories and sources identified above was checked and augmented through the completion of a site visit and walkover, completed in October 2019. This walkover considered the nature and significance of known and/or potential archaeological assets within the site, identified visible historic features and assessed possible factors that may affect the survival or condition of known or potential assets.
- 3.5 In terms of the presentation of the data, ‘Pastscape’ information was provided alongside the Cambridgeshire HER records. These two datasets were compared to eliminate any duplications, with the HER information being used as the default position. Only where records were entirely separate was ‘Pastscape’ information included. Any discrepancy between the interpretation of, for example, cropmarks between the two datasets was highlighted in the report.

- 3.6 Furthermore, there are multiple instances of records for artefact findspots in the study area, which are given the same 'NGR' location. In these instances, these are represented as a single point on **Plan EDP 2** for ease of presentation.
- 3.7 The report considers the potential for the site to contain archaeological remains of such significance that its capacity or deliverability would be inhibited.

Setting Assessment Methodology

- 3.8 In addition to considering the direct effects of the allocation on buried remains, the appraisal also considers the 'indirect' effects on the setting of surrounding archaeological assets, in terms of changes to their setting. Furthermore, it is assessed to what extent these changes could result in harm to their significance, and whether such considerations would curtail the deliverability or capacity of the site.
- 3.9 In simple terms, setting is defined as *"the surroundings in which a heritage asset is experienced"* (MHCLG 2019). It must be recognised from the outset that 'setting' is not a heritage asset and cannot itself be harmed. Its importance relates to the contribution it makes to the significance of the heritage asset in question.
- 3.10 Historic England guidance identifies that *"change to heritage assets is inevitable, but it is only harmful when significance is damaged"* (HE 2015).
- 3.11 In that regard, 'significance' is defined in Annex 2 of the NPPF as *"the value of a heritage asset to this and future generations because of its heritage interest. That interest may be archaeological, architectural, artistic or historic"*. As such, significance is the totality of the asset's value, including both its physical form and its setting.
- 3.12 As such, when assessing the indirect impact of proposals on heritage assets, it is not a question of whether setting would be affected, but rather a question of whether proposed change within the asset's 'setting' would lead to a loss of 'significance' based on the above 'heritage interest' (as defined in the NPPF).
- 3.13 Set within this context, it is necessary to first define the significance of the asset in question, and the contribution made to that significance by its 'setting', in order to establish whether there would be a loss and therefore harm. The guidance identifies that change within a heritage asset's setting need not necessarily cause harm to that asset, it can be positive, negative or neutral. As mentioned above, the significance of an asset is the totality of its values - derived from its physical form and setting - and the measurement of harm is considering to what extent development would result in a loss or erosion of part(s) of this totality.

3.14 In light of the above, the appraisal of potential setting effects, arising from the proposed scheme, has followed the guidance set out in *Historic Environment Good Practice Advice in Planning Note 3: The Setting of Heritage Assets* published by Historic England in 2017. This guidance (HE 2017) observes that:

“The NPPF makes it clear that the extent of the setting of a heritage asset ‘is not fixed and may change as the asset and its surroundings evolve.’”

3.15 The guidance also observes that:

“Elements of a setting may make a positive or negative contribution to the significance of an asset, may affect the ability to appreciate the significance or may be neutral.”

3.16 The guidance states that the importance of setting *“lies in what it contributes to the significance of the heritage asset or to the ability to appreciate that significance.”*

3.17 It goes on to note that:

“All heritage assets have significance, some of which have particular significance and are designated. The contribution made by their setting to their significance also varies. Although many settings may be enhanced by development, not all settings have the same capacity to accommodate change without harm to the significance of the heritage asset or the ability to appreciate it.”

3.18 Whilst identifying that elements of an asset’s setting can make an important contribution to its significance, the guidance states that *“Setting is not itself a heritage asset, nor a heritage designation, although land comprising a setting may itself be designated”*. It continues by adding that *“Conserving or enhancing heritage assets by taking their settings into account need not prevent change; indeed change may be positive...”*.

3.19 On a practical level, the Historic England guidance (2017) identifies an approach to assessing setting in relation to development management that is based on a 5-step procedure, i.e.:

1. Identify which heritage assets and their settings are affected;
2. Assess the degree to which these settings and views make a contribution to the significance of the heritage asset(s) or allow significance to be appreciated;
3. Assess the effects of the proposed development, whether beneficial or harmful, on the significance or on the ability to appreciate it;
4. Explore ways to maximise enhancement and avoid or minimise harm; and
5. Make and document the decision and monitor outcomes.

3.20 As far as Step 2 is concerned, the guidance makes the following observations:

“The second stage of any analysis is to assess whether the setting of a heritage asset makes a contribution to its significance and the extent and/or nature of that contribution...this assessment should first address the key attributes of the heritage asset itself and then consider:

- *The physical surroundings of the asset, including its relationship with other heritage assets;*
- *The asset’s intangible associations with its surroundings, and patterns of use*
- *The contribution made by noises, smells, etc to significance, and*
- *The way views allow the significance of the asset to be appreciated.”*

3.21 Thereafter, the guidance notes that *“This assessment of the contribution to significance made by setting will provide the baseline for establishing the effects of a proposed development on significance, as set out in ‘Step 3’ below.”*

3.22 Having established the baseline, the following guidance is provided in respect of an assessment of the effect upon ‘setting’, i.e.:

“In general...the assessment should address the attributes of the proposed development in terms of its:

- *Location and siting;*
- *Form and appearance;*
- *Wider effects; and*
- *Permanence.”*

3.23 In light of the above, the assessment of potential setting effects, employed in the preparation of this report, focused on the completion of site surveys, which were undertaken in October 2019 and concentrated on the following three main areas:

1. Identifying those archaeological assets that could potentially be affected by the proposed allocation and the manner (if any) in which they could be affected;
2. Defining the contribution made to their *significance* by their setting; and
3. Assessing the likely impact upon their *significance* as a result of the form of development proposed being implemented.

- 3.24 As far as identifying the archaeological assets potentially affected by the allocation is concerned, given (1) the flat topography of the area; and (2) the influence of intervening built and planted form of the environment, a study area of 1km from the site's boundaries was considered reasonable. This initial appraisal was proofed during the site walkover, which confirmed that the allocation was unlikely to affect archaeological assets beyond a 1km area.
- 3.25 In light of the above, the heritage setting assessment at **Sections 4** and **5** of this report have been prepared in a robust manner, employing current best practice professional guidance and giving due regard to the methodology detailed above.

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Section 4 Existing Information

Introduction

- 4.1 The site does not contain any designated archaeological assets. In the site's 'wider zone of influence' (i.e. 1km radius, see paragraph 3.17), there are three scheduled monuments, the locations of which are shown on **Plan EDP 1**. There are no registered battlefields.
- 4.2 There are a number of previously recorded non-designated archaeological finds within the site and a number of cropmarks that may represent further archaeology, suggesting a particular concentration in the south west corner.
- 4.3 These date from the prehistoric to modern periods, and were either identified through intrusive archaeological investigations or plotted from aerial photographic evidence. Further information on these remains was gathered through a geophysical survey undertaken by Headland Archaeology in November 2019.
- 4.4 There are also several non-designated archaeological assets of similar ages within the study area. The locations of these records are depicted on **Plans EDP 2** and **3**.

Designated Archaeological Assets

Step 1: Identify Which Heritage Assets and their Settings are Affected

- 4.5 In the first instance, a desktop-assessment of information contained within the National Heritage List for England, combined with observations made during the site visit and data gathered as part of this appraisal (e.g. cartographic sources), was utilised to identify those designated archaeological assets which would be affected by the allocation of the site (i.e. Step 1 of HE 2017).
- 4.6 With regard the 'Moated site known as Hall Yards' (**1019549**) and 'Moated site 170m south west of Tyrell's Hall' (**1019182**) scheduled monuments, these are two medieval moated 'sites' located c. 600 to 780m to the south west of the site. The designation information highlights their potential to contain artefactual and structural remains related to medieval occupation. They are separated from it by the built form of Shepreth and the intervening planted environment and topography.
- 4.7 There are no known links between them and the site, such as historic or functional relationships, identified within the consulted sources. Indeed, there is nothing in the form of the site today to illustrate any such links. In addition there are no visual relationships either. These scheduled monuments and their settings are not identified as having the potential to be affected by the allocation and therefore will not be considered further.

- 4.8 In terms of the 'Roman site N of Brown Spinney' scheduled monument (**1006873**), located immediately to the south west of the site, the NHLE does not include any information on the form or character of these archaeological remains. An enquiry to Historic England (dated 27 September 2019) established that this is because it was scheduled prior to the adoption of the 1979 Act. In lieu of a description on the NHLE, Historic England supplied the following non-statutory description:

“Three Roman buildings were reported here in the late C19- and field walking and air photographs confirm the presence of a large building, possibly a Villa. Tile, brick, pottery and an intaglio have been found in the area. The site is bounded to N by the railway, and to the E by a small tributary stream of the River Cam. A fair scatter of Roman tile noted especially over a slight rectangular rise in the middle of the site. Excavations revealed a Romano-British house of four rooms and a hut both incorporating re-used Roman building material. Another building adjacent is Roman and probably a Villa. Flint and mortar wall bases defined most of the plan; deep ploughing in 1971/2 revealed the remainder. An associated 5ft square cobbled floor was evidently a sort of bath-house and latrine. Building material included tile, brick, painted plaster, brown tesserae and window glass. Rubbish pits yielded much pottery, querns, a burnt oak door etc. Thick scatter of R[omano] b[ritish] material noted on rise including tile, tegulae, oyster, large flint nodules.”

- 4.9 This information is further augmented by the HER, which includes information on the 1885 excavations (**ECB807**). This confirms that the investigators located what they thought might be part of a Roman village, described as the traces of three houses, but with the caveat that such a small area was excavated that they could not be sure if they were offices or rooms of a large country residence, or separate buildings entirely. The HER description continues:

“When the houses were dug into it was found that there was in each tiled passage which in one case was traced round the corner of a room with a smooth concrete floor made of fine broken brick and mortar. There was frequently a considerable thickness of grey chalky clay, representing the fallenplaster of the walls and the decayed concrete, on which the tiles had been set. There were also some roof ridge-tiles having a semi-circular section (?imbrices), and as these occurred at the lowest point reached, it raised hopes that there might still be much buried up.”

- 4.10 There is mention of further investigations that took place in 1968-72, but again there is no information is available on the results of this work.
- 4.11 As such, the scheduled monument is identified as primarily deriving its significance from its archaeological and historic interests, as the buried remains of a Roman settlement and/or villa, containing information pertaining to the environment and cultural material of that time. Given that the remains are entirely buried below ground, there is no identified architectural or artistic interest. For the same reason, the ability to experience the significance of this asset is limited by its buried form and reflected by the hesitant interpretation of the 19th century investigators.

- 4.12 The scheduled monument is located in farmland adjacent to the site and has visual links with the south west corner of the site, where Roman period settlement activity has been previously located (discussed in detail below). As such, the 'Roman site N of Brown Spinney' scheduled monument and its setting are identified as possibly being affected by the allocation of the site and will be considered further below.

Step 2: Assess the Degree to Which these Settings and Views Make a Contribution to the Significance of the Heritage Asset(s) or Allow Significance to be Appreciated

- 4.13 The 'Roman site N of Brown Spinney' scheduled monument is located in the north half of a ploughed field and an area of back gardens attached to residential houses on the north eastern edge of Shepreth. These current land divisions and uses do not indicate the presence or form of the buried remains. Indeed, the use of the site as an arable field is noted as a reason by Historic England to include the monument in the 'Heritage at Risk Register', which notes that this is causing 'extensive significant problems' and the trend is 'declining'.
- 4.14 Cropmarks suggest that further archaeological activity extends to the south of the scheduled area in the field, and potentially to the east into the south west corner of the site. This being said, previous 'testing' of such features in the wider area, such as the investigations in the south west corner of the site, have on occasion failed to identify any associated buried remains. Regardless, there is a good chance that at least some of these cropmarks relate to contemporary activity.
- 4.15 Beyond the field and gardens the monument is located within, it is bounded to the north by a railway line and to the east by a brook – the latter probably being informative in the location chosen for the settlement - beyond which is open farmland to the east, representing the southern end of the site. In the distance, the built form of Foxton can be seen, whereas Shepreth, to the west, is closer and much more evident in its setting, enclosing the monument in this direction. Views to the north are also somewhat more restricted due to the railway line and the interspersed planting along it.
- 4.16 As such, the setting is considered to contribute positively to the significance of the monument - as the buried remains of a 'villa' or small rural settlement - in terms of the archaeology in its proximity to the south and east with which it probably had historic and former functional relationships with. This archaeology indicates further areas of settlement and industry, as well as some cultivation activity. However, evidence for associations between the monument and these areas beyond its boundary are somewhat limited and based on their contemporaneity and proximity. Given the lack of contemporary documentary evidence, the reconstruction of the land tenure and functional associations of the Roman period are beyond recovery and can only be theorised.
- 4.17 Considering these points, and although their contribution is limited by the lack of any above ground form (see **Image EDP 1**), these buried remains immediately to the east and south are considered to make a 'moderate' contribution to the significance of the monument. In addition, the relationship with the brook is considered positive, as it likely informed the

location of the settlement by providing a source of water. The brook is considered to make a 'limited' contribution.

- 4.18 Otherwise, whilst it is located adjacent to the built form of Shepreth, the monument retains a broadly 'rural' setting, which is provided mostly by the southern half of the field in which it is located and the field to the east (i.e. the southern part of the site, views into which are mostly restricted by topography to the south western half). However, the archaeological evidence (as discussed further below) suggests that this is much changed from the Roman period and is therefore also considered to be a 'limited' contribution.
- 4.19 The site's contribution in this context derives from it forming part of the 'rural' surroundings, which can be experienced in views from the monument eastwards into the the south of the site (albeit mostly contained to the south west corner by the local topography) and, to a lesser extent, northwards (albeit more limited by the railway line and associated planted environment in this direction).
- 4.20 This being said, the archaeological evidence suggests that this setting is much changed since the Roman period. In particular, the south west corner of the site would have comprised a network of smaller fields, and enclosures interspersed with buildings, small-scale industrial activity and a cemetery. Today this is replaced by the large homogenous form of the modern arable field.
- 4.21 In addition, the archaeological remains of broadly contemporaneous settlement in the site's south western corner – immediately to the east of the monument – also contributes positively. This area has previously been investigated ahead of a gas pipeline installation through fieldwalking, geophysical survey and excavations. The character of the remains are broadly described above (paragraph 4.19).
- 4.22 Associations with further Roman period remains in the wider area, confirmed or theorised from cropmark evidence, are increasingly tenuous the further they are from the asset, particularly given the number and regularity of possible and confirmed small Roman rural settlements within the study area (see further below). As such, beyond the immediate setting to the south and east, including the south west corner of the site, these remains in the wider study area are not considered to contribute to the significance of the asset.
- 4.23 The railway and modern houses evident in the setting of the monument today are not considered to contribute to the significance of the asset. Instead they are modern changes that enclose the monument to the north and west, and are (albeit very minor) negative influences in the setting.
- 4.24 This asset is discussed further in **Section 5**, to assess the potential effects of the proposed allocation, whether beneficial or harmful, on the significance or on the ability to appreciate it (i.e. Step 3 of HE 2017) and to identify ways to maximise enhancement and avoid or minimise harm through the allocation (i.e. Step 4).

Non-designated Heritage Assets

Palaeolithic to Iron Age (c.500,000 BC-AD 43)

- 4.25 There are a number of records for previously identified prehistoric archaeology within the site and the wider study area.
- 4.26 The south west corner of the site has previously been subject to fieldwalking, a geophysical survey and excavation ahead of a gas pipeline installation (**ECB539**) in 1994. The earliest evidence identified by these works comprised three or four pits that may date to the Neolithic period, albeit the recovered pottery could not be confidently identified, and a Middle Iron Age origin is also possible (Cleary et. al. 1995).
- 4.27 Further possible prehistoric features comprised a curved ditch and several ditches and pits. Some further ditches were tentatively dated to the prehistoric period, given that they were cut by features identified as being from the 1st century AD. In addition, four ring ditches and circles of post holes may indicate structures of Iron Age date, albeit the identification of these features as 'structures' is described as "*dubious*" in the associated fieldwork report. A 'rectangular ditched structure' and 'rectangular structure' may also have been of prehistoric date, although no diagnostic material was recovered from their fills (ibid.).
- 4.28 These investigations also noted the impact of later coprolite extraction pits, which cut through the archaeology in many areas.
- 4.29 Otherwise, the HER records a number of possible prehistoric features within the site:
- The findspot of a Neolithic jadeite axehead (**03993**) is located in the north of the site, although this is an arbitrary location, and the exact position of its recovery is unknown. Indeed, a separate entry for a Neolithic stone axehead (**03992**) is located in the east of the site and described in the HER as 'possibly the same object' as **03993**;
 - A single flint scrapper (**11562**) was found in the south west of the site;
 - Possible Iron Age pits (**03994**) located in the northern edge of the site, the basis for this entry is unclear, as no indication of these features was identified on aerial photographs and no indication of them was observed on the surface;
 - Possible Iron Age and/or Roman former field boundaries (**MCB24412**), identified in the north of the site on aerial photographs;
 - A number of cropmarks, indicating possible trackways, enclosures, field boundaries, and 'probable' settlement (**MCB25130**), possibly of Iron Age and/or Roman date, are located in the north of the site. It seems likely that this is a conglomeration of multiple cropmarks that are individually listed in the HER in the general area around this point (see **08627**, **08630** and **08602**);

- Linear features (**08602**) are noted in the north west of the site. although these are interpreted as possible Iron Age and/or Roman trackways, they are notably on the same alignment of, and adjacent to, modern field boundaries, and the HER also notes that they “*could be anything really*”; and
 - Cropmarks which possibly represent an extinct Iron Age and/or Roman field system (**08630**) are located in the north east of the site.
- 4.30 The more recent geophysical survey of the site (see **Appendix EDP 1**) did not locate any definite archaeological remains to the north of the railway line, and previous investigations in the south west of the site have on occasion not identified archaeological remains associated with cropmark evidence. As such, the interpretation of cropmarks within the north of the site remains theoretical at this stage, but regardless it does not appear to indicate a great density or complexity of activity.
- 4.31 Beyond the site, there are a large number of recorded prehistoric archaeological remains and further possible areas of activity. Other than stray artefacts and unconfirmed cropmarks, the only direct observations of *in situ* Bronze Age archaeology comprise 21 post holes, pits and a ring ditch (**20469**), found during an evaluation in 2015 (**ECB4396**) c. 180m to the south east of the site. Late Bronze age and Early Iron Age pottery sherds and a large amount of lithics were also recovered.
- 4.32 Otherwise, a ‘former’ Bronze Age ring ditch, which is recorded as a cropmark (**08631**) and located c. 90m to the south east, and a possible Bronze Age ring ditch, also seen as a cropmark (**08634**) c. 460m to the east of the site, are recorded on the HER.
- 4.33 The investigations in the south west of the site did not locate any Bronze Age evidence, and there is no suggestion in the cropmark analysis or geophysical data for remains that are obviously of this age.
- 4.34 In terms of the Iron Age, there are several records in the wider study area for *in situ* archaeology, although some have since been destroyed:
- Some linear features of Early Iron Age/Roman date (**CB14650**), identified during an evaluation in 1998 (**ECB510**), c. 10m to the west;
 - An evaluation in 2015 (**ECB4396**) found three Iron Age ditches (**20469**), c. 180m to the south east;
 - A background scatter of Late Iron Age struck flints and two small pits, one of which contained cremated human remains in a Gallo-Belgic pot together with possible funeral pyre (**MCB15792**), were found during an evaluation and excavation (**ECB1483**) c. 475m to the south east. These were thought to be isolated remains;
 - A Late Iron Age settlement (**03263**), identified through coprolite diggings in the 19th century, through which it was destroyed, c. 610m to the north west;

- A possible La Tene settlement (combined under **04209** on **Plan EDP 2**) was found c. 100m to the north east of the site, comprising a pit and shallow trenches, and two La Tene period pots;
 - An evaluation undertaken in 2017 and 2019 (**ECB4945** and **ECB5771**) c. 200m to the north east of the site identified a Late Iron Age ditch and several undated features (**MCB24149**). Three other large pits and a post hole may be of the same age as the ditch, but no datable material was recovered from their fills. The ditch cut two quarry pits, which therefore presumably date to earlier phases of the prehistoric period; and
 - A complex of cropmarks of trackways and enclosures interpreted in the HER as Iron Age to Roman in date (**08622** and **08624**), linked by a series of trackways, c. 135m, c. 820m to the south. The latter (**08624**) was investigated in 1993 (**ECB755**) with two trenches, and large amounts of Iron Age pottery were recovered, as were burnt daub and animal bone, suggesting a substantial rural settlement.
- 4.35 Further possible evidence for Iron Age archaeology is represented by two possible circular huts (**MCB19183**) found by a geophysical survey (**ECB2704**), c. 460m to the south east, and the possible location of Iron Age pits (**03247**), albeit there are no details regarding these finds, c. 5m to the north of the site.
- 4.36 As discussed above, the small area of settlement in the south west corner of the site may have had Iron Age origins, and other cropmarks within the site may also represent contemporary evidence for enclosures and field systems.
- 4.37 Many of the entries in the HER relate to cropmarks interpreted as indicating buried remains, but have yet to be 'tested' through intrusive survey'. These comprise:
- A series of possible Iron Age to Roman trackways (**MCB24713**) c. 420m to the south;
 - An Iron Age or Roman enclosure and associated field boundary ditches (**07220**) immediately to the west;
 - A series of rectilinear enclosures, a multiple ditched trackway and field boundary ditches of Roman date (**MCB24616**), but possibly with earlier Iron Age origins, c. 40m to the south;
 - Possible prehistoric or Roman field boundaries (**MCB24411**), c. 740m to the east;
 - A complex of possible enclosures and ditches (**08776**), which may be of Iron Age or later origins, c. 890m to the south east;
 - Remains of possible complex of enclosures and ditches possibly dating to the Early Iron Age to Roman periods (**MCB22269**), c. 270m to the north east;

- A complex of enclosures and ditches of Iron Age or Roman date seen as cropmarks (**MCB22271**), c. 10m to the north east of the site;
- The cropmark of a possible enclosure of prehistoric or later date (**MCB22273**) is situated c. 470m to the west;
- A possible segmented later prehistoric or Roman ditch (**1601963**), c. 990m to the west; and
- Enclosures of possibly Iron Age or Roman date seen 'over a substantial area' (**04042**), c. 520m to the east.

4.38 A series of stray artefacts and/or accidental finds are recorded across the study area:

- The remains of a 'hyena, bear of lion, etc' were recovered from an extraction pit in the 19th century (**03105**), c. 520m to the north west of the site;
- The findspot of a single Neolithic hand axe (**03997**), c. 180m to the north east;
- The findspot of a perforated stone axe hammer (**03991**), c. 40m to the north east;
- The metal detecting find of part of a possible Bronze Age axe (**10265**), c. 150m to the south;
- A Bronze age palstave (**03990**), c. 380m to the south east;
- A possible 'needle case' or 'cosmetic holder', formed by a tapering tube of broze sheet, of Bronze Age date (**03100**), two Neolithic stone axes (**03102**), Iron Age currency bars or plough shares (**03256**) all recorded c. 670m to the west of the site, but the exact locations for which are not known; and
- A low density of struck flint (**11806**), c. 970m to the south east, which were recovered during an evaluation (**ECB1531**), but that the HER notes is not likely to indicate a prehistoric 'site'.

4.39 Otherwise, the HER records that a possible large prehistoric pit and ditch, sealed by colluvium (**CB15568**), c. 620m to the south east, albeit no dating evidence was found, was recorded during an evaluation in 1998 (**ECB201**).

4.40 Other than one or two stray Neolithic axes that could be the result of accidental loss in antiquity, within the site there is no definitive evidence for early or mid-prehistoric archaeology, which is also fairly rare in the wider study area. By comparison, the small Roman settlement in the south west corner may have had Iron Age origins, and a number of cropmarks in the wider study area may represent contemporary field systems or agricultural enclosures. The south west corner of the site is considered to have a high potential for remains of significance, with a low potential in the rest of the site.

- 4.41 Any remains present are likely to have been truncated by a combination of modern ploughing (much like the scheduled monument to the west) and post-medieval coprolite extraction, such as was noted during the investigations in the south west corner of the site. As such, it is unlikely that any remains present in the south west corner would be of greater than 'regional' interest, with the remains in the wider site unlikely to be of more than 'local' interest (e.g. field ditches etc).

Romano-British (AD43-410)

- 4.42 There are a number of records for previously identified Roman archaeology within the site and the wider study area.
- 4.43 As mentioned above, the south west corner of the site has previously been subject to fieldwalking, a geophysical survey and excavation ahead of a gas pipeline installation (**ECB539**). This was in an area of cropmarks (**08626**) interpreted as indicating Iron Age and/or Roman settlement, representing a 'complex series of enclosures'. An undated double ditched track and enclosures (**08629**) extend further east from this area of settlement and may well have been an access to it.
- 4.44 In terms of Roman period finds, a first century V-shaped ditch with an 'ankle breaker' was identified, and it was suggested that it could have military origins (Cleary et. al. 1995). As such, it was tentatively identified as possibly the northern end of a fort. However, there is all but no evidence to corroborate this and data gathered in a more recent geophysical survey in 2019, which traces the course of this ditch, does not indicate any obvious 'fort-shaped' feature.
- 4.45 Indeed, the investigator in 1995 identified that the only remains to support this 'fort' interpretation were the ditch and a nearby corn drier/furnace. It was further stated that it was "*extremely tenuous based entirely on upon the presumed military style of the ditch*" and that examination of cropmark evidence had not identified a 'regular' shaped camp. They concluded by noting that "*a non-standard compound of military origin may have been represented here*", but with the limited evidence it is considered that this interpretation must remain tenuous and unproven. Other ditches at the southern end of the investigation area dated to the 1st century AD, although they formed no coherent pattern.
- 4.46 Toward the north end of the investigation area, further 1st century AD activity was represented by pits, ditches and hearths, and evidence for a small industrial processing area. At the northern end, a planned layout of field boundaries was recorded, some of which were only in use for a short period. A short-lived structure is also mentioned in the HER, which had a chalk floor and flue system (**CB14689**).
- 4.47 By comparison, little datable evidence for 2nd and 3rd century activity was noted. What was recorded comprised a small number of ditches and one inhumation, which is the earliest dated internment in a small cemetery at the southern end of the investigations.
- 4.48 By the 4th century, the north of the investigation area included an enclosure, with some later realignment alterations, containing a rectangular post built structure. This was later

complimented by a second adjoining enclosure. To the south end of the investigation area, a pattern of field boundaries was recorded, separated by an east-west driveway. The majority of graves within the cemetery at the southern end date from this period. The spread of remains were interpreted as indicating that a focus of settlement was located further to the north east.

- 4.49 These investigations also noted the impact of later coprolite extraction pits, which comprised “*a series of very large, regular, vertical-sided pits*” that were over 1m deep and cut through the archaeology in many areas.
- 4.50 It should also be noted that the investigators mentioned that the double ditched trackway (**08629**) should have extended into their investigation area, but no signs of it were noted. In addition, a “*large circular cropmark*” that was approximately 5m wide was also not found during the excavations and may relate to a natural feature, or later activity associated with coprolite extraction. As such, cropmark evidence is evidently not necessarily a guarantor of the presence of underlying archaeological remains.
- 4.51 The HER records the following additional entries within the site:
- A number of bronze objects from the Roman period (**07717**), including a ligula, two strap ends, a horse-fitting, a fibula fragment and three non-descript objects, recovered from the south east end of the site; and
 - Further Roman period metal objects, comprising a silver gilt fibula, a sherd of Hadham ware and a lump of bronze slag ‘run off’ (**11564**), which were identified in the south of the site.
- 4.52 To the west of the site, an ‘extensive’ Roman settlement (**03364**) is located on the opposite side of the brook. The northern half is protected as the aforementioned ‘Roman site N of Brown Spinney’ scheduled monument (**1006873**). The HER information states that the settlement extends across the eastern side of the brook – i.e. entry **08626** in the south west corner of the site.
- 4.53 The description in the HER overlaps between these two areas, and continues that the settlement may have Iron Age origins and that “*the Roman complex is approached from the east by a broad avenue*” (i.e. **08629**) and that “*an additional double-ditched trackway extends to the south, probably connecting this northern Roman complex with the Iron Age/Roman complexes to the south*”. The HER also notes that the cropmarks extend to the north from the complex “*where they become part of a wider Roman cropmark complex continuing all the way to the Bank of the River Cam*”.
- 4.54 As such, it is clear that Roman remains in this area are extensive and relatively common, and in many places would have been physically connected by trackways. Whilst this demonstrates the pattern of small rural settlements and their associated field systems, other than their contemporaneity it is not possible to reconstruct the land tenure of the Roman period and to suggest any closer relationships between these separate settlements, albeit linked by a wider trackway network not dissimilar to later periods.

- 4.55 To this point, further areas of known or suspected Roman settlement and related activity are mentioned in the HER, comprising:
- The location of a Roman villa (**04181**) identified through a combination of aerial photograph analysis that suggested buildings and two enclosures, and the recovery of surface finds including tile, brick, stone and pottery, c. 900m to the north east;
 - A possible Roman settlement seen as cropmarks (**08632**), comprising enclosures and trackways, c. 140m to the north east;
 - Complex of possible Roman enclosures and ditches identified through cropmark evidence (**MCB22270**), c. 120m to the east;
 - The recovery of “*considerable portions of a frieze of clunch with egg-and-dart moulding*” (**03373**) were built into the foundations of the mill at Barrington, c. 320m to the north west. This is recorded near to numerous Roman ash pits from which an Arretine bowl was recovered – this may relate to entry (**03220**), c. 130m to the north of the site. This evidence is interpreted as indicating that a high-status building is located nearby;
 - Two adjacent Roman or earlier enclosures, which are visible as cropmarks (**04227**), c. 1km to the east; and
 - An evaluation (**ECB1531**) in 1995 c. 970m to the south west, located three Roman ditches, a large amount of animal bone, as well as pottery, brick and tile, taken to suggest that a building is located nearby. Two post holes were also recorded and although undated could also be Roman (**11806**).
- 4.56 Another entry for the location of a Roman building found in late 19th century (**04006**) is located c. 540m to the south east of the site. However, the HER description is very similar to that for the ‘Roman site N of Brown Spinney’ scheduled monument (**1006873**) and it may well be a duplicate. Recorded in the same arbitrary grid point location is the find of a vase or bowl, amphorae and saucers recovered from ploughsoil. Although the exact location of these finds is not indicated, they may also relate to the scheduled monument.
- 4.57 Otherwise, stray artefactual finds or low-density areas of features are located in the wider study area, comprising:
- Metal detecting find of a brooch (combined under **10264**), c. 290m to the south east;
 - Roman coins and a brooch (**10266**) found by metal detectorist, c. 100m to the south east;
 - Metal detecting finds of two Roman coins (**10269**), c. 390m to the south east;

- Finds of Roman pottery and oyster shell (combined under **04209** on **Plan EDP 2**), c. 100m to the north east;
 - Roman objects collected between 1873-1898 from a location at Barrington (**03194**), including “*many Roman coins*”, “*scores of ash pits (Roman) with much pottery*”, two thimbles and two horse shoes. A bronze escutcheon from a hanging bowl (**07771**) is also recorded, although it could be of early medieval date. These are all recorded c. 670m to the west of the site, but exact location not known;
 - An evaluation c. 10m to the west of the site in 1998 identified some linear features of prehistoric and Roman date (**CB14650**). Overlapping with this entry are the results of an investigation in 1995 (**ECB539**) that located Late Iron Age and Early Roman linear features with some pits and stake holes, thought to be related to enclosures for water and/or animal control (**CB14688**); and
 - A layer containing Roman pottery overlying undated pits and a ditch (**MCB16711**) c. 800m to the south west, was found during evaluation in 2004 and 2005 (two phases combined under **ECB2050**). Later investigations in this area found no further evidence for Roman activity.
- 4.58 Similar to the prehistoric period, the south west corner of the site contains known archaeological deposits related to a small rural settlement from the Roman period, and as such this part has a high archaeological potential. A double-ditched trackway cropmark extends eastward from this, although it was not found in previous intrusive investigations.
- 4.59 Whilst further cropmarks across the site indicate additional possible field systems and/or enclosures, recent geophysical survey evidence (see **Appendix EDP 1**) did not identify any certain areas of archaeology that corroborated these. Indeed, it is possible that some may be misinterpretation of later cultivation activity. The south west corner of the site is considered to have a high potential for remains of significance, with a low potential in the rest of the site.
- 4.60 These remains are likely to have been truncated by later ploughing and coprolite extraction, the latter particularly having been previously recorded in the south west corner of the site. Therefore, any remains related to the settlement activity in the south west corner unlikely to be of greater than ‘regional’ interest, and those in the wider site are unlikely to be of greater than ‘local’ interest (e.g. field ditches).

Early Medieval (AD 410-1066)

- 4.61 There are two records for previously identified early medieval archaeology within the site, and nine in the wider study area.
- 4.62 In terms of the archaeological investigations in the south west corner of the site (**ECB539**), 5th century activity was represented by potentially 10 post-Roman (as opposed to Anglo-Saxon) graves in the cemetery enclosure at the southern end of the investigation area, and

some pits, post holes and ditches, possibly indicating continuity of settlement. However, this activity had ceased by the mid-5th century (Cleary et. al. 1995).

- 4.63 Within the site, the HER records the possible location of Saxon burials. These were reportedly found at Foxton Station in 1921 (**03989**) and were accompanied by a socketed spearhead and a food vessel. However, this information derives from the Ordnance Survey, the records of which are described by the HER as “*confused*”. An alternative location for this discovery is actually outside of the site (**04209**) c. 100m to the north east.
- 4.64 In terms of this alternative location (**04209**), the HER entry describes similar finds of two inhumations found in 1921, one of which was accompanied by a spear. In 1922, an excavation (**ECB718**) recovered a further grave containing two child burials, accompanied by a bronze buckle, three iron knives and a sandstone hone. These were probably of 6th century date. Another skeleton was found when digging the foundations of a house to the west, so the cemetery may extend in this direction.
- 4.65 Another Anglo-Saxon skeleton was found in 1935 accompanied by a knife (**03996**), c. 220m to the south east.
- 4.66 Otherwise, stray artefactual finds recovered from the study area comprise:
- The find of 19 brooches, a spearhead and possible scramasax or dirk, a buckle, pieces of cross hatched gold foil, (**03255**), which were not found together, all recorded c. 670m to the west of the site, but the exact locations of their recovery are not known;
 - Strap fitting (combined under **10266**) found by metal detectorist c. 100m to the south east;
 - Metal detecting find of brooch (**10264**), c. 290m to the south east;
 - Metal detecting find of an unidentified object (**10263**), c. 650m to the south east;
 - Pottery dredged from a river (**03103**) c. 420m to the north west;
 - Abraded sherds of 10th century pottery (**17771**) recovered during an evaluation (**ECB2737**) in 2007, c. 640m to the south east; and
 - Saxo-Norman pottery (**03995A**) was collected in 1946 from the foot of a hill c. 280m to the north, along with an unspecified number of scramasaxes and a bronze bowl (not annotated separately). Described as recovered during ‘dredging’ at the foot of the hill, possibly suggesting water deposition.
- 4.67 The settlement in the south west corner of the site continued in use for a short time into the post-Roman period, and this area has a moderate/high potential for further significant remains. The location of an Anglo-Saxon cemetery in the north eastern corner is dubious, and therefore is considered to indicate no more than a moderate potential in this part for

significant archaeology. The remainder of the site is considered to have a low potential for any remains of significance from this period.

- 4.68 Similar to preceding periods, any remains present are likely to have been truncated by later ploughing and/or coprolite extraction and not survive to more than a 'regional' level of interest.

Medieval (AD 1066-1485)

- 4.69 The HER records a number of cropmarks within the site that may indicate medieval or later cultivation practices, including a former block of ridge and furrow, albeit no sign of this was noted during the site walkover.
- 4.70 There is further evidence for medieval archaeology in the wider study area, although where this represents cropmarks of cultivation practices, given their frequency and that they do not further inform discussion of archaeological potential, these have not been marked separately on **Plans EDP 2** and **3**.
- 4.71 Medieval or later earthwork settlement remains around Foxton (**MCB22268** and **09822**) and a nearby moated 'site' (**01255**) are recorded c. 520m and c. 450m to the south east. Similarly, various earthworks related to the medieval village of Barrington (**09985**) are recorded c. 780m to the north west. The site lies outside of these known areas of medieval settlement.
- 4.72 Further medieval archaeology comprises:
- Cropmark evidence for former field boundaries (**MCB22266**), c. 800m to the east;
 - The remains of a medieval or later enclosure (**MCB22272**), seen as a cropmark, c. 280m to the north east;
 - Pottery dredged from a river (**03103**), c. 420m to the north west;
 - The location of a possible medieval or later mill (**MCB17696**), found c. 600m to the south east during geophysical surveys (**EB2683** and **ECB2826**);
 - An evaluation in 1996 and excavation in 2011 (combined under **ECB3538**) identified a medieval courtyard and wall with pits, ditches and dumps of domestic waste (**11951**), c. 800m to the north;
 - Two medieval ditches (**MCB16711**) found during an evaluation in 2004, c. 800m to the south west;
 - Metal detecting find of a coin and an ampulla (combined under **10264**), c. 290m to the south east;

- Possible rectangular enclosures and a linear ditch, possibly of medieval or later date, seen as cropmarks (**04159**), c. 680m to the south east. The HER record notes that it represents building foundations or geology, or that it relates to peat digging;
- Two coins (combined under **10266**) found by metal detectorists c. 100m to the south east;
- An evaluation in 2007 (**ECB2737**) identified features of 11th and 12th century date that may represent an access track (**17771**), c. 640m to the south east;
- Medieval pits and large ditches (**MCB15793**) were found during an evaluation and excavation in 1998-2002, c. 500m to the south east; and
- A cropmark of a possible medieval track (**08985**) is recorded c. 990m to the south east, although there is a suggestion that it could alternatively be of Iron Age or Roman date.

4.73 Based on later cartographic sources (see below), the site was probably located within the farmed hinterland of surrounding settlements in this period, and there is a low potential for it to contain significant medieval archaeological remains, although 'negligible' value deposits and features related to former farming practices could be widely encountered.

Post-medieval to Modern (AD 1485-present)

- 4.74 There are a number of records for previously identified post-medieval to modern archaeology within the site and the wider study area.
- 4.75 The investigations within the south west corner of the site (**ECB539**) identified post-medieval activity in the form of "*a series of very large, regular, vertical-sided pits*" that were over 1m deep. They contained mostly "*clean fills, often of redeposited sand or gravel, and dating evidence was notably sparse*". As they cut 'all' the archaeological features and due to their regular shapes, they were interpreted as 'comparatively modern' and most likely 19th century coprolite extraction pits, which are well documented in the surrounding area.
- 4.76 Curiously, it was noted that, although in many places they cut through the archaeology, "*in some places, it was noticed that the workings had apparently deliberately avoided cutting through archaeological deposits*". This may have been a result of the 19th century workers avoiding 'unpredictable' archaeological fills in pursuit of the coprolite layer.
- 4.77 The coprolite industry flourished in the latter half of the 19th century and the farmland was generally reinstated as found after excavation had ceased (Cleary et. al. 1995), as such the lack of any cartographic evidence for these extraction pits may simply be that they occurred after the Foxton Tithe Map of 1839 but before the first edition Ordnance Survey map of 1886 (a gap of 47 years).
- 4.78 The only other feature recorded in the site from this period – not including cropmark evidence for cultivation activity – comprises the Great Eastern railway (Shepreth Branch;

MCB24042) which passes through the centre of the site and has a railway station at the eastern end (**MCB24413**).

- 4.79 There are multiple records related to the built form – both extant and historic/demolished - of surrounding villages at Foxton, Shepreth and Barrington, the extent and character of which is well understood. These records are not considered to influence the archaeological potential of the site and they are not discussed separately in this report or annotated on **Plan EDP 1**.
- 4.80 Other than records for cultivation activity, also not annotated separately on **Plan EDP 1**, the HER contains the following records:
- The location of a moated site (**01272**), c. 410m to the north west;
 - The moated site of a former hall (**01114**), c. 900m to the north;
 - The unstratified find of a post-medieval brick (**03364a**), c. 170m to the south west;
 - The cropmark of a post-medieval boundary ditch with possible medieval origins (**07220**), immediately to the north west of the site;
 - The location of Tyrell's Hall and associated park (**01253**), c. 610m to the south west;
 - The location of windmills (**MBC24417** and **MCB22875**), c. 150m to the south east and c. 970m to the west respectively;
 - Former location of a brick and cement works (**MCB22874**), c. 860m to the west;
 - Former location of coprolite works (**MCB25648**), c. 670m to the west;
 - Former location of cement works (**MCB22873**), c. 290m to the west;
 - Evidence for coprolite works (**11951**), c. 800m to the north;
 - A milestone (**MCB18068**) c. 750m to the north west;
 - The finds of a token and a ring (combined under **10266**), c. 100m to the south east;
 - Location of 'Wimbish Manor' (**03189**) c. 380m to the south west and 'Dengaire Manor' (**03189A**) c. 330m to the south west;
 - Former location of a Coprolite works (**MCB22263**), c. 490m to the north;
 - A pit containing post-medieval pottery (**MCB16711**), found during an evaluation in 2004, c. 800m to the south west;

- A single modern post hole c. 860m to the north, found during an evaluation in 2002 (**ECB698**);
- A chalk pit (**MCB22885**), c. 330m to the south west;
- Chalk works and pit (**MCB24614**), c. 80m to the south west;
- Possible water meadows (**MCB22264**), c. 860m to the north east;
- The find of a penny (**08324**), c. 700m to the north east;
- Possibly modern linear features seen as cropmarks (**08927**), c. 90m to the north east;
- Remains of a 16th/17th century house (**17771**), which were recorded during an evaluation (**ECB2737**) in 2007, c. 640m to the south east;
- A cannon ball (**10267**), which may be related to a civil war encampment, c. 810m to the south east;
- Location of former chalk pits (**MCB23640**), c. 950m to the south east;
- Former location of pigeon house (**10417**), c. 370m to the south east;
- Gravel pits (**MCB24809**), c. 200m to the east;
- Gravel pit (**MCB24424**), c. 230m to the south east;
- Four Victorian rubbish pits (**20119**), c. 470m to the south east, found during an evaluation in 2014 (**ECB4084**);
- Post-medieval clunch walls and extensive pitting (**MCB15793**), c. 500m to the south east; and
- The find of a post-medieval metal powder flask from metal detecting (combined under **10264**), c. 290m to the south east.

4.81 These archaeological records are not considered to further influence the potential for the site to contain buried remains.

4.82 As detailed below, cartographic evidence shows that the site was farmland throughout these periods. Therefore, the site has low potential to contain significant remains from these periods, although there is the potential to encounter remains related to agricultural and coprolite extraction, considered to have 'negligible' value.

Undated

- 4.83 Within the site, the HER records the undated cropmarks of possible parallel ditches (**08628**) seen in aerial photographs in the north of the site. These are located at the east end of a wider area of linear features and possible enclosure cropmarks (**08627**), also within the site. The recent geophysical survey (see **Appendix EDP 1**) suggested that some of these cropmarks could be misinterpretations of later cultivation activity.
- 4.84 In the wider study area, the following undated archaeology is recorded:
- An undated trackway seen as a cropmark (**08910**), c. 430m to the west. Records on 'Pastscape' suggests this to be a larger area and that they may represent Iron Age or Roman features;
 - An undated trackway (**MCB20947**), c. 990m to the south east;
 - A possible complex of four ring ditches (**08635**), c. 250m to the east;
 - An undated ditch (**1602090**), c. 955m to the west;
 - A complex of overlying parallel tracks or boundaries and a ring ditch (**08636**), c. 350m to the north east;
 - A mound and ditch (**MCB22888**), undated but interpreted as possibly medieval or later, c. 1km to the west;
 - An undated 'pear-shaped' mound (**03104**), c. 860m to the north west;
 - Two pits and four ditches (**MCB24149**) found during an evaluation in 2017 and 2019 (**ECB4945** and **ECB5771**), c. 200m to the north east;
 - A cobbled surface (**19184**), c. 440m to the south east;
 - A possible Holloway or track and possible ditched circular feature (**11431**) seen on aerial photographs c. 620m to the south west;
 - An evaluation in 2018 (**ECB5403**) preceded by a geophysical survey (not annotated separately) found five ditches and a ring ditch, the latter possibly being a drip gully for a roundhouse (**MCB26708**), c. 190m to the south east;
 - Two quarry pits (**20119**), c. 470m to south east, found during an evaluation in 2014 (**ECB4084**);
 - Small quantities of tile and brick (**11672**) found during a watching brief in 1994 (**ECB865**), c. 450m to the south east;

- Several rings found by metal detectorists (combined under **10264**), c. 290m to the south east;
 - Field system features (**CB14684**) found during the laying of a gas pipeline (**ECB539**), c. 320m to the south east; and
 - The findspot of two undated buckles through metal detecting (combined under **10268** on **Plan EDP 2**), c. 390m to the south east.
- 4.85 These undated records are not determined to have any influence on the potential for the site to contain hitherto unrecorded significant archaeological remains, as discussed in detail above.

Previous Archaeological Investigations

- 4.86 The south west corner of the site has previously been subject to fieldwalking, a geophysical survey and excavation ahead of a gas pipeline installation (**ECB539**) in 1994. The results of this work are discussed where relevant above. In addition, it was subject to a geophysical survey in 2019, which is discussed further below and included as **Appendix EDP 1**.
- 4.87 Where relevant, the results of investigations in the wider study area have also been included in the period-specific sections above.
- 4.88 Otherwise, a watching brief (**ECB2186**) in 2006, c. 40m to the south west of the site at its closest, found no archaeology other than evidence possibly related to a palaeochannel. A five-trench evaluation (**ECB3725**), c. 970m to the south west, only identified undated land drains and field boundaries. These results are not determined to have any influence on the potential for the site to contain hitherto unrecorded significant archaeological remains, as discussed in detail above.

Cartographic Sources

- 4.89 The earliest assessed cartographic source to depict the site in detail is the Foxton Tithe Map of 1839 (see **Plan EDP 4a**), where it is shown as divided into four fields, all of which were used for arable cultivation. Two of the field names, 'Ham Field' (OE water meadow) and 'Oslick Meadow' (OE 'mudlake') have previously been interpreted to indicate marshy conditions (Cleary et. al. 1995).
- 4.90 The First Edition Ordnance Survey (OS) map (1886; not reproduced here) shows a broad continuation of this arrangement, albeit with the Shepreth branch of the railway constructed through the middle of the site and one internal field boundary removed. A building is also located in the eastern end of the site, adjacent and possibly related to the railway, which is evident on modern maps and was noted during the site walkover.

- 4.91 The Second Edition OS map (1903; not reproduced here) depicts a small outfarm in the centre of the site to the north of the railway and connected by a track to the road to the south. The mineral railway that runs through the east of the site and connects to the Shepreth branch had been constructed by 1938 (see **Plan EDP 4b**), and the sewage works in the north is evident from 1975 onwards. The outfarm appears to have been demolished sometime after 1974.
- 4.92 This review of historic cartographic evidence therefore demonstrates the use of the site as agricultural land throughout the 19th and 20th centuries, as well as the incremental development of infrastructure within it. Otherwise, no features of archaeological interest are noted.

Aerial Photographs

- 4.93 A total of 129 vertical and 223 oblique aerial photographs, covering the site and its immediate environs, were identified within the collection maintained by the Historic England Archive in Swindon. These date to between July 1946 and January 2014.
- 4.94 The aerial photographs reflect the development and use of the site demonstrated in the consulted 19th/20th century mapping. Other than confirming the cropmarks previously recorded in the HER, no other features of note were identified.

Site Walkover

- 4.95 The site was visited in October 2019 to assess the current ground conditions and topography within it, as well as to confirm the continuing survival of any known archaeological remains, and to identify any hitherto unknown remains of significance.
- 4.96 A very slight camber was evident along part of the line of the possible double-ditched trackway (**08629**) in the south east of the site. No archaeological features of interest were otherwise noted.
- 4.97 There is anecdotal evidence for metal detecting in the south west corner of the site and during the walkover a metal detectorist was observed to be scanning the ground in this location.

Geophysical Survey

- 4.98 The site was subject to a detailed magnetometer survey by Headland Archaeology in 2019, the results of which are presented in **Appendix EDP 1**.
- 4.99 This survey identified a concentration of probable enclosures, some with internal features possibly indicative of industrial and/or settlement activity. These broadly parallel the cropmarks identified in the HER as **08626** and the results of the investigations ahead of

the pipeline installation (**ECB539**). The western edge of this settlement area produced few signals, which could be indicative of overlying alluvial deposits from periodic flooding of the brook. The double ditched track leading from this area to the east was also noted (**08629**), notwithstanding that this was not identified in previous intrusive works in the south west corner of the site.

- 4.100 The signals for these features were intermittent, which could suggest that either the remains related to the cropmarks did not provide enough 'signal' to be detected, and/or that they have been further eroded or truncated (if not in places entirely removed) by later activity. Some gaps in the spread of identified potential archaeology may be explained by coprolite extraction, which was noted in previous investigations as comprising substantial trenches sometimes backfilled with 'clean' fills of redeposited sand or gravel, which the geophysical survey may not have been able to distinguish from the natural.
- 4.101 Outside of the south west corner and the trackway extending away from it, no other definite archaeological remains were identified. This may be because, as mentioned above, any archaeology associated with the cropmarks in the wider site may not survive to a sufficiently 'robust' level to appear as a geophysical anomaly – e.g. if they were eroded and/or contained little artefactual material. It may also be that some of the cropmarks are misinterpretations of later cultivation activity or natural geology.
- 4.102 These results broadly confirm the findings of the period-specific analysis provided in the previous sections above – i.e. that there is a high potential for prehistoric and Roman settlement activity in the south west corner, but a low potential elsewhere. Whilst there is generally a moderate potential for contemporary farming activity elsewhere on site, large areas produced no indication for archaeology at all.

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Section 5 Potential Impact Assessment

- 5.1 This section assesses the potential for the allocation of the site to result in indirect impacts on designated archaeological assets outside of the site through development within their setting. In this sense, it addresses Steps 3 and 4 of HE 2017.
- 5.2 Based on the evidence presented in **Section 4**, it also considers the potential for the site to contain archaeological remains of such significance that its capacity or deliverability would be inhibited.

Designated Heritage Assets

- 5.3 As discussed above, the only designated archaeological asset that has the potential to be affected by the allocation of the site is the 'Roman site N of Brown Spinney' scheduled monument (**1006873**), located immediately to the south west of the site.
- 5.4 It was considered that the contributions to the significance of the scheduled monument are as follows:
- The archaeological and historic interests of the monument, as contained within its physical form, and representing a villa or part of a small rural settlement, considered to make a large contribution to its significance;
 - The buried evidence for nearby contemporary activity to the south and east, including the south west corner of the site, that may (given their proximity) have former functional associations with the archaeology contained within the monument. However, this contribution is limited by the lack of any above ground appreciation of the remains and the lack of hard evidence for associations. This aspect of the setting is considered to make a moderate contribution;
 - Its relationship with the brook, likely to be an informative of the location chosen for settlement, which makes a limited contribution; and
 - The rural character of the fields to the south and east, and to a lesser extent the north, which broadly reflect the likely rural nature of its historic surroundings, albeit much changed in modern times. This aspect of the setting is considered to make a limited contribution to the significance of the asset.
- 5.5 As such, the allocation of the site does not have the potential to impact upon the physical remains of the scheduled monument, or those archaeological remains located to the south of the monument. Neither will it erode the asset's rural setting in this direction.

- 5.6 There is the potential for the loss of the settlement remains in the south west corner of the site, which may have been associated with the archaeology within the scheduled monument, and for the 'ruralness' of the setting in this direction to be foreshortened or altogether lost through the development.
- 5.7 However, as demonstrated on the illustrative masterplan, the site is sufficiently large that the remains in the south west corner can be retained, thus preserving their contribution to the scheduled monument's significance. In addition, the majority of the track leading up to the south west corner, which may have been an access to the former settlement, can also be retained as a green corridor within the development.
- 5.8 The retention of this archaeology will also provide a generous buffer to the east of the monument, in the corner that forms the most visible part of the site. Further planting along the edge of development and sensitive consideration of house density and heights in this direction can also minimise the change to views from the monument, in which this existing 'ruralness' is appreciated. The result would probably be a foreshortening of these long views and some moderate loss of 'ruralness' in this direction, but it should be emphasised that this would not be total loss.
- 5.9 Whilst there is limited appreciation of the landscape to the north from the monument, there will be some loss of the sense of 'ruralness' in this direction, although this can also be largely mitigated by strategic planting and offsetting of built form.
- 5.10 The open space in the south west corner of the site could also provide for interpretation of the scheduled monument, thus improving public appreciation of the buried remains, as there is only a limited ability to experience its significance at the moment.
- 5.11 In addition, there is known metal detecting activity in the south west corner of the site, and this could extend into the nearby scheduled area. If this were the case, in addition to the effect of plough damage already recognised on the 'Heritage at Risk Register', it would also represent a threat to the erosion of the significance of the asset through the unsystematic removal of artefactual finds.
- 5.12 The allocation of the site and the use of its south west corner for public open space would provide passive monitoring of the scheduled monument, which may discourage illegal metal detecting (if it is occurring). The interpretation could also highlight the legal protection of the remains and engender a sense of ownership by the residents.
- 5.13 The removal of archaeological remains in the wider site that have no known or provable links to the archaeology in the scheduled monument, and which are not considered to contribute to its significance, would not result in harm.
- 5.14 As such, the allocation is likely to result in a mixture of positive and negative effects. In this regard, the Court of Appeal judgement covering Regina (Palmer) v Herefordshire Council [2016] EWCA Civ 1061 (04 November 2016) is relevant in considering these points. This clarifies that development may have multiple different effects on a heritage asset, some

beneficial and some harmful, but that the decision maker may legitimately balance these effects and conclude that there is no overall effect.

- 5.15 In this instance, considering the erosion of the rural setting to the east and north, but the better provision of interpretation and the potential to curtail any illegal metal detecting that may be occurring, there is every reason to believe that the allocation on balance would have a 'neutral' effect on the significance of the scheduled monument. Indeed, it is also worth highlighting that the physical remains of the scheduled monument are protected by legislation and therefore direct effects – beneficial or negative – should be given greater weight than effects on setting, which are instead covered by planning policy.
- 5.16 As such, in terms of the effect on designated archaeological assets, there is no reason why the site could not be allocated for the quantity of housing proposed.

Non-designated Archaeological Assets

- 5.17 The south west corner of the site contains settlement evidence dating from the late prehistoric, Roman and post-Roman periods. These remains are likely to have been truncated by modern ploughing and post-medieval coprolite extraction, such that they are probably of 'regional' interest. The ploughing in particular, as well as the unsystematic collection of finds by amateur metal detectorists, is likely to represent an ongoing threat to the survival of the buried remains and a continuing erosion of their significance.
- 5.18 As discussed above, these remains can be retained within the allocation, which would clearly represent a betterment to their current situation. The use of the south west corner for public open space would stop the plough damage and discourage metal detecting. The latter would also be curtailed by the cessation of artefacts being brought close to the surface by ploughing.
- 5.19 This area could also provide interpretation of the remains, contributing to public appreciation of the archaeological record. Careful consideration of the final form of this public space will be needed to ensure that preservation (if/where required) is achieved, but there is no reason to believe that this is not a plausible outcome.
- 5.20 Outside of this area, the majority of the possible trackway that leads to the east could also be accommodated within the allocation, as demonstrated on the illustrative masterplan.
- 5.21 In the wider site, whilst there is a moderate potential in places to encounter buried remains related to the prehistoric and Roman periods, these are likely to represent field systems and other agricultural practice. There is no reason to think that these remains would be of such significance that mitigation through archaeological fieldwork would not be appropriate, and therefore no reason to think they would affect the deliverability or capacity of the site for mixed use development.
- 5.22 Even in instances where archaeology outside the south west corner is of such significance that it requires retention, the scale of the site and the probability (based on the cropmark

and geophysical survey evidence) that any such remains would be contained within localised 'pockets', means that there is also every reason to believe that these could be accommodated quite easily if needed.

- 5.23 There is the moderate possibility for Anglo-Saxon burials in a localised area in the east of the site, albeit the accuracy of this record is questioned by the HER data itself. Given that, if present, they are likely to be under threat of erosion through plough damage, it may be the case that they will be destroyed or their significance greatly eroded regardless of the allocation.
- 5.24 Therefore, the allocation can provide the framework for their careful removal through archaeological fieldwork, preventing total loss of their significance. Even if their retention is required, as mentioned above, the site is large enough to accommodate the likely localised area this represents, and to improve their situation by arresting the damage of ploughing.
- 5.25 Otherwise, the site is considered to have a low potential for archaeological remains from later periods, other than 'negligible' value features and deposits related to agriculture and coprolite extraction. Such remains would not prohibit the deliverability or capacity of the site for the mixed use development envisaged.
- 5.26 As such, the allocation of the site would result in the retention and protection of those archaeological remains considered to be of 'regional' value, i.e. the settlement in the south west corner. It would also result in the removal of remains of lesser/local importance in the wider site, which could most appropriately be mitigated through archaeological fieldwork.
- 5.27 If present, any Anglo-Saxon burials in the east of the site could be carefully removed through archaeological fieldwork or retained if necessary. Similarly, in the unlikely instance that any other unforeseen archaeology is of such significance as to warrant preservation, given that the evidence suggests this would only be localised 'pockets', they could also be retained without compromising the capacity or deliverability of the site.
- 5.28 In terms of the loss of the archaeological remains of lesser significance, the NPPF identifies under Paragraph 197 that proposals that will affect the significance of non-designated assets should be subject to a balanced judgement, taking into consideration their significance and the scale of harm.
- 5.29 Considering the benefits to the archaeology retained, there is no reason to believe that the loss of remains of lesser significance should prohibit the deliverability or curtail the capacity of the site to such an extent that the allocation would no longer be viable.
- 5.30 Therefore, there is no reason - on the grounds of effects on non-archaeological archaeological remains - for the site not to be allocated.

Section 6 Conclusions

- 6.1 This Archaeological Appraisal was produced by EDP Ltd on behalf of Axis Land Partnerships, to inform the allocation of land at Station Road, Foxton (i.e. 'the site') in the emerging *Greater Cambridge Joint Plan*.
- 6.2 There are no designated archaeological assets within the site, and the allocation only has the potential to result in an effect on one scheduled monument in the wider area, comprising the 'Roman site N of Brown Spinney' scheduled monument (**1006873**), located immediately to the south west.
- 6.3 Whilst the allocation will have a mixture of both positive and negative effects on this asset, including better interpretation and public appreciation of the remains and the moderate erosion of its rural setting to the north and east (an element of its setting that only makes a 'very limited' contribution to its significance regardless), on balance it is considered that there would be a 'neutral' effect. This is based on the design parameters demonstrated in the illustrative masterplan.
- 6.4 In terms of non-designated archaeological assets, the area of known 'regional' value remains, comprising a late prehistoric, Roman and post-Roman settlement in the south west corner, could be retained within the allocation. This would result in a betterment to its current situation, by stopping plough damage and the negative effect of unsystematic amateur metal detecting. In the wider area, the trackway that may be associated with this settlement could also be accommodated.
- 6.5 Beyond these areas, the archaeological remains are unlikely to be of such significance as to influence the capacity or deliverability of the site, and the evidence suggests that they could be mitigated through archaeological fieldwork. Even in the unlikely event that unexpected areas of archaeology are found that are of such significance as to warrant retention, the site is large enough to accommodate such localised 'pockets'.
- 6.6 As such, there is no reason to believe that archaeology should prevent the allocation of the site for the amount of development it is proposed for. Therefore, it could come forward for development in the manner envisaged, in line with relevant legislation and policy.

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Section 7 References

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List of Consulted Maps

Foxton Tithe Map of 1839

Ordnance Survey map 1886 Edition

Ordnance Survey map 1903 Edition

Ordnance Survey map 1918 Edition

Ordnance Survey map 1938 Edition

Ordnance Survey map 1950-1951 Edition

Ordnance Survey map 1960 Edition

Ordnance Survey map 1975-1980 Edition

Ordnance Survey map 1984-1993 Edition

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Image



Image EDP 1: View looking west from southern half of site across the buried remains of the settlement in the south west corner toward the 'Roman site N of Brown Spinney' scheduled monument (**1006873**). Note no above ground presence of the remains.

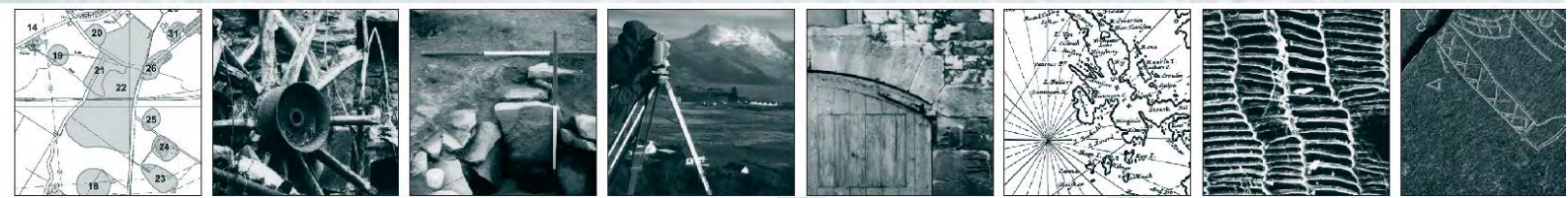
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Appendix

Appendix EDP 1 Geophysical Survey

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SFFC19



Station Fields, Foxton,
South Cambridgeshire

Geophysical Survey

For Axis Land Partnerships

November 2019

Station Fields, Foxton, South Cambridgeshire

*Geophysical Survey
For Axis Land Partnerships*

November 2019

HA Job no.: SFFC19
NGR: TL 4019 4880
Parish: Foxton
Local Authority: South Cambridgeshire

Project Manager: Sam Harrison
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CONTENTS

1	INTRODUCTION [H1]	1
1.1	Site location, topography and land-use	1
1.2	Geology and soils [h2]	2
2	ARCHAEOLOGICAL BACKGROUND [H1]	2
3	AIMS, METHODOLOGY AND PRESENTATION [H1]	2
3.1	Magnetometer survey [h2]	2
3.2	Reporting [h2]	2
4	RESULTS AND DISCUSSION	3
4.1	Ferrous and modern anomalies	3
4.2	Agricultural anomalies	3
4.3	Geological anomalies	3
4.4	Archaeological and possible archaeological anomalies	4
4.4.1	AAA1 (Illus 16-18)	4
5	CONCLUSION [H1]	5
7	APPENDICES [H1]	6
7.1	Appendix 1 Magnetometer survey 2]	6
7.2	Appendix 2 Survey location information [ah2]	7
7.3	Appendix 3 Geophysical survey archive [ah2]	7
7.4	Appendix 4 Data processing [ah2]	7
7.5	Appendix 5 Oasis Data Collection Form: England [ah2]	7

LIST OF ILLUSTRATIONS

Illus 1 Site location (1:20,000)

Illus 2 F2, looking north-west

Illus 3 F6, looking south-east

Illus 4 F9, looking north-west

Illus 5 Survey location showing GPS swaths (1:5,000)

Illus 6 Processed greyscale magnetometer data (1:5,000)

Illus 7 Interpretation of magnetometer data (1:5,000)

Illus 8 Survey location showing cropmark detail (1:5000)

Illus 9 Archaeological interpretation of magnetometer data with cropmark detail (1:5000)

Illus 10 Processed greyscale magnetometer data; Sector 1 (1:2,500)

Illus 11 XY trace plot of minimally processed magnetometer data; Sector 1 (1:2,500)

Illus 12 Interpretation of magnetometer data; Sector 1(1:2,500)

Illus 13 Processed greyscale magnetometer data; Sector 2 (1:2,500)

Illus 14 XY trace plot of minimally processed magnetometer data; Sector 2 (1:2,500)

Illus 15 Interpretation of magnetometer data; Sector 2 (1:2,500)

Illus 16 Processed greyscale magnetometer data; Sector 3 (1:2,500)

Illus 17 XY trace plot of minimally processed magnetometer data; Sector 3 (1:2,500)

Illus 18 Interpretation of magnetometer data; Sector 3 (1:2,500)

STATION FIELDS, FOXTON, CAMBRIDGESHIRE

GEOPHYSICAL SURVEY

Headland Archaeology (UK) Ltd undertook a geophysical (magnetometer) survey, covering approximately 85 hectares, at Station Fields in Foxton, South Cambridgeshire. The site lies in an area of known archaeological potential with a scheduled Roman site to the west and with cropmarks suggestive of archaeological activity in the south-west corner of the survey area, with further areas of possible archaeology elsewhere on site. These cropmarks have previously been interpreted as indicative of prehistoric, Roman, medieval and post-medieval activity mostly related to small farming settlements, field systems, trackways and quarrying activity.

The survey has identified anomalies likely to be of probable or possible archaeological origin predominantly in an area of archaeological activity (AAA) aligned in a linear band approximately 250m wide extending east from the south-western edge of the site along a north-west/south-east axis and 450m from north to south. The anomalies describe a series of conjoined probable enclosures of varying size constrained to the east by a probable trackway. Discrete anomalies within many of the enclosures are suggestive of settlement and/or industrial activity. Parallel linear anomalies extending eastwards from the AAA are almost certainly ditches defining a 'trackway' or 'avenue'. In the south-western half of the site there is generally a good correlation between the cropmarks and the magnetic anomalies with the two data sets combined possibly giving a good indication of the extent of the archaeological activity within the site. The archaeological potential in this south-western corner of the site is assessed as high.

The level of archaeological activity declines in the east and north-west of the site and here no anomalies of definite archaeological potential, with the exception of the aforementioned 'avenue', have been identified in the magnetic data. Several disparate and ill-defined clusters of anomalies at least in part correspond with the cropmarks. The archaeological potential of the rest of the site is therefore assessed as low with some localised areas of moderate potential. Overall it may be the case that the level of archaeological activity is higher than indicated by the geophysical survey and the cropmarks although it is considered likely that all the main archaeological remains and foci of activity are indicated either by the magnetic data and/or the cropmarks. Indeed, it may also be the case that the archaeological activity is lower than indicated by the cropmarks, given that some have no corresponding geophysical survey anomalies.

1 INTRODUCTION

Headland Archaeology (UK) Ltd was commissioned by Axis Land Partnerships (the Client) to undertake a geophysical (magnetometer) survey on land at Station Fields, Foxton, South Cambridgeshire. The survey was undertaken in order to assess the archaeological potential of the site.

The work was undertaken in accordance with a Written Scheme of Investigation (WSI) (Harrison 2019) and in line with current best practice (Chartered Institute for Archaeologists 2014; Europae Archaeologia Consilium 2016).

1.1 Site location, topography and land-use

The site is located on the north-western periphery of the village of Foxton, and north-east of Shepreth, South Cambridgeshire, centred on TL 4019 4880 (Illus 1). It comprises an irregularly shaped parcel of land, comprising

ten fields and covering approximately 85 hectares, which is bound to the west by Foxton Brook (a tributary of the River Cam) to the north by a farm track and Foxton Road, to the east by Barrington Road and to the south by the A10 Cambridge Road. The site is bisected east/west by a railway line and the former route of a minerals railway line also runs through the site on a north-west/south-east alignment.

The survey area is relatively flat sloping gradually down from the eastern site boundary at 21m Above Ordnance Datum (AOD) to 17m AOD at Foxton Brook and 15m AOD in the north-western corner of the site.

The survey was carried out between the October 30th and November 13th 2019. At this time the fields were all under arable cultivation having recently been drilled, some with a sprouting crop (Illus 2, 3 and 4).

1.2 Geology and soils

The bedrock geology comprises West Melbury Marly Chalk which is overlain by River Terrace Deposits (sand and gravel) throughout the survey area except along Foxton Brook at the western site boundary where deposits of Alluvium are recorded (NERC 2019).

The soils are classified in the Soilscape 5 Association, characterised as freely draining lime-rich loams (Cranfield University 2019).

2 ARCHAEOLOGICAL BACKGROUND

A geophysical survey and later trial trench evaluation carried out along the corridor for a gas pipeline in the 1990's exposed a variety of prehistoric and Roman remains related to a settlement, farming activity and a cemetery in the south-west corner of the site; the pipe is aligned broadly parallel with the south-western site boundary and has been identified by the current survey. In addition, multiple cropmarks (Illus 8) have been previously identified across the site and the surrounding landscape, interpreted variously as prehistoric, Roman, medieval and post-medieval remains, mostly related to small farming settlements, field systems, trackways and quarrying activity.

3 AIMS, METHODOLOGY AND PRESENTATION

The general aim of the geophysical survey was to provide information necessary to establish the presence/absence, character and extent of any archaeological remains within the site. This will therefore enable an assessment to be made of the impact of any future development on any sub-surface archaeological remains, if present.

The specific archaeological objectives of the geophysical survey were to:

- + gather information to inform the extent, condition, character and date (as far as circumstances permit) of any archaeological features and deposits within the site;
- + obtain information that will contribute to an evaluation of the significance of any possible planning allocation upon cultural heritage assets; and
- + prepare a report summarising the results of the survey.

3.1 Magnetometer survey

Magnetic survey methods rely on the ability of a variety of instruments to measure very small magnetic fields associated with buried archaeological remains. A feature such as a ditch, pit or kiln can act like a small magnet, or series of magnets, that produce distortions (anomalies) in

the earth's magnetic field. In mapping these slight variations, detailed plans of sites can be obtained as buried features often produce reasonably characteristic anomaly shapes and strengths (Gaffney & Gater 2003). Further information on soil magnetism and the interpretation of magnetic anomalies is provided in Appendix 1.

The survey was undertaken using four Bartington Grad601 sensors mounted at 1m intervals (1m traverse interval) onto a rigid carrying frame. The system was programmed to take readings at a frequency of 10Hz (allowing for a 10-15cm sample interval) on roaming traverses (swaths) 4m apart. These readings were stored on an external weatherproof laptop and later downloaded for processing and interpretation. The system was linked to a Trimble R8s Real Time Kinetic (RTK) differential Global Positioning System (dGPS) outputting in NMEA mode to ensure a high positional accuracy for each data point.

MLGrad601 and MultiGrad601 (Geomar Software Inc.) software was used to collect and export the data. Terrasurveyor V3.0.35.1 (DWConsulting) software was used to process and present the data.

3.2 Reporting

A general site location plan is shown in Illus 1 at a scale of 1:20,000. Illus 2 to Illus 4 inclusive are site condition photographs. Illus 5 is a 1:5,000 survey location plan showing cropmark detail and Illus 6 shows the GPS swaths. Illus 7 and Illus 8 present the overall greyscale and interpretation plots at the same scale and Illus 9 the archaeological interpretation and cropmark detail, also at a scale of 1:5000. Large scale (1:2,500) fully processed (greyscale) data, minimally processed (XY trace plot) data and interpretation plots are presented in Illus 10 to Illus 18 inclusive.

Technical information on the equipment used, data processing and magnetic survey methodology is given in Appendix 1. Appendix 2 details the survey location information and Appendix 3 describes the composition and location of the site archive. Data processing details are presented in Appendix 4. A copy of the OASIS entry (Online Access to the Index of Archaeological Investigations) is reproduced in Appendix 5.

The survey methodology, report and any recommendations comply with the Written Scheme of Investigation (Harrison 2019), guidelines outlined by Europae Archaeologia Consilium (EAC 2016) and by the Chartered Institute for Archaeologists (CIfA 2014). All illustrations from Ordnance Survey (OS) mapping are reproduced with the permission of the controller of Her Majesty's Stationery Office (© Crown copyright).

The illustrations in this report have been produced following analysis of the data in 'raw' and processed formats and over

a range of different display levels. All illustrations are presented to most suitably display and interpret the data from this site based on the experience and knowledge of management and reporting staff.

4 RESULTS AND DISCUSSION

The ground conditions were good across the site (see Illus 2 to Illus 4 inclusive) contributing to a high standard of data quality throughout.

Although the bedrock geology and superficial deposits are mapped the same across the site (chalk overlain by sands and gravels – except for a narrow band of alluvium close to the western site boundary – see below) the magnetic background does vary across the site. Over most of the site the background is relatively homogenous leading to a monotone grey colour to the data plots. The background is particularly uniform in F6 and the fields to the north of the railway line (F1 to F7 inclusive). In the south-western half of F10 the background is much more variable probably as a result of variations within the sands and gravels comprising the superficial deposits. The level of potential archaeological activity in this part of the site has probably also lead to the distribution of culturally enhanced material. Quarrying may also have contributed to the elevated and variable magnetic background here. One notably homogenous area within this otherwise fairly perturbed area is likely due to the presence of alluvium deposited during flooding of Foxton Brook on the far western edge of the site.

Against these backgrounds, numerous anomalies, archaeological and non-archaeological have been identified. These anomalies are discussed below and cross-referenced to specific examples on the interpretive figures, where appropriate.

4.1 Ferrous and modern anomalies

Ferrous anomalies, characterised as individual ‘spikes’, are typically caused by ferrous (magnetic) material, either on the ground surface or in the plough-soil. Little importance is normally given to such anomalies, unless there is any supporting evidence for an archaeological interpretation, as modern ferrous debris is common on most sites, often being present as a result of manuring or tipping/infilling. Across most of the site these ‘spikes’ display no obvious clustering which might indicate an archaeological origin, far more probable is that the ‘spike’ responses are likely caused by the random distribution of ferrous debris in the upper soil horizons.

The course of the gas pipeline referred to in Section 2 is identified as a high magnitude dipolar anomaly orientated broadly north-west/south-east in F8 and F10. A large localised area of magnetic disturbance either side of the pipe in F8 is almost certainly connected with the

installation of the pipe. Other high magnitude linear anomalies separating F6/7 and F10 and F3/6 and F4/5 are due to either pipes or a metallic fence restricting access to the railway lines.

A line of equally spaced ‘spikes’ immediately south of the railway line is due to a line of telegraph poles.

Magnetic disturbance around the field edges is due to ferrous material within, or adjacent to the boundaries and is of no archaeological interest.

4.2 Agricultural anomalies

Analysis of historic mapping indicates that the layout and division of land within the GSA has remained largely unchanged since the publication of the first edition Ordnance Survey map. Three boundaries have been removed and all three (Illus 7 – FB1, FB2 and FB3) are visible in the data as magnetic anomalies. The first (FB1) originally divided F3 and F6, FB2 sub-divided F6 and FB3 would have originally divided F10 into two parts. This latter boundary is identifiable as a line ‘spikes’ with a small area of magnetic disturbance about halfway along.

Numerous parallel linear anomalies are identified throughout the site either parallel with or orthogonal to the current field layout. These anomalies are caused by post-medieval and modern ploughing and field drains. Some of these anomalies, particularly in F10, are on very similar alignments to anomalies interpreted as of potentially archaeological origin during previous cropmark analysis and may provide a plausible alternative explanation for them.

4.3 Geological anomalies

The limits of mineral extraction (of unknown period) within the site have been identified as rectilinear areas of anomalous magnetic readings. These anomalies clearly correlate with cropmarks visible on air-photographs. The largest of these former quarries (Illus 7 – Q1) borders the main road in F10 on the southern boundary of the site. A second more amorphous area of extraction (Q2) is identified about 100m to the north-west with the third (Q3) located a further 75m to the north-west. None of these quarried areas is recorded on the historic mapping and as the extent of the extraction generally respects the anomalies/features interpreted as Roman in date they may be contemporary, possibly supplying the raw material for the construction of the Roman road (Illus 7 – RR) immediately north of Q2. Alternatively, given the evidence for post-medieval quarrying in the area, they may be of later origins.

In the northern half of the site three other, much smaller, areas of disturbance in F1, F2 and F3 are also interpreted as providing evidence for possible small scale extraction although again there is no cartographic evidence to

support this interpretation and the responses could be associated with much more recent ground disturbance or even localised geological variation in the superficial sand and gravel deposits.

4.4 Archaeological and possible archaeological anomalies

Unless specified all the linear anomalies described are likely to be due to soil filled cut features, such as ditches, forming clear patterns of enclosure and land division. Against a variable magnetic background, it is difficult to confidently discriminate between discrete anomalies which may be due to archaeological features, such as pits, which may be indicative of occupational activity and those that are probably due to localised geological variation. For this reason, most of the discrete anomalies within enclosures have been ascribed a possible archaeological origin with those outside, except where the responses are particularly broad or high in magnitude, interpreted as of non-archaeological origin.

A distinct area of archaeological activity (AAA) has been identified in the south-west corner and is discussed below.

4.4.1 AAA1 (Illus 16-18)

A clear area of archaeological activity is identified in the south-west corner of the site, in a linear band up to 250 wide and 450m in length in the south-west corner, extending from the A10 at the southern end of the site to the railway line which marks the northern limit of F10. The discontinuous pattern of linear anomalies forms a complex of possible enclosures of varying dimension aligned on a north-north-west/south-south-east axis. Overall there is a good correlation between the cropmark data and the magnetic data with each data set providing the greatest level of detail in different locations although the geophysical survey has provided a much greater level of detail for the identification of discrete features. This is particularly the case at the southern end of the complex where there is evidence for possible settlement and/or industrial activity, although some of these anomalies may well be geological in origin.

The eastern extent of the complex is clearly defined by fragmentary, parallel, linear anomalies which probably define a trackway (Illus 7 and Illus 18 – TR1). This feature is also identified as a cropmark. Intersecting at right angles with the trackway is a probable road or avenue (Illus 7 and Illus 18 – TR1), aligned south-west/north-east, clearly also defined by parallel linear anomalies.

Overall the magnetic data suggests the archaeological remains may be fragmentary as many of the anomalies are discontinuous and completely absent or poorly defined in places.

A small well-defined cluster of four small enclosures is identified at the northern end of the complex with a much

larger better defined cluster of enclosures at the southern end of the field where a line of at least three enclosures is appended to the outside (east) of the possible trackway, TR1. It is unclear whether the absence of anomalies across most of the western edge of the 'settlement' indicates an absence of underlying archaeology or that it is possibly masked by alluvium deposited when Foxton Brook floods.

There is no evidence in the magnetic data for the complex extending to the north of the railway in F7 or F8 although the cropmark data had suggested that this might be the case. It is noted that F8 is dominated by magnetic noise resulting from recent activity/disturbance associated with the gas pipeline so the possibility cannot be discounted that archaeological remains are still present but that any archaeological anomalies are masked in that field by the much stronger responses from the gas pipe. However, this would not explain the absence of cropmarks indicating enclosures in other fields north of the railway line.

Further north again in F1 and F2 there are far fewer cropmarks and more detail is provided by the geophysical survey. No coherent pattern can, however, be discerned and therefore the anomalies are only interpreted as of possible archaeological origin.

In the eastern part of the site (in F3 to F6 inclusive) the pattern is reversed with numerous cropmarks and very few anomalies, with nothing in the magnetic data to suggest any coherent archaeological pattern. Parallel linear anomalies aligned north-north-west/south-south-east in the north-eastern corner of F10 and extending into the south-eastern corner of F6 have been interpreted as of possible archaeological origin. These anomalies correspond with cropmarks and are at a slight angle in relation to the ploughing trends which do not appear as cropmarks.

In F5 to the east there is again a good correlation between the magnetic data and the cropmarks although the cropmarks suggest a more extensive and regular pattern of land division.

There may be a number of reasons as to why there are discrepancies between the geophysical data and the cropmark data. As mentioned above, the deposition of alluvium along the far western edge of the site and localised spreads of debris from gas pipe laying can mask anomalies. Needless to say, these explanations can only affect small and localised parts of the site. Other reasons might be that the remains have been removed since first recording as cropmarks, or that they have been truncated/eroded to the point that they are no longer sufficiently robust to be detected by geophysical survey. Misinterpretation of features as archaeological remains may also be a cause, such as possibly F6, where very limited trace of cropmarks were identified, although a number of similarly aligned and positioned

agricultural features were detected, which could provide a plausible explanation for the cropmarks.

5 CONCLUSION

The survey has successfully evaluated the site identifying a well-defined area of archaeological activity (AAA) in the south-west corner aligned in a linear band approximately 250m wide extending east from the western edge of the site along a north-west/south-east axis and 450m from north to south. The anomalies describe a series of conjoined probable enclosures of varying size constrained to the east by a probable trackway. Discrete anomalies within many of the enclosures are suggestive of settlement and/or industrial activity. Parallel linear anomalies extending eastwards from the AAA are almost certainly ditches defining a 'trackway' or 'avenue'. In the south-western half of the site there is generally a good correlation between the cropmarks and the magnetic anomalies with the two data sets combined possibly giving a good indication of the extent of the archaeological activity within the site. The archaeological potential in this south-western corner of the site is assessed as high.

The level of archaeological activity declines to the east and north-west of the site and here no anomalies of definite archaeological potential, with the exception of the aforementioned 'avenue', have been identified in the magnetic data. Several disparate and ill-defined clusters of anomalies at least in part correspond with the cropmarks. The archaeological potential of the rest of the site is therefore assessed as low with some localised areas of moderate potential. Overall it may be the case that the level of archaeological activity is higher than indicated by the geophysical survey and the cropmarks although it is considered likely that all the main archaeological remains and foci of activity are indicated either by the magnetic data and/or the cropmarks. Indeed, it may also be the case that the archaeological activity is lower than indicated by the cropmarks, given that some have no corresponding geophysical survey anomalies.

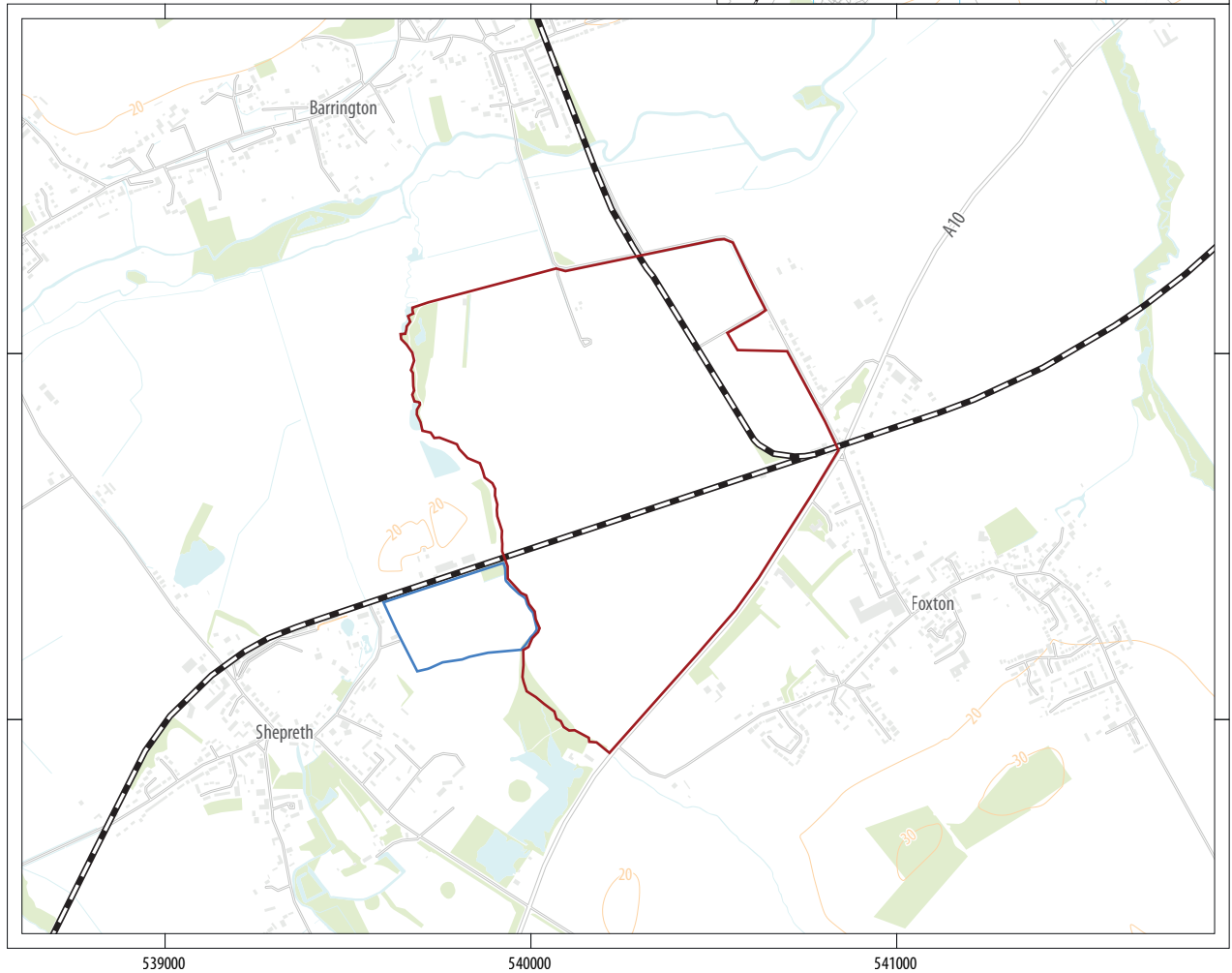
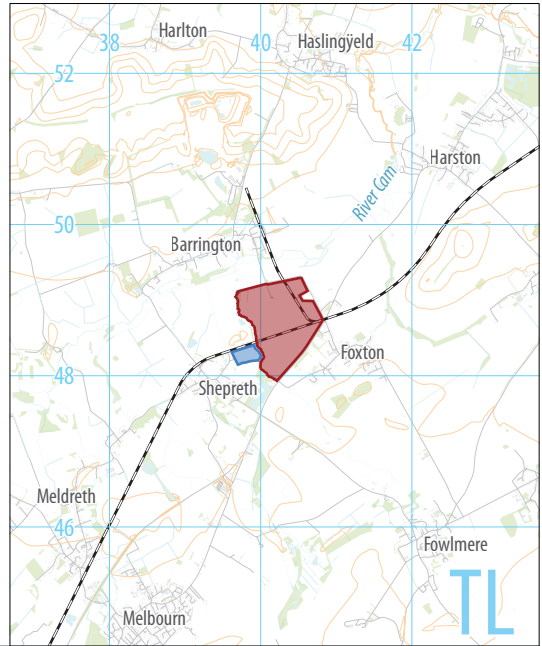
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0 200km
 1:12,500,000 @ A4



0 400m
 1:20,000 @ A4

▭ geophysical survey area
▭ scheduled monument

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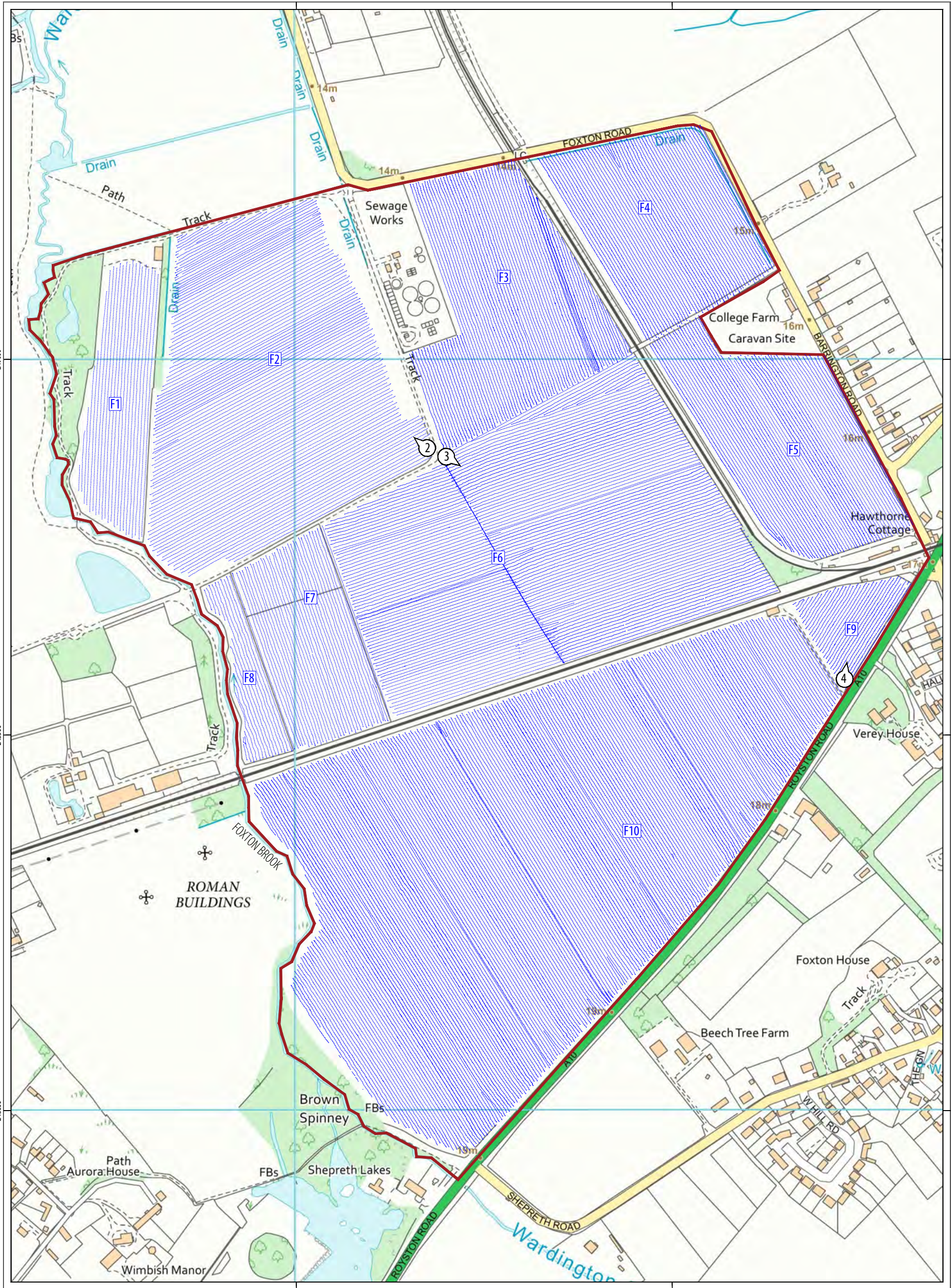
Illus 2. F2, looking north-west



Illus 3. F6, looking south-east



Illus 4. F9, looking north-west



- ▭ geophysical survey area
- ▨ GPS swaths
- 📍 location and direction of ILLUS 2-4



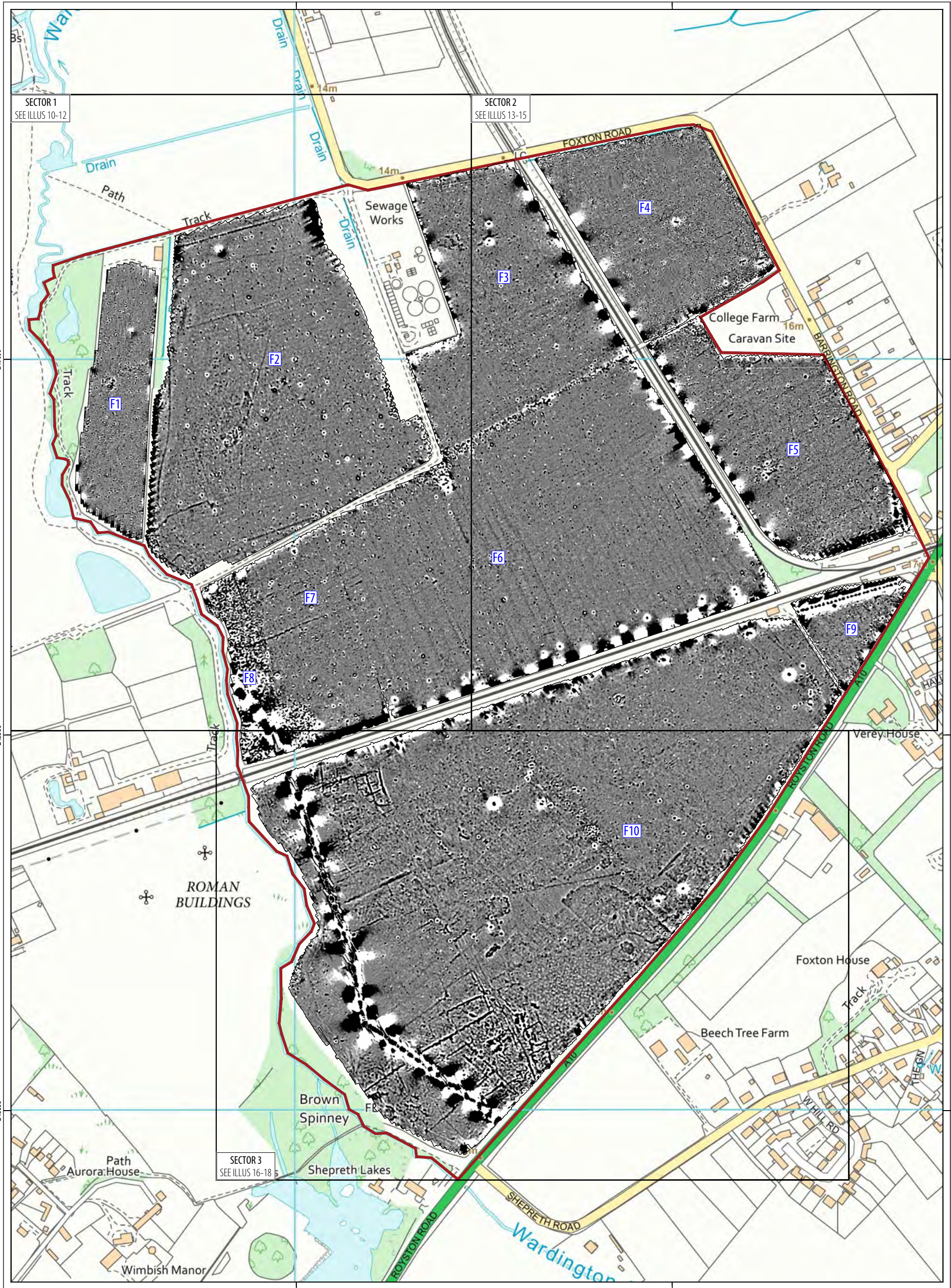
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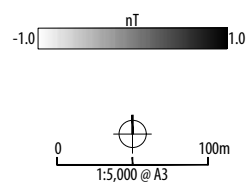
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ILLUS 5 Survey location showing GPS swaths



ILLUS 6 Processed greyscale magnetometer data

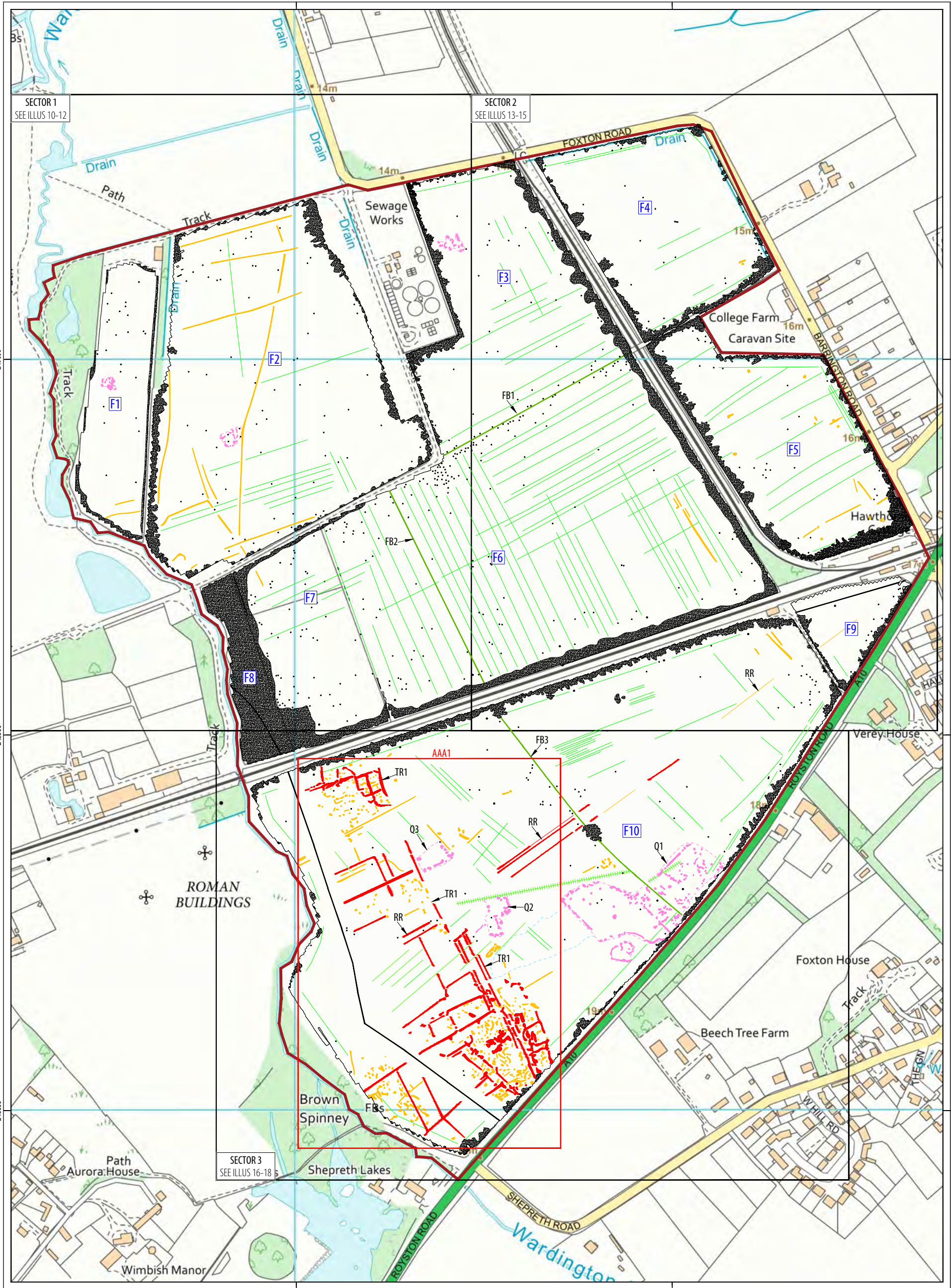


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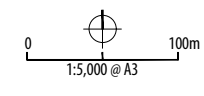
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TYPE OF ANOMALY	INTERPRETATION
● dipolar isolated	ferrous material
● magnetic disturbance	ferrous material
— dipolar linear	service pipe
⊗ magnetic enhancement	quarrying
— linear trend	agricultural
— linear trend	field drain

TYPE OF ANOMALY	INTERPRETATION
— linear	former field boundary
— linear trend	geological variation
— linear trend	archaeology?
⊗ magnetic enhancement	archaeology?
● magnetic enhancement	archaeology

ABBREVIATIONS	INTERPRETATION
FB	field boundary
Q	quarry
RR	roman road
TR	trackway



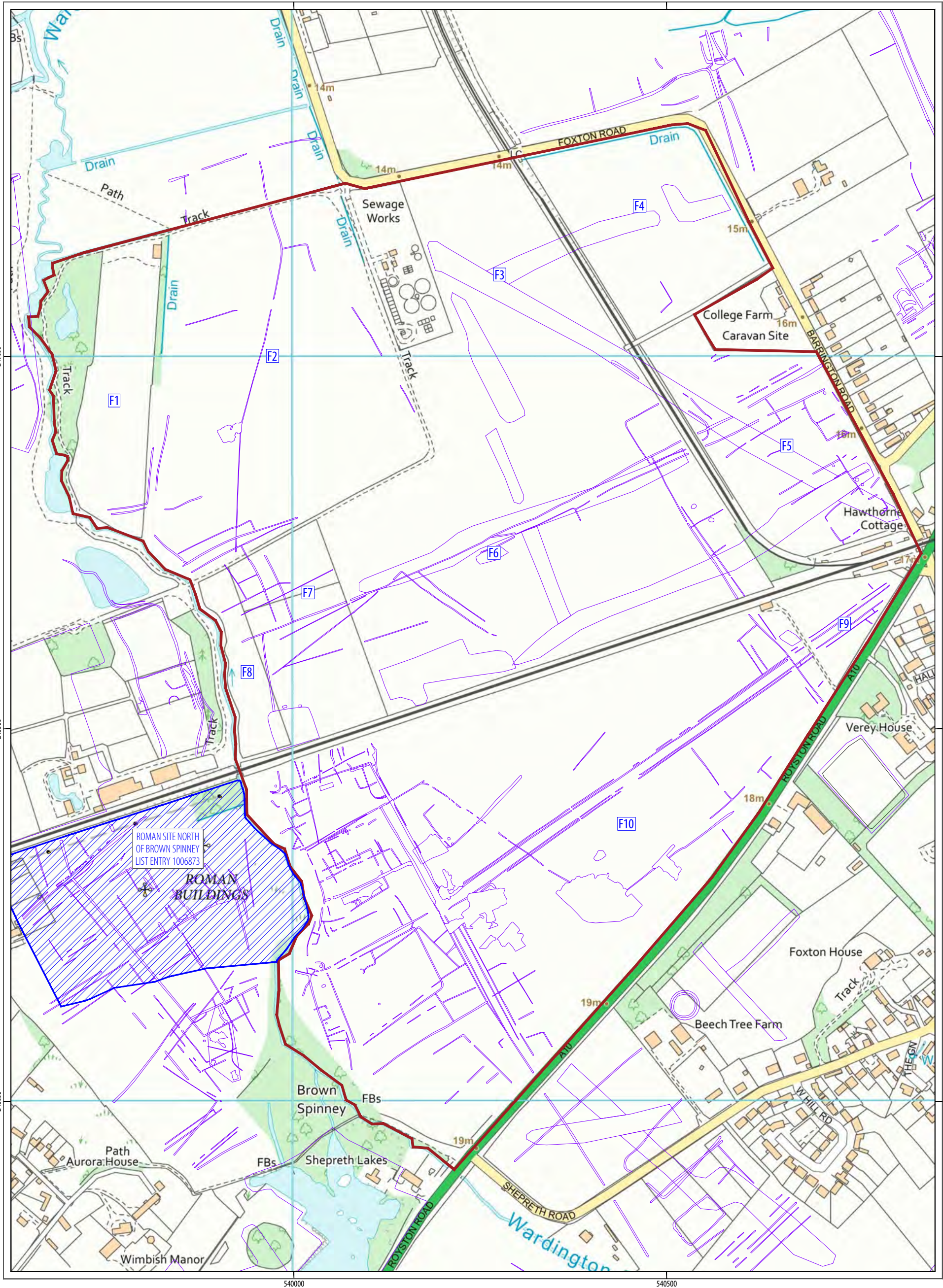
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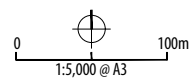
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ILLUS 7 Interpretation of magnetometer data



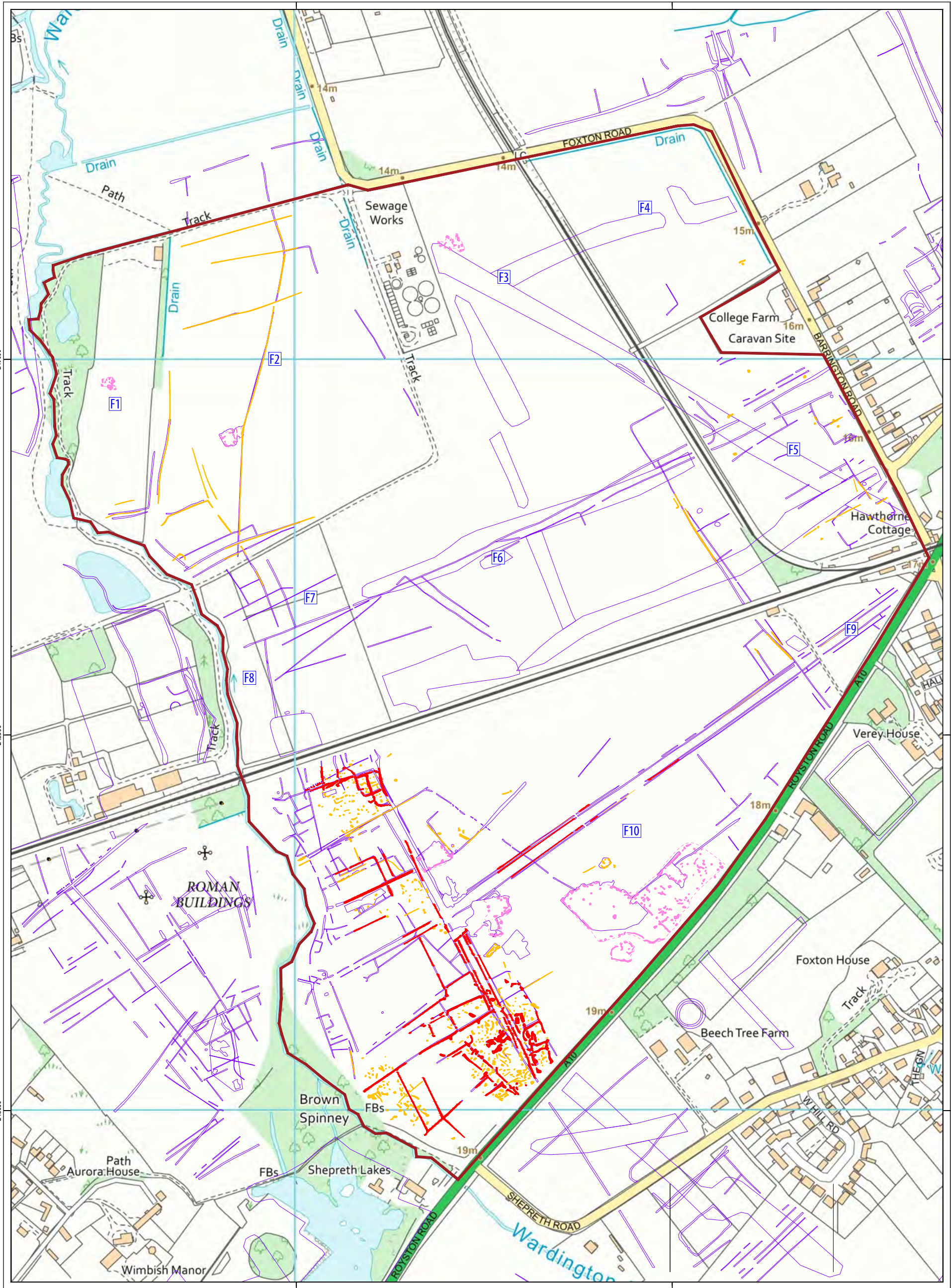
▨ scheduled monument
~ CHER cropmark detail



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ILLUS 08 Survey location showing cropmark detail (CHER 2019)



CHER cropmark detail

TYPE OF ANOMALY	INTERPRETATION
linear trend	archaeology?
magnetic enhancement	archaeology?
magnetic enhancement	archaeology
magnetic enhancement	quarrying



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