wardell-armstrong.com

ENERGY AND CLIMATE CHANGE
ENVIRONMENT AND SUSTAINABILITY
INFRASTRUCTURE AND UTILITIES
LAND AND PROPERTY
MINING AND MINERAL PROCESSING
MINERAL ESTATES
WASTE RESOURCE MANAGEMENT

VATTENFALL WIND POWER

HALL LANE, KEMBERTON, SHROPSHIRE

ARCHAEOLOGICAL DESK-BASED ASSESSMENT

APRIL 2022

wardell armstrong

Wardell Armstrong
2 Devon Way, Longbridge, Birmingham, West Midlands, B31 2TS, United Kingdom
Telephone: +44 (0)121 580 0909 www.wardell-armstrong.com

DATE ISSUED:	**April 2022**
JOB NUMBER:	**BM12261**
REPORT NUMBER:	**001**
VERSION:	**V1.0**
STATUS:	**FINAL**

VATTENFALL WIND POWER

HALL LANE, KEMBERTON, SHROPSHIRE

ARCHAEOLOGICAL DESK-BASED ASSESSMENT

APRIL 2022

PREPARED BY:

Ginette Murray Principal Archaeologist

REVIEWED AND APPROVED BY:

Robert Johns Technical Director

CONTENTS

APPENDICES

DRAWINGS TITLE

1 INTRODUCTION

1.1.1 This report has been prepared by Wardell Armstrong LLP, a Registered Organisation with the Chartered Institute for Archaeologists (CIfA). It sets out the archaeological and historical background of a Site at Hall Lane, Kemberton, Shropshire, TF11 9LQ; centred at c. NGR 372300, 304250; where proposals entail a new solar development.

1.1.2 This report provides an assessment of the significance of any known or potential heritage assets of an archaeological nature within the boundary of the Site. Potential direct impacts to the archaeological resource as a result of the proposed development are set out and appropriate mitigation measures for reducing/offsetting these potential impacts are proposed where relevant.

1.1.3 The potential for impacts on off-site designated archaeological assets, through changes to their setting as a result of the proposed development, has also been considered and is discussed below, although no potential impact has been identified.

1.1.4 An assessment of built heritage assets is made separately (Berrys, 2022). Built heritage assets are discussed below only where relevant to the general historical background of the Site.

1.1.5 The assessment was undertaken following the Standards and Guidance of the CIfA (2020) and in accordance with terminology expressed within the National Planning Policy Framework.

1.1.6 In order to inform this assessment baseline data was obtained from the following:

Shropshire Historic Environment Record (HER) consulted January 2022;
GIS datasets (Historic England, April 2022):
- Scheduled Monuments;
- Listed Buildings;
- Registered Parks and Gardens; and
- Registered Battlefields;

The National Heritage List for England (Historic England website);
Online sources of historic maps and aerial photographs, including Britain from Above and Google Earth; and
Shropshire Archives.

1.1.7 The Search Room at Historic England Archives was closed at the time research was undertaken for this assessment, in line with the Government's Coronavirus restrictions.

1.1.8 In addition, a walkover survey of the Site was undertaken in April 2022.

1.1.9 Where mentioned in the text, official NHLE List Entry names are shown in italics, with the List Entry number shown in bold in (parentheses).

1.1.10 HER 'monument' entries use the 'preref' numbers, also shown in (parentheses). HER 'event' entries, which record items of research; fieldwork, etc. use the 'EvUID' reference.

2 LEGISLATION AND NATIONAL PLANNING POLICY AND GUIDANCE

2.1.1 A heritage asset is defined in the National Planning Policy Framework (NPPF) as 'a building, monument, site, place, area or landscape identified as having a degree of significance meriting consideration in planning decisions because of its heritage interest' (Ministry of Housing, Communities and Local Government 2019, Annex 2 page 67).

Legislation

2.1.2 Designated heritage assets protected by statutory legislation comprise scheduled monuments, protected wrecks, listed buildings and conservation areas.

2.1.3 Nationally significant archaeological sites, monuments and structures are protected under the Ancient Monuments and Archaeological Areas Act 1979 (AMAAA; 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 which would directly impact upon their preservation. The 1979 Act does not confer any statutory protection on the setting of scheduled monuments; this is considered as a policy matter in Paragraph 194 of the National Planning Policy Framework (NPPF).

2.1.4 Listed buildings and conservation areas are protected under the Planning (Listed Building and Conservation Areas) (P(LBCA)) Act (1990). In relation to development proposals, Section 66(1) of the Act states that:

'in considering whether to grant planning permission for development which affects a listed building or its setting, the local planning authority or, as the case may be, the secretary of state shall have special regard to the desirability of preserving the building or its setting or any features of special architectural or historic interest which it possesses'.

2.1.5 Thus Section 66(1) sets out the statutory duty of the decision-maker, where proposed development would affect a listed building or its setting. The "special regard" duty of the 1990 Act has been tested in the Courts and confirmed to require that "considerable importance and weight" is afforded by the decision maker to the desirability of preserving a listed building along with its setting.

2.1.6 Conservation areas are not relevant to this assessment and therefore legislation pertaining to these is not relevant.

2.1.7 Hedgerows are afforded protection under the Hedgerow Regulations 1997 (amended 2002). Hedgerows are deemed important if they:

Are associated with a Scheduled Monument or a site recorded on an HER; or

form an integral part of a field system shown on a map pre-dating 1845; or

mark a parish or township boundary predating 1850; or

mark the boundary of a pre-1600 estate.

National Policy

2.1.8 The NPPF, supported by the National Planning Policy Guidance (PPG) which endorses the conservation and enhancement of the historic environment (Department for Communities and Local Government; DCLG 2021), defines the role of the planning system as to promote and achieve sustainable development and involves 'protecting and enhancing our natural, built and historic environment' (MHCLG 2021, para:8).

2.1.9 In ensuring the statutory duty of the P(LBCA) Act 1990, the NPPF requires that in determining applications 'great weight' should be given to the asset's conservation and that 'substantial harm to or loss of... grade II listed buildings, or grade II registered parks or gardens, should be exceptional' whilst 'substantial harm to or loss of...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' (MHCLG 2021, para:200).

2.1.10 Non-statutory designated heritage assets, including entries on an HER or sites and monument record as well as previously unknown features which may be recorded during the course of data collection or field survey, are protected under national and local planning policy only.

2.1.11 The significance of a heritage asset (designated or non-designated) is defined within the National Planning Policy Framework (NPPF) as 'the value of a heritage asset to this and future generations because of its heritage interest. This interest may be archaeological, architectural, artistic or historic' (MHCLG 2021, Annex 2 page:71-2).

2.1.12 The setting of a heritage asset (designated or non-designated) is defined as 'the surroundings in which a heritage asset is experienced. Its extent is not fixed and may change as the asset and its surroundings evolve. Elements of a setting may make a

positive or negative contribution to the significance of an asset, may affect the ability to appreciate that significance or may be neutral.' (MHCLG 2021, Annex 2 page:71).

2.1.13 Where heritage assets (designated or non-designated) are to be affected by development, 'local planning authorities should require an applicant to describe the significance of any heritage assets affected, including any contribution made by their setting. The level of detail should be proportionate to the assets' importance and no more than is sufficient to understand the potential impact of the proposal on their significance' (MHCLG 2021, para:194).

2.1.14 Developments where substantial harm to or total loss of significance of a designated heritage asset should be assessed against specific tests and should deliver substantial public benefits which outweigh any loss or harm (MHCLG 2021, para:201). Less than substantial harm to a designated asset would require public benefits including the securement of an optimum viable use (MHCLG 2021, para:202).

2.1.15 Impacts to the significance of non-designated assets will require a balanced judgement based on the level of significance and the scale of harm (MHCLG 2021, para:203), although non-designated assets which are of equivalent significance to designated assets will be considered as such (MHCLG 2021, page:57, footnote 68). Where heritage assets of an archaeological nature may be impacted upon by development 'local planning authorities should require developers to submit an appropriate desk-based assessment and, where necessary, a field evaluation' (MHCLG 2021, para:194).

Local Policy

2.1.16 The adopted Local Plan for North Shropshire comprises the Core Strategy Development Plan Document (DPD; adopted 24 February 2011) and the Site Allocations and Management of Development Adopted Plan (SAMDev; adopted 17 December 2015).

2.1.17 Core Strategy Policy CS6: Sustainable Design and Development Principles includes that:

> "...ensuring that all development:
>
> Is designed to be adaptable, safe and accessible to all, to respond to the challenge of climate change and, in relation to housing, adapt to changing lifestyle needs over the lifetime of the development in accordance with the objectives of Policy CS11;

Protects, restores, conserves and enhances the natural, built and historic environment and is appropriate in scale, density, pattern and design taking into account the local context and character, and those features which contribute to local character, having regard to national and local design guidance, landscape character assessments and ecological strategies where appropriate; Contributes to the health and wellbeing of communities, including safeguarding residential and local amenity and the achievement of local standards for the provision and quality of open space, sport and recreational facilities; …

Makes the most effective use of land and safeguards natural resources including high quality agricultural land, geology, minerals, air, soil and water…"

2.1.18 Core Strategy Policy CS17: Environmental Networks states:

"Development will identify, protect, enhance, expand and connect Shropshire's environmental assets, to create a multifunctional network of natural and historic resources. This will be achieved by ensuring that all development:

Protects and enhances the diversity, high quality and local character of Shropshire's natural, built and historic environment, and does not adversely affect the visual, ecological, geological, heritage or recreational values and functions of these assets, their immediate surroundings or their connecting corridors;

Contributes to local distinctiveness, having regard to the quality of Shropshire's environment, including landscape, biodiversity and heritage assets;

Does not have a significant adverse impact on Shropshire's environmental assets and does not create barriers or sever links between dependant sites; and

Secures financial contributions, in accordance with Policies CS8 and CS9, towards the creation of new, and improvement to existing, environmental sites and corridors, the removal of barriers between sites, and provision for long term management and maintenance. Sites and corridors are identified in the LDF evidence base and will be regularly monitored and updated."

2.1.19 Shropshire Council SAMDev Plan contains Policy MD13: The Historic Environment, which states:

> "In accordance with Policies CS6 and CS17 and through applying the guidance in the Historic Environment SPD, Shropshire's heritage assets will be protected, conserved, sympathetically enhanced and restored by:
>
> Ensuring that wherever possible, proposals avoid harm or loss of significance to designated or non-designated heritage assets, including their settings;
>
> Ensuring that proposals which are likely to affect the significance of a designated or non-designated heritage asset, including its setting, are accompanied by a Heritage Assessment, including a qualitative visual assessment where appropriate;
>
> Ensuring that proposals which are likely to have an adverse effect on the significance of a non-designated heritage asset, including its setting, will only be permitted if it can be clearly demonstrated that the public benefits of the proposal outweigh the adverse effect. In making this assessment, the degree of harm or loss of significance to the asset including its setting, the importance of the asset and any potential beneficial use will be taken into account. Where such proposals are permitted, measures to mitigate and record the loss of significance to the asset including its setting and to advance understanding in a manner proportionate to the asset's importance and the level of impact, will be required; and
>
> Encouraging development which delivers positive benefits to heritage assets, as identified within the Place Plans. Support will be given in particular, to proposals which appropriately conserve, manage or enhance the significance of a heritage asset including its setting, especially where these improve the condition of those assets which are recognised as being at risk or in poor condition."

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

3 ARCHAEOLOGY BASELINE INFORMATION

Geology and Topography of Site

3.1.1 The Site comprises three fields to the south-west of Kemberton (Figure 1), encompassing just under 20ha. The Site is bound by the B4379 to the west and Hall Lane to the north, with further agricultural fields to the south and east.

3.1.2 Land within the Site is currently under pasture, although has formerly been under arable, certainly in the 1990s. Boundaries within and surrounding the Site comprise hedgerows and hedgerow trees, although there is no hedgerow to the south-east.

3.1.3 Land within the Site slopes gradually up from c. 94m AOD (above Ordnance Datum) in the west to c. 102m AOD in the east.

3.1.4 The British Geological Survey (BGS) records the underlying solid geology of Enville Member Sandstone, with subordinate Conglomerate, Siltstone and Mudstone. This is overlain by superficial deposits of Devensian – Diamicton Till (boulder clay), although these are absent to the south-east.

Archaeological Background

3.1.5 The Shropshire HER was consulted for entries within the search area (taken as 1km radius from the Site boundary). Besides identifying heritage assets of an archaeological nature that may be directly affected by the proposed development this search boundary was expected to provide sufficient data to represent the archaeological character of the area. Information on designated heritage assets was complemented by GIS information downloaded from Historic England (Historic England April 2022).

Designated Heritage Assets

3.1.6 There are no designated heritage assets within the Site.

3.1.7 The nearest designated archaeological assets fall within Ironbridge Gorge World Heritage Site, which is some 2.1km to the west of the Site at its nearest point.

3.1.8 There are nine Grade II listed buildings in Kemberton to the north-east of the Site, the nearest of which is some 350m from the Site. There are another two Grade II listed buildings in Brockton, to the south-west of the Site. These are shown on Figure 1, although the assessment of these assets is made separately in the Heritage Assessment (Berrys, 2022) and are not further discussed here.

Non-Designated Heritage Assets

3.1.9 All relevant non-designated heritage assets within the 1km search area are shown on Figure 1 and specified where relevant within the following text.

3.1.10 There are no archaeological assets within the Site or its close proximity.

3.1.11 There are 40 HER records within the 1km study area, where the vast majority of the entries pertain to post medieval or modern buildings, or the former locations thereof.

Prehistoric (to 43AD)

3.1.12 There are no records of prehistoric activity within the Site or 1km study area.

3.1.13 Given the baseline, there is a low probability or that artefacts or archaeological deposits dating to this period are present within the Site.

Roman (43AD to 410AD)

3.1.14 There are no records of Roman activity within the Site or 1km study area.

Given the baseline, there is a low probability or that artefacts or archaeological deposits dating to this period are present within the Site.

Early Medieval (c.410 to 1066AD)

3.1.15 There are no records of early medieval activity within the Site or 1km study area.

3.1.16 Archaeological evidence for the early medieval period within Britain has historically been sparse, with more reliance on documentary sources and place name evidence. Kemberton (350m northeast of Site) appears to be derived from the Old English for ‘Cenbeorht's farm/settlement' (The Institute for Name-Studies, 2022), reflecting the agricultural history of the Site.

3.1.17 Land within the Site was most likely in agricultural use or under woodland or waste at this time.

Medieval (c.1066 to 1540AD)

3.1.18 There are no records of medieval activity within the Site and few references within the 1km study area.

3.1.19 Hem Park boundary (00752), some 650m to the north-east of the Site, was mentioned in AD1364 as a deer park. An undated fishpond (00761) is associated with The Hem. To the east of Kemberton, 700m north-east of the Site, the HER records the earthwork remains of ridge and furrow cultivation (28969).

Post Medieval (c.1540AD to c.1900)

3.1.20 There are no records of post medieval activity within the Site.

3.1.21 The majority of the landscape surrounding the Site is agrarian, characterised by post medieval farmsteads, as well as the village of Kemberton, to the north-east; and the village of Brockton to the south-west. The HER presents an inventory of historic buildings within the villages, as well as outlying farmsteads.

3.1.22 There are three 18th century dwellings recorded in Kemberton on the HER (13809; 13810; 17730); the late 19th century church of St Andrew and associated early 19th century monuments including two chest tombs (17731; 17732) and a pyramidical monument of 1830 (17733).

3.1.23 Three farms are recorded within the village: the 18th century Kemberton House (12808), with a 17th to 18th century cow house and barn (17734), which forms part of an F plan courtyard farmstead (26317); the 19th century Church Farm (26319); and High Farm (26316).

3.1.24 Brockton comprises a cluster of six 18th to 19th century farm complexes. The earliest farm complex was Brockton Court (20762) built in 1678, with later additions in the 19th century and an associated L plan yard (26346).

3.1.25 Brockton Park (26347) was a dispersed farmstead with multiple yards and a c.1860 barn and shelter shed (15122). The barn was built for hand threshing when most hand threshing was being replaced by mechanisation.

3.1.26 The farmstead (42605) at Brockton Grange comprises a large 18th century farmhouse (42606) with associated farm buildings (42607), cart shed and granary (42608) and cow house (42609).

3.1.27 Brockton House farmstead (26348) had multiple yards and was associated with a Grade II listed (1294001) 19th century 2 storey house (12080).

3.1.28 The 19th century farmstead at Brockton Hall Farm (23620) was 350m southwest of the Site.

3.1.29 Outside the two villages is the Malthouse Farm complex (42622) with cart shed and granary (42623), malting/kiln house (42624), malthouse (42625), a small cottage (42626) and stables (42627).

3.1.30 The 17th century farmhouse Kemberton Hall (13811), part of an L plan range farmstead (26318), with a covered yard and farm buildings (26315); lies some 900m to the west of Site.

3.1.31 The HER also records a part flooded sandstone quarry (29675), 350m to the north-east of the Site.

3.1.32 None of the above assets has a bearing on the archaeological potential of land within the Site, other than the general potential for remains of post medieval agriculture.

Modern (1902 to present)

3.1.33 Land within the Site most is characterised by a post war field system, with fields enlarged from smaller 18th or 19th century enclosures after World War Two.

3.1.34 During World War 2 the Royal Air Force (RAF) had a temporary airfield/ satellite landing ground (29106), some 680m to the south-east of the Site.

3.1.35 No recorded assets suggest any specific potential for modern remains to be present within the Site, although there is the possibility for remains associated with agriculture.

Historic Maps

3.1.36 Available historic maps were consulted at Shropshire Archives; and from Groundsure, where historic OS editions to the present day are shown at Appendix 2.

3.1.37 The earliest map consulted as part of this assessment is Kemberton Field Names map of 1840 (Plate 1). This is based on the parish Tithe map and apportionment of the same date, although no copy of the map is available. This shows the Site divided into eight smaller sub-rectangular fields, with field names descriptive of ground conditions, such as 'Wet Lands' and geographical location, such as 'Barn Leasow', which give no indication of archaeological potential.

3.1.38 The OS 1st Edition of 1882 (surveyed 1882) shows the same situation within the Site as the above map of 1840, with all field boundaries shown with trees to a greater or lesser extent. A footpath is shown crossing the middle of the Site from east to west, to the south of the (still extant) field boundary. A feature which may possibly denote a small pond, or quarry, is shown adjacent a field boundary near the centre of the Site (current northern field). A small pond is also shown just within the southern boundary of the Site. No further details of interest are shown.

3.1.39 The OS 2nd Edition of 1888 and revisions of 1901, 1928 and 1938 show no changes or further details.

3.1.40 The OS Edition of 1954 shows the removal of some field boundaries in the northern part of the Site, such that at this time the Site was divided into six parcels. By the OS Edition of 1984 the remainder of the internal field boundaries had been removed to reflect the current situation.

Aerial Photographs

3.1.41 No features of archaeological interest were identified on those aerial photographs viewed, although extensive drainage, consistent with the pre-war layout over smaller fields, is clearly visible in the north-eastern part of the Site, particularly on aerial photographs of 2010 (Plate 2). Some of the former field boundaries are also visible.

Previous Archaeological Work

3.1.42 No archaeological field evaluation is known to have taken place within the Site. As part of this assessment, a geophysical survey using detailed magnetometry was undertaken in November/December 2021 and April 2022 by Archaeological Services, Durham University (ASDU). The results of the survey are discussed below and the report on this is included at Appendix 3.

3.1.43 Other 'events' within the 1km study area include two surveys of limestone mines within the Wrekin area, undertaken by WA (ESA6078) and Ove Arup (ESA6080); Wroxeter Hinterland Project (ESA4787): a wide-ranging study on the Roman and Iron Age landscape of the surrounding area, undertaken in the 1990s; and a landscape assessment of Ironbridge and Coalbrookdale (ESA6833). None of these concerned land within the Site.

Geophysical Survey

3.1.44 The geophysical survey (ASDU, 2022) predominantly identified anomalies suggesting areas of disturbed ground: three almost certainly reflecting infilled waterlogged ground or former ponds, which would accord with evidence from historic maps; and one that could possibly represent former industrial activity, although this could be modern. Land drains, some of which respect the line of former field boundaries shown on historic Ordnance Survey editions, have been detected, similarly to those seen on aerial photographs. Modern services were also detected.

Historic Landscape Characterisation

3.1.45 Land within the site and surrounding area derives from post medieval enclosure of the landscape, likely planned; although no formal Inclosure Act has been identified.

Hedgerows

3.1.46 In determining which if hedgerows are important on archaeological or historical grounds The Hedgerow Regulations (1997) state the following criteria.

> The Hedgerow Regulations 1997 Schedule 1 Part II - Archaeology & History
> 1. The hedgerow marks the boundary, or part of the boundary, of at least one historic parish or township; and for this purpose "historic" means existing before 1850.
> 2. The hedgerow incorporates an archaeological feature which is—
> (a)included in the schedule of monuments compiled by the Secretary of State under section 1 (schedule of monuments) of the Ancient Monuments and Archaeological Areas Act 1979; or
> (b)recorded at the relevant date in a Sites and Monuments Record.
> 3. The hedgerow—
> (a)is situated wholly or partly within an archaeological site included or recorded as mentioned in paragraph 2 or on land adjacent to and associated with such a site; and
> (b)is associated with any monument or feature on that site.
> 4. The hedgerow—
> (a)marks the boundary of a pre-1600 AD estate or manor recorded at the relevant date in a Sites and Monuments Record or in a document held at that date at a Record Office; or
> (b)is visibly related to any building or other feature of such an estate or manor.
> 5. The hedgerow—
> (a)is recorded in a document held at the relevant date at a Record Office as an integral part of a field system pre-dating the Inclosure Acts; or
> (b)is part of, or visibly related to, any building or other feature associated with such a system, and that system—
> (i)is substantially complete; or
> (ii)is of a pattern which is recorded in a document prepared before the relevant date by a local planning authority, within the meaning of the 1990 Act, for the purposes of development control within the authority's area, as a key landscape characteristic.

3.1.47 All boundaries within the Site are those shown on the map of 1840 and therefore hedgerows could be considered important on historical grounds.

Site Visit

3.1.48 A walkover survey of the Site was undertaken in April 2022.

3.1.49 The Site was inspected to assess and validate data collected as part of the desk-based assessment; and assess general ground conditions. Land within the Site is currently

under pasture (Plate 3) and no features of archaeological or historical interest were noted within the Site during the walkover.

Summary of Baseline

3.1.50 No features or areas of archaeological interest have been identified or are recorded within the Site. An area of possible industrial activity identified by the geophysical survey could potentially be of some archaeological interest, although could be modern. The surrounding areas contains nothing to suggest any further archaeological potential.

3.1.51 Land within the Site is likely to have been in agricultural use at least since the post medieval period, with more intensive use in the post-war period. This is likely to have caused some truncation to original ground levels and therefore presumably to any archaeological remains that may have been present.

4 IDENTIFICATION AND ASSESSMENT OF IMPACTS

4.1.1 Proposed development within the boundary of the Site has the potential to cause direct impacts, through ground disturbance and therefore disturbance to known and potential assets of an archaeological nature.

4.1.2 Appendix 4 describes the methodology for assessing the magnitude of impact and the overall significance of impact.

Direct (Construction) Impacts

4.1.3 The heritage interests of potential receptors, comprising unknown archaeological remains, are described below. Interests are described in accordance with NPPF terminology using the terms archaeological, architectural, historic or artistic interest.

4.1.4 Ground disturbance, including the construction of foundations, cabling and access tracks would have the potential to disturb potential below ground archaeological remains within the boundary of the Site, given the likely relatively shallow depth of these remains. However, this type of development would not be expected to cause complete truncation of original ground levels and therefore the worst-case impact is judged to be Medium. This impact could also be avoided through development design should this be required -i.e. in the event of archaeological remains being identified, such as through the use of raft foundations and above-ground cable runs.

4.1.5 The possible area of industrial remains identified by the geophysical survey could be of archaeological interest, although would be most likely to represent post medieval or modern agricultural land use. These are judged to be of at most Low value. The worst-case construction method would result in a Moderate magnitude of impact, resulting in a Slight effect on the significance of the asset.

4.1.6 The heritage significance of remains of post medieval and later agriculture are considered to be of Negligible significance; therefore, a Moderate magnitude of impact would be of Slight significance.

4.1.7 There is no further evidence for any archaeological interest within the Site.

Indirect (Operation) Impacts

4.1.8 The nearest designated archaeological assets lie over 2km from the Site. There is no functional, historical, thematic or visual connection between these and land within the Site and it is judged that there is no potential for any impact on these assets as a result in chance to their setting.

Summary of Impacts

Table 1: Potential Direct (Construction) Impacts			
Receptor	Interest and Significance of Interest	Magnitude of Impact	Significance of Effect
Possible remains of industrial activity; most likely post medieval or modern	Low	Moderate adverse	Slight
Remains of post medieval and later agriculture	Negligible	Moderate adverse	Slight

5 EVALUATION/MITIGATION

5.1.1 In this instance the baseline, including the results of the geophysical survey undertaken as part of this assessment, indicates low archaeological potential within the Site. Therefore, further 'field evaluation' as referred to in paragraph 194 of the NPPF is not considered necessary at the predetermination stage; it being reasonably assumed that if evaluation was a pre-requisite of all applications potentially affecting archaeological remains then this would be expressly stated within the policy. As it is not, the 'where necessary' should be applied proportionally, most likely being required on sites where remains of potential high (national) importance could be located which could preclude development.

5.1.2 Current evidence indicates that the presence of remains of national importance within the Site would be highly unlikely.

5.1.3 Therefore, the merit of any further archaeological work within the Site is questionable. Should it be required, it would be appropriate for any further archaeological fieldwork to be secured via a condition on planning consent. This could be undertaken in accordance with a Written Scheme of Investigation (WSI) prepared in consultation with the Shropshire Historic Environment Team (HET). This would, in consideration of the Planning Practice Guidance, be reasonable and proportionate on reflection of the information presented within the baseline data which gives no evidence to suggest the presence of remains within the boundary of the site which could preclude development.

6 ASSESSMENT AGAINST LEGISLATION & PLAN POLICY

Legislation

6.1.1 Development within the Site would have no direct impact on any designated heritage asset and therefore would not contravene either the 1979 or 1990 Acts.

National Policy

6.1.2 In accordance with paragraph 194 of the NPPF this assessment has described the significance of potential buried remains which could be affected by the proposals. This report constitutes the appropriate desk-based assessment required and has demonstrated that a field evaluation to determine the application is not necessary in this instance.

6.1.3 In accordance with paragraph 204 of the NPPF, the Local Planning Authority should not permit disturbance to a heritage asset in circumstances where the new development would not proceed. This can be applied to any intrusive archaeological evaluation would by its nature would cause the loss of part of any archaeological remains identified; therefore, this would appropriately be undertaken as a condition to consent.

Local Policy

6.1.4 In respect of the adopted local plan policy, this document provides the assessment required under SAMDev Plan Policy MD13, which also requires that the loss of any identified archaeological remains should be weighed against the public benefits of the proposal, conforming to SAMDev Plan Policy MD13: The Historic Environment, consistent with paragraph 202 of the NPPF.

6.1.5 The proposed development also provides the opportunity for the mitigation of any adverse effects identified on non-designated heritage (archaeological) assets.

.

7 CONCLUSIONS

7.1.1 An assessment has been undertaken of the archaeological baseline and potential of land within the Site, based on information from Shropshire HER, Historic England datasets, and documentary sources. An archaeological geophysical survey has also been undertaken, which has identified little of potential archaeological interest, other than a possible area of industrial activity, which most likely relates to post medieval or modern agricultural activity.

7.1.2 This assessment concludes that the site does not contain any designated heritage assets, such as World Heritage Sites, scheduled monuments, registered parks and gardens or registered battlefields, where there would be a presumption in favour of their physical preservation in situ and against development. Neither has any potential been identified for impacts on the heritage significance of designated archaeological assets as a result of changes to their setting owing to factors of distance and a lack of any functional, historical, thematic or visual connection.

7.1.3 There is a dearth of any archaeological activity recorded in the vicinity of the Site and it is likely that land within the Site is of very low archaeological potential. Certainly, there is no evidence to indicate the potential for the presence of archaeological remains which would be of sufficient importance to preclude development. No further works are therefore anticipated at this stage; planning consent could be granted on this basis, in accordance with the NPPF.

7.1.4 There are scant grounds on which to suggest any further measures r to confirm the presence or absence of any archaeological remains within the Site, although should this be required it could proportionately be secured via a condition(/s) on any planning consent.

8 GLOSSARY

Archaeological Interest	There will be archaeological interest in a heritage asset if it holds, or potentially may hold, evidence of past human activity worthy of expert investigation at some point. Heritage assets with archaeological interest are the primary source of evidence about the substance and evolution of places, and of the people and cultures that made them Source: Historic England Conservation Principles 2017 (consultation draft)
Architectural Interest	The properties of a place resulting from and revealing the art or science of the design, construction, craftsmanship and decoration of buildings and structures of all types Source: Historic England Conservation Principles 2017 (consultation draft)
Artistic Interest	The influence of human imagination and skill to convey meaning through all forms of creative expression on the physical properties of a place and its setting or on their associations and appreciation. Artistic interest may relate to the influence of a place on art as well as the use of skill and design embodied in its fabric Source: Historic England Conservation Principles 2017 (consultation draft)
Harm	Changes for the worse, here primarily referring to the effect of inappropriate interventions on the heritage interest of a place that reduces their values to society Source: Historic England Conservation Principles 2017 (consultation draft)
Historic Interest	The connections between a place and past lives and events Source: Historic England Conservation Principles 2017 (consultation draft)
Significance	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. Significance derives not only from a heritage asset's physical presence, but also from its setting Source: NPPF 2019
Setting of a heritage asset	The surroundings in which a heritage asset is experienced. Its extent is not fixed and may change as the asset and its surroundings evolve. Elements of a setting may make a positive or negative contribution to the significance of an asset, may affect the ability to appreciate that significance or may be neutral Source: NPPF 2019

9 BIBLIOGRAPHY

Documentary Sources

British Geology Service (2020) Geology of Britain viewer: Available http://mapapps.bgs.ac.uk/geologyofbritain/home.html

CIfA (2020) Standards and Guidance for Historic Environment Desk-Based Assessment, Reading: Chartered Institute for Archaeologists

DCLG (2014) Planning Practice Guidance

Defra (2002) Amendment to the Hedgerow Regulations 1997: A guide to the law and good practice – amendment 2002

Highways Agency (2019) Design Manual for Roads and Bridges

Historic England (2017) The Setting of Heritage Assets: Historic Environment Good Practice Advice in Planning: 3

Historic England (2021) National Heritage List for England downloadable GIS data.

Ministry of Housing, Communities and Local Government (2021) National Planning Policy Framework

APPENDIX 1

Archaeology Plates

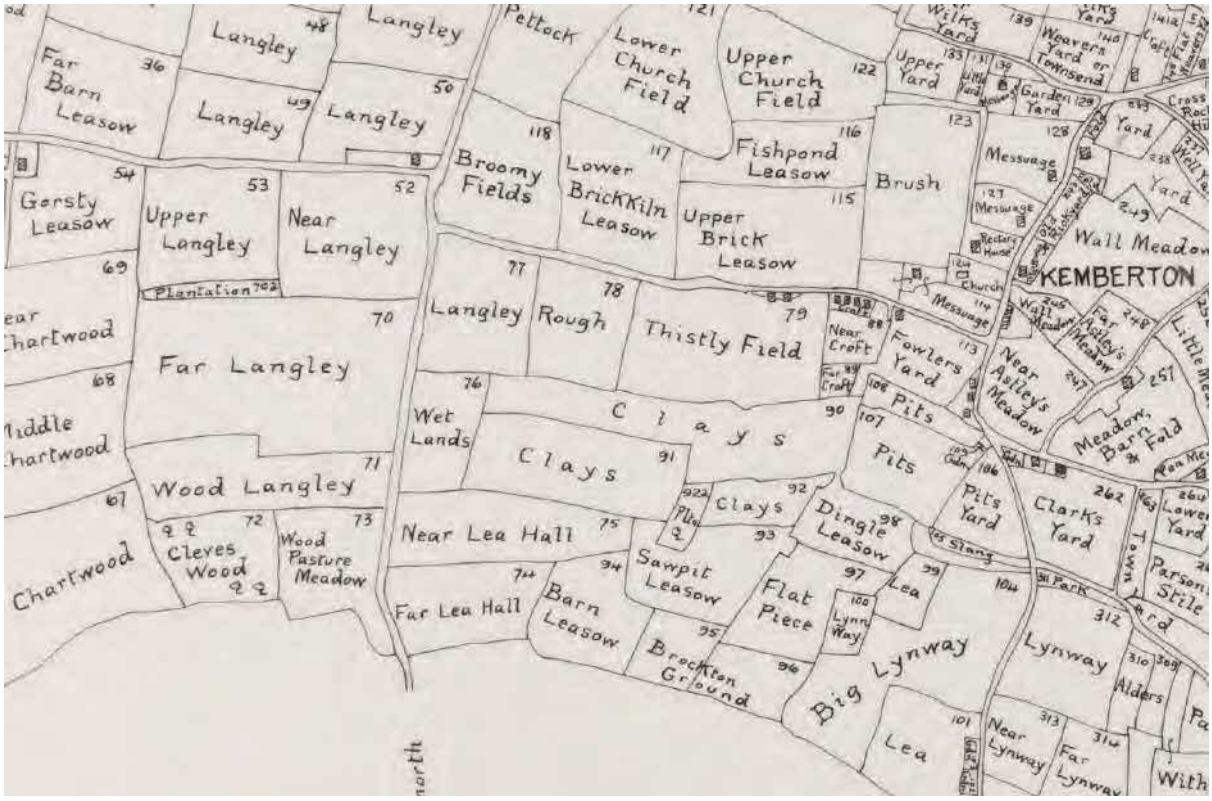


Plate 1: Excerpt from Kemberton Field Name Map, 1840

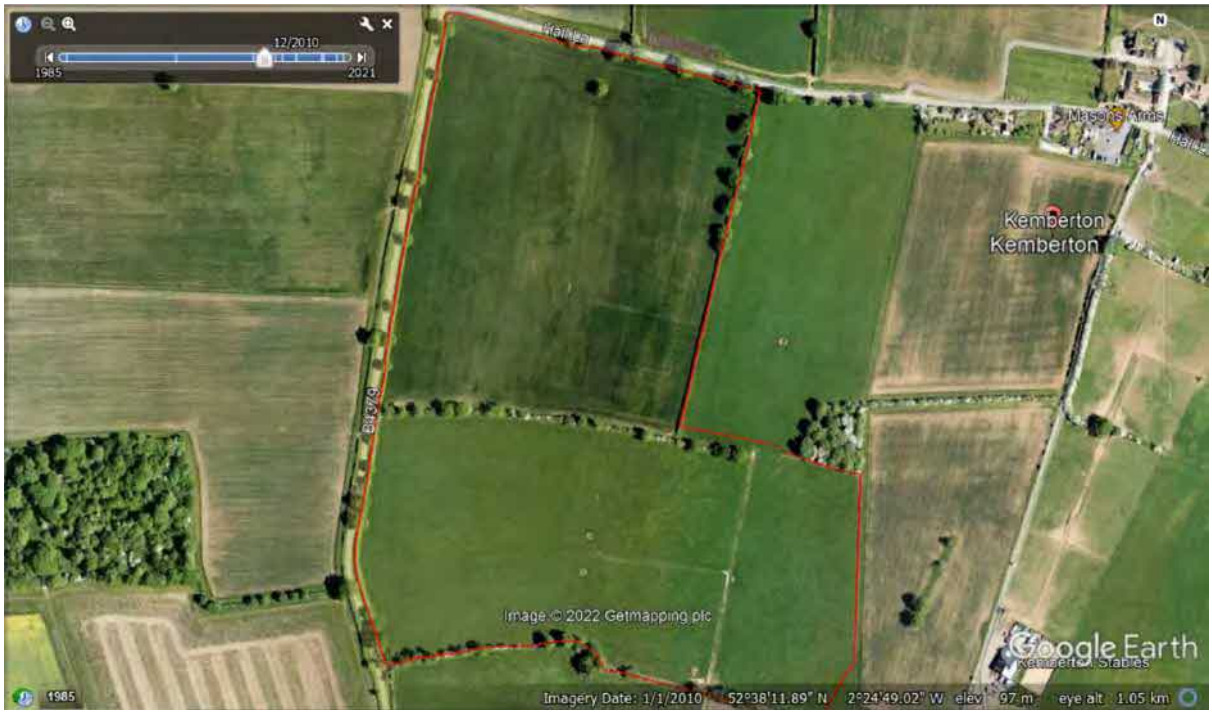
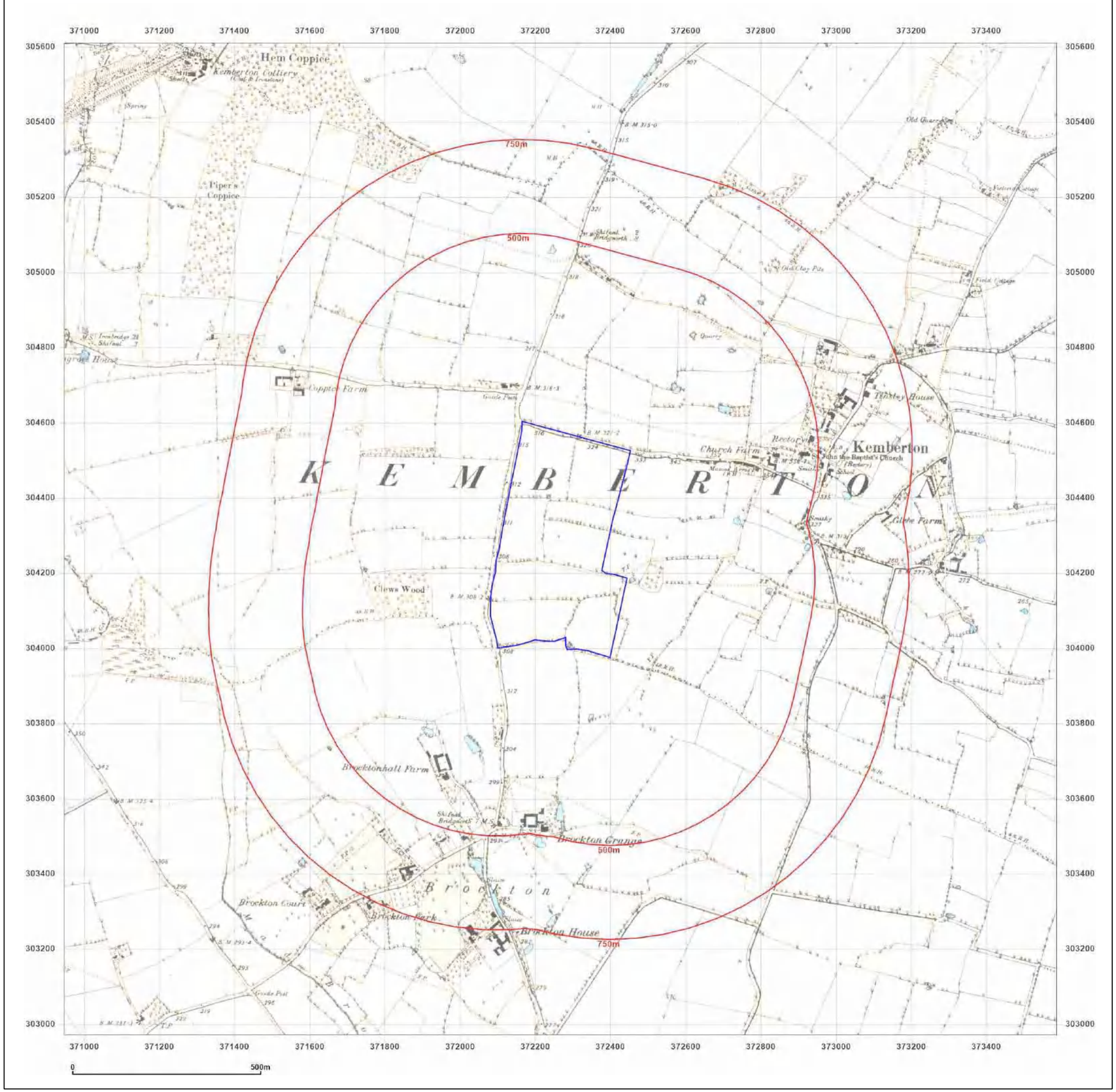


Plate 2: Aerial view of site, showing land drains (Google Earth; 2010)

Plate 3: View south over Site, showing current land use and a tree marking a former field boundary

APPENDIX 2
Historic OS Map Editions



Groundsure INSIGHTS

Site Details

372262.95854131033,
304277.98016386863

Client Ref: BM12261
Report Ref: GS-8485531
Grid Ref: 372266, 304290

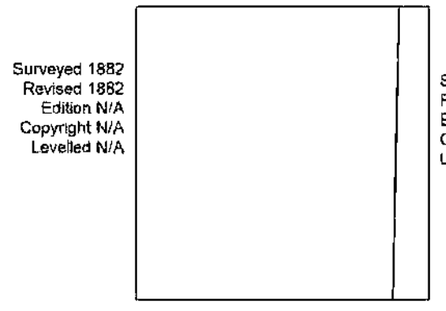
Map Name: County Series

Map date: **1881-1882**

Scale: 1:10,560

Printed at: 1:10,560

N
W E
S

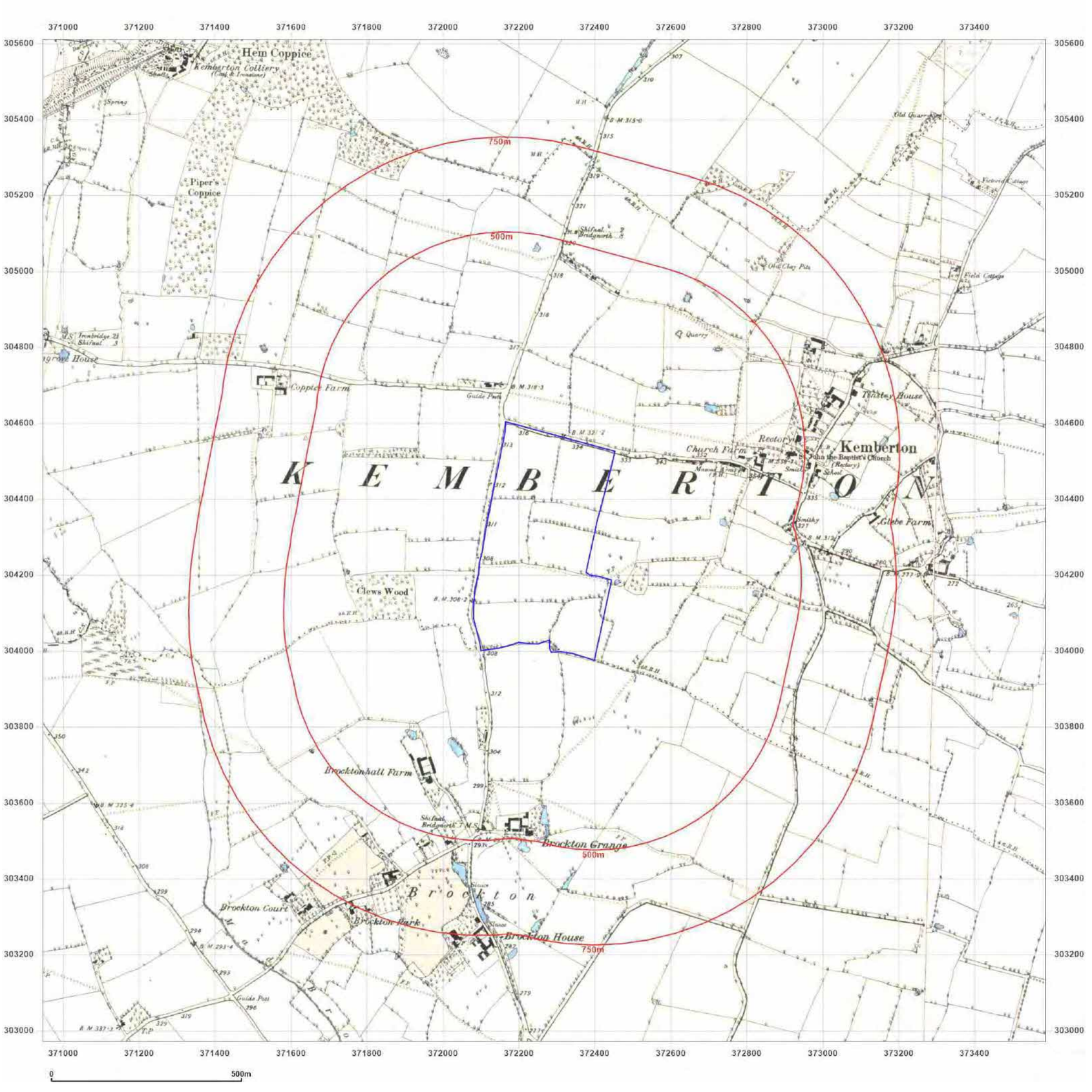


Powered by OS

Produced by
Groundsure Insights
T: 08444 159000
E: info@groundsure.com
W: www.groundsure.com

Production date: 01 February 2022

Map legend available at:
www.groundsure.com/sites/default/files/groundsure_legend.pdf



Groundsure INSIGHTS

Site Details

372262.95854131033,
304277.98016386863

Client Ref: BM12261
Report Ref: GS-8485531
Grid Ref: 372266, 304290

Map Name: County Series

Map date: **1888**

Scale: 1:10,560

Printed at: 1:10,560

N
W E
S

Surveyed 1882
Revised N/A
Edition N/A
Copyright N/A
Levelled N/A

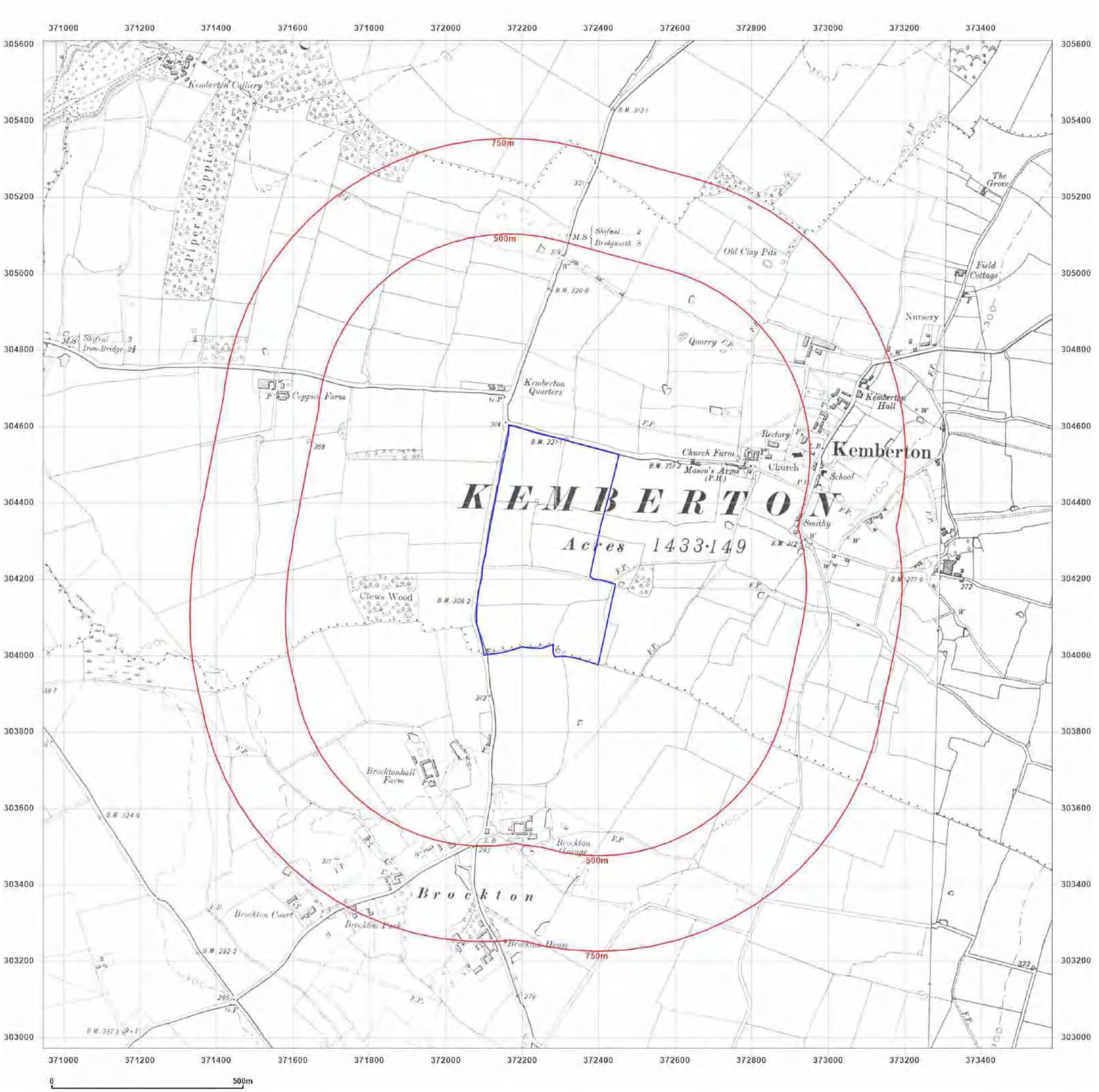
Surveyed 1881
Revised N/A
Edition N/A
Copyright N/A
Levelled N/A

Powered by OS

Produced by
Groundsure Insights
T: 08444 159000
E: info@groundsure.com
W: www.groundsure.com

Production date: 01 February 2022

Map legend available at:
www.groundsure.com/sites/default/files/groundsure_legend.pdf



Groundsure INSIGHTS

Site Details

372262.95854131033,
304277.98016386863

Client Ref: BM12261
Report Ref: GS-8485531
Grid Ref: 372266, 304290

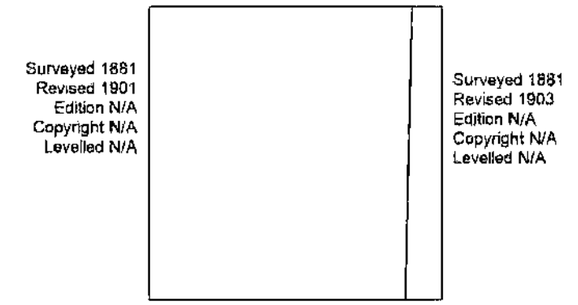
Map Name: County Series

Map date: **1901-1903**

Scale: 1:10,560

Printed at: 1:10,560

N
W E
S

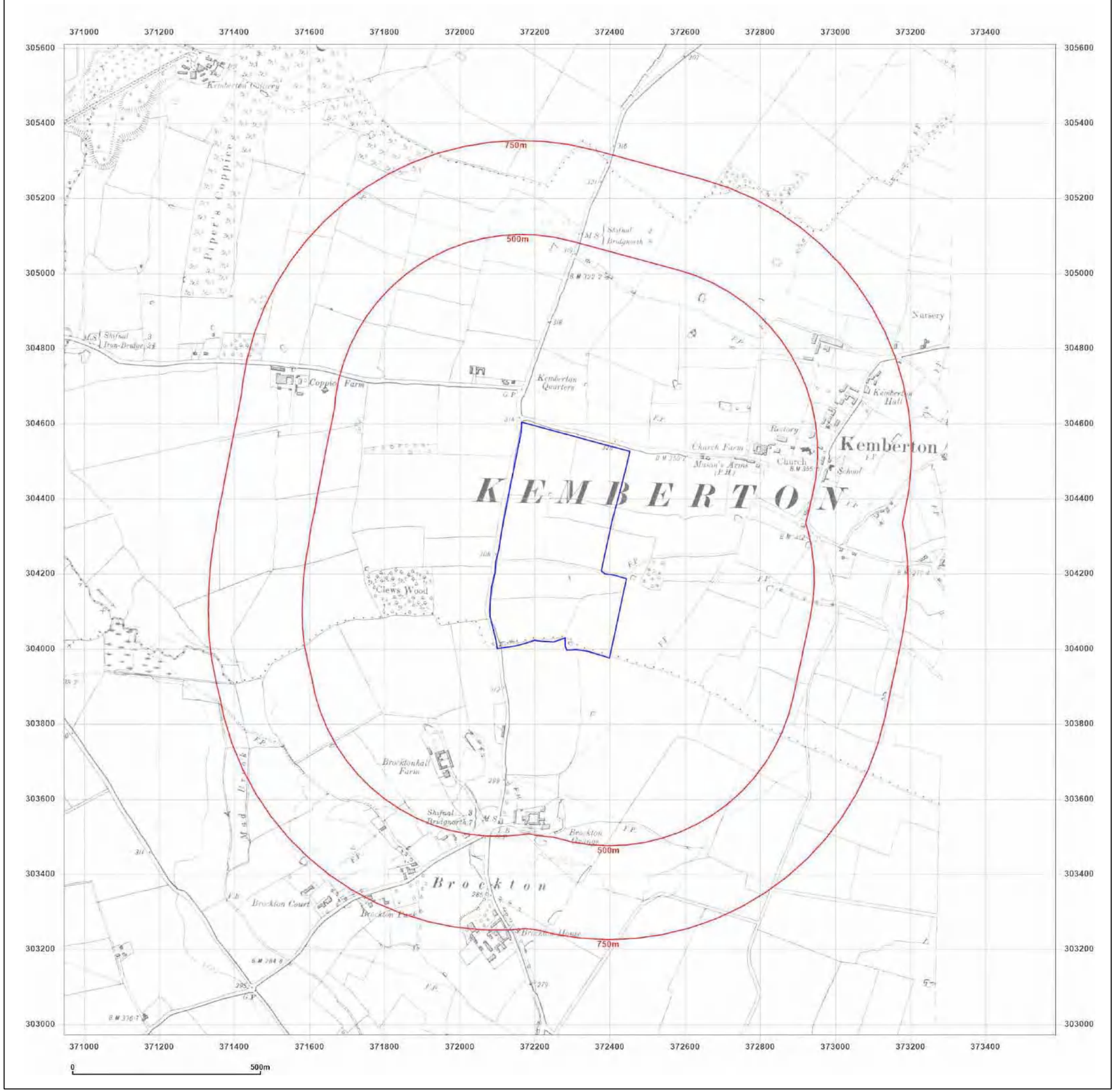


Powered by OS

Produced by
Groundsure Insights
T: 08444 159000
E: info@groundsure.com
W: www.groundsure.com

Production date: 01 February 2022

Map legend available at:
www.groundsure.com/sites/default/files/groundsure_legend.pdf



Groundsure INSIGHTS

Site Details

372262.95854131033,
304277.98016386863

Client Ref: BM12261
Report Ref: GS-8485531
Grid Ref: 372266, 304290

Map Name: County Series

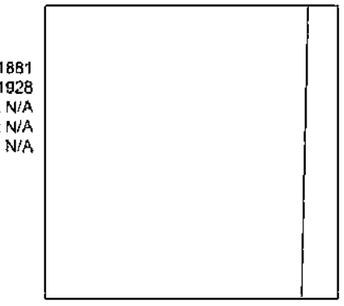
Map date: **1928**

Scale: 1:10,560

Printed at: 1:10,560

N
W E
S

Surveyed 1881
Revised 1928
Edition N/A
Copyright N/A
Levelled N/A

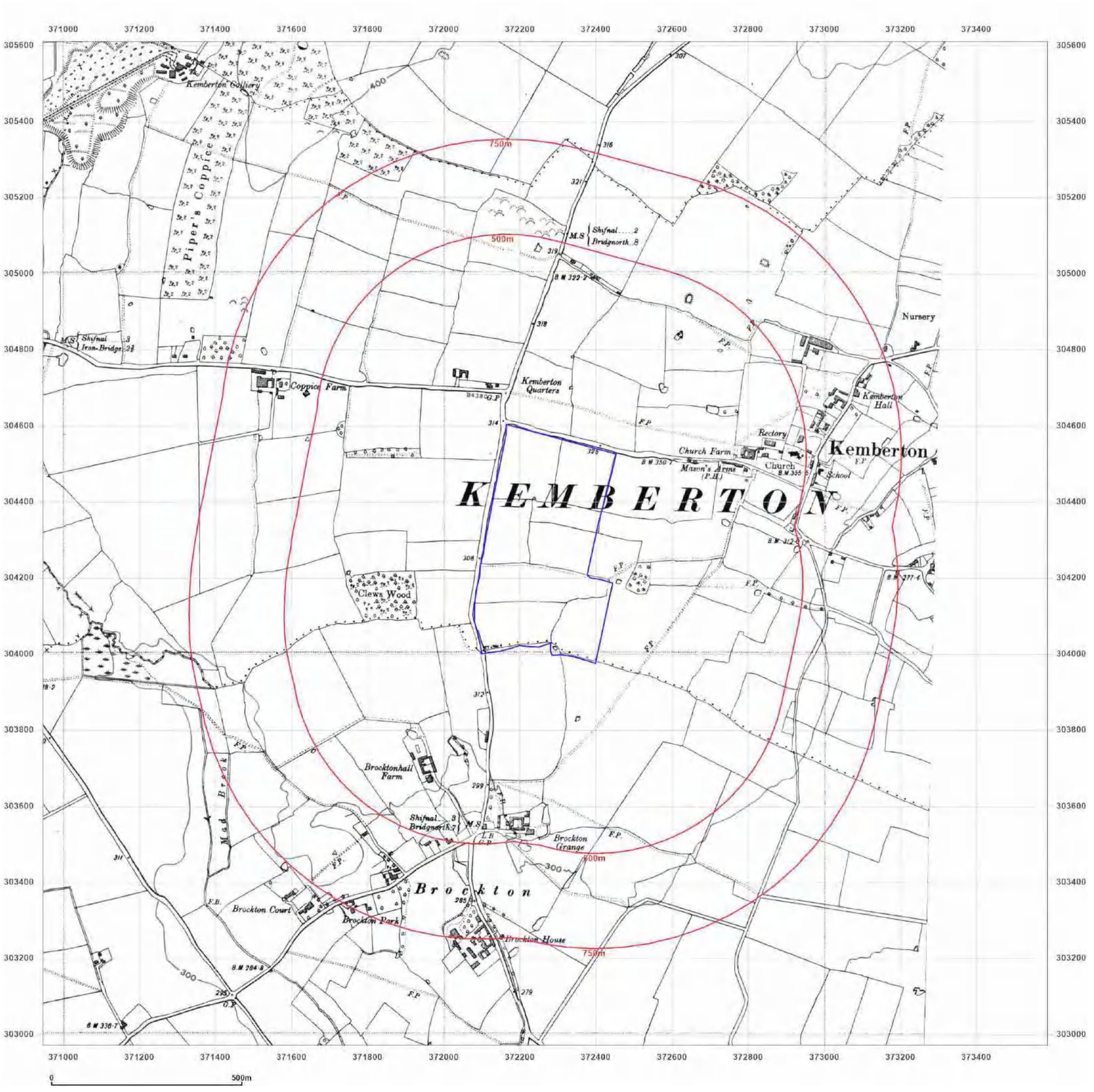


Powered by

Produced by
Groundsure Insights
T: 08444 159000
E: info@groundsure.com
W: www.groundsure.com

Production date: 01 February 2022

Map legend available at:
www.groundsure.com/sites/default/files/groundsure_legend.pdf



Groundsure INSIGHTS

Site Details

372262.95854131033,
304277.98016386863

Client Ref: BM12261
Report Ref: GS-8485531
Grid Ref: 372266, 304290

Map Name: County Series

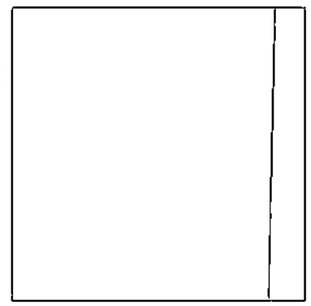
Map date: **1938**

Scale: 1:10,560

Printed at: 1:10,560

N
W E
S

Surveyed N/A
Revised 1938
Edition N/A
Copyright N/A
Levelled N/A

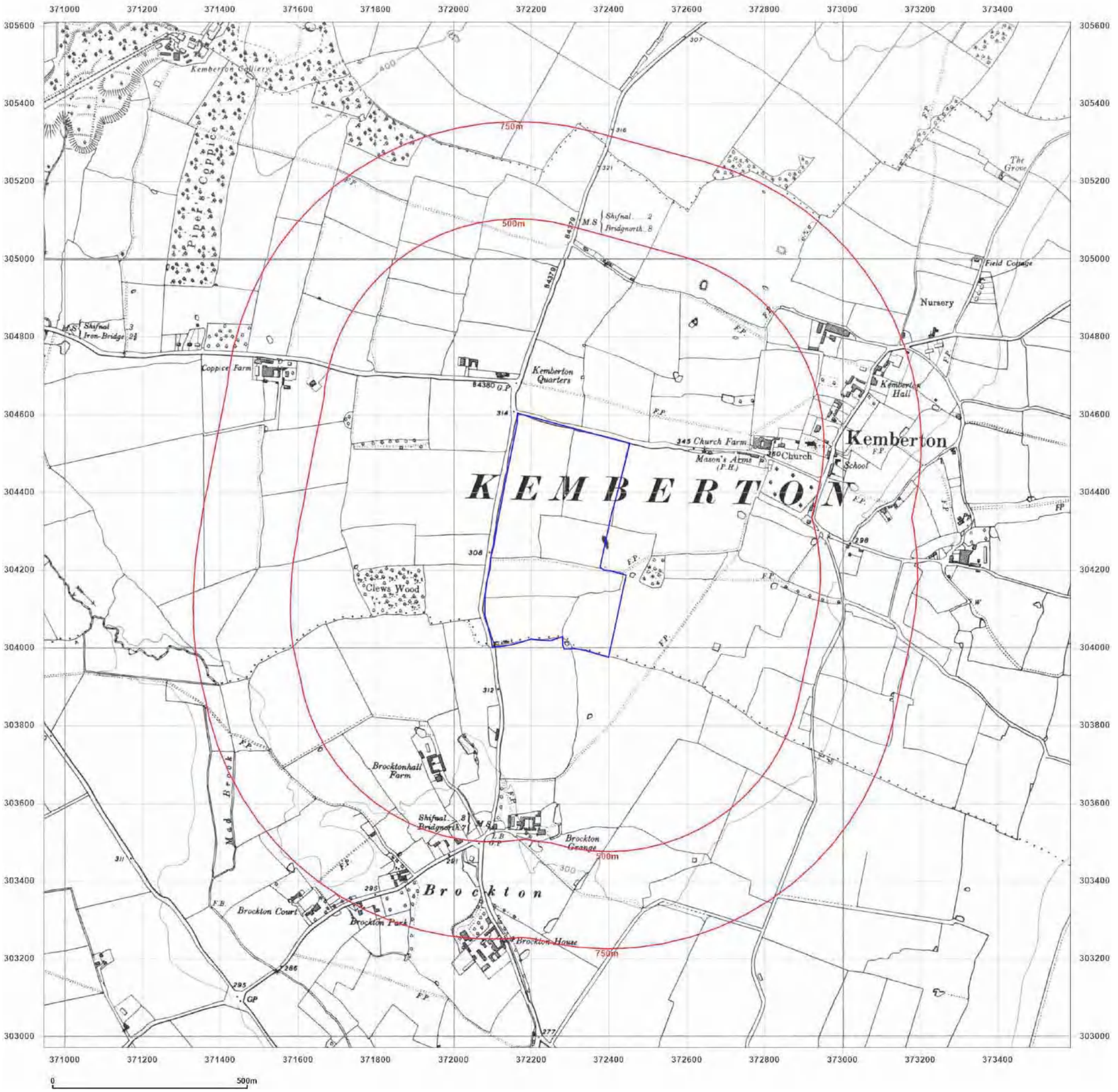


Powered by OS

Produced by
Groundsure Insights
T: 08444 159000
E: info@groundsure.com
W: www.groundsure.com

Production date: 01 February 2022

Map legend available at:
www.groundsure.com/sites/default/files/groundsure_legend.pdf



Groundsure INSIGHTS

Site Details

372262.95854131033,
304277.98016386863

Client Ref: BM12261
Report Ref: GS-8485531
Grid Ref: 372266, 304290

Map Name: Provisional

Map date: **1954**

Scale: 1:10,560

Printed at: 1:10,560

N
W E
S

Surveyed N/A
Revised 1954
Edition N/A
Copyright 1954
Levelled N/A

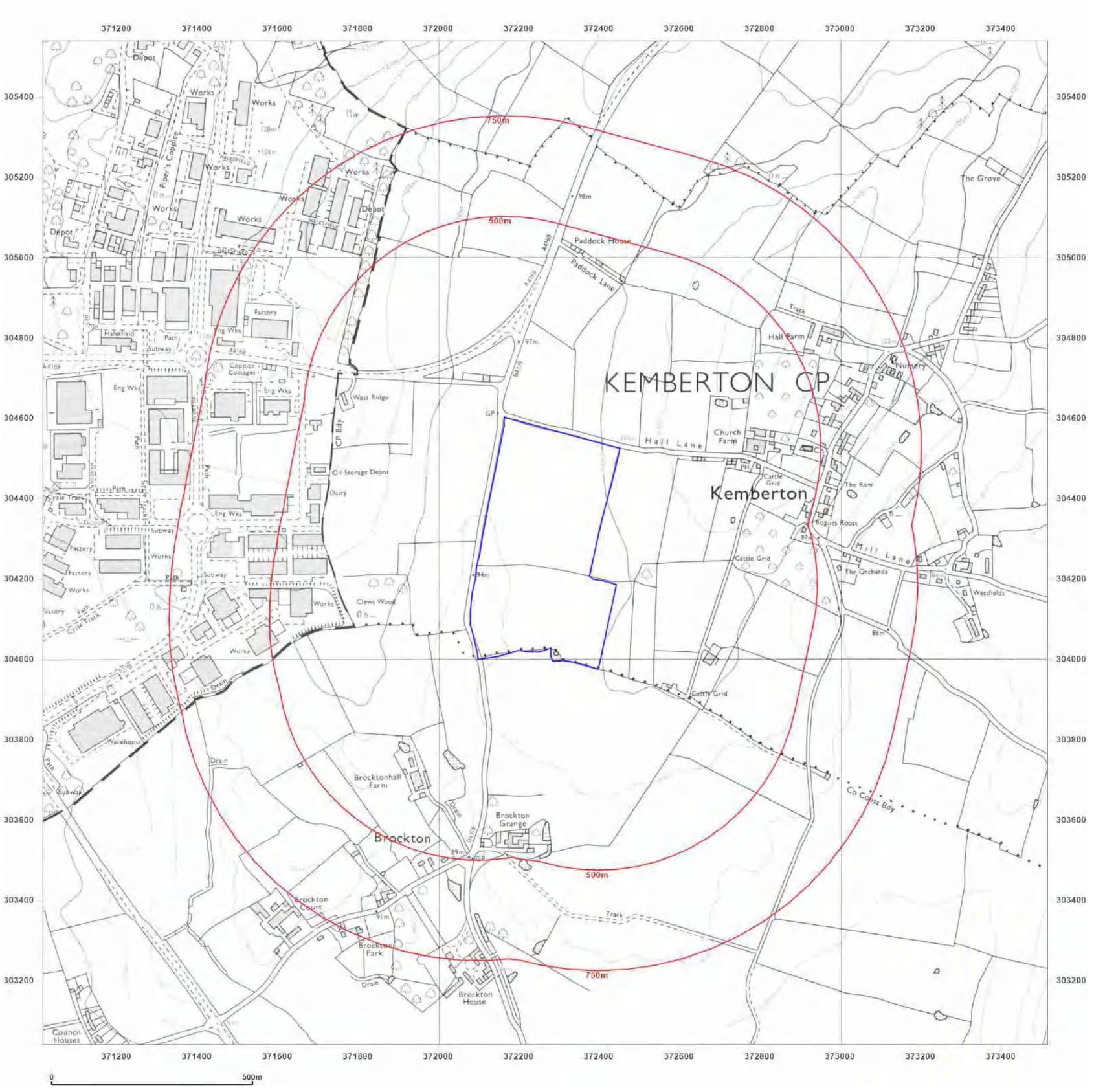
Surveyed N/A
Revised 1954
Edition N/A
Copyright 1954
Levelled N/A

Powered by OS

Produced by
Groundsure Insights
T: 08444 159000
E: info@groundsure.com
W: www.groundsure.com

Production date: 01 February 2022

Map legend available at:
www.groundsure.com/sites/default/files/groundsure_legend.pdf



Groundsure INSIGHTS

Site Details

372262.95854131033,
304277.98016386863

Client Ref: BM12261
Report Ref: GS-8485531
Grid Ref: 372266, 304290

Map Name: National Grid

Map date: **1981-1985**

Scale: 1:10,000

Printed at: 1:10,000

N
W E
S

Surveyed 1985
Revised 1985
Edition N/A
Copyright N/A
Levelled N/A

Surveyed 1976
Revised 1980
Edition N/A
Copyright 1981
Levelled 1978

Powered by

Produced by
Groundsure Insights
T: 08444 159000
E: info@groundsure.com
W: www.groundsure.com

Production date: 01 February 2022

Map legend available at:
www.groundsure.com/sites/default/files/groundsure_legend.pdf

Groundsure INSIGHTS

Site Details

372262.95854131033,
304277.98016386863

Client Ref: BM12261
Report Ref: GS-8485531
Grid Ref: 372266, 304290

Map Name: National Grid

Map date: **2001**

Scale: 1:10,000

Printed at: 1:10,000

N
W E
S

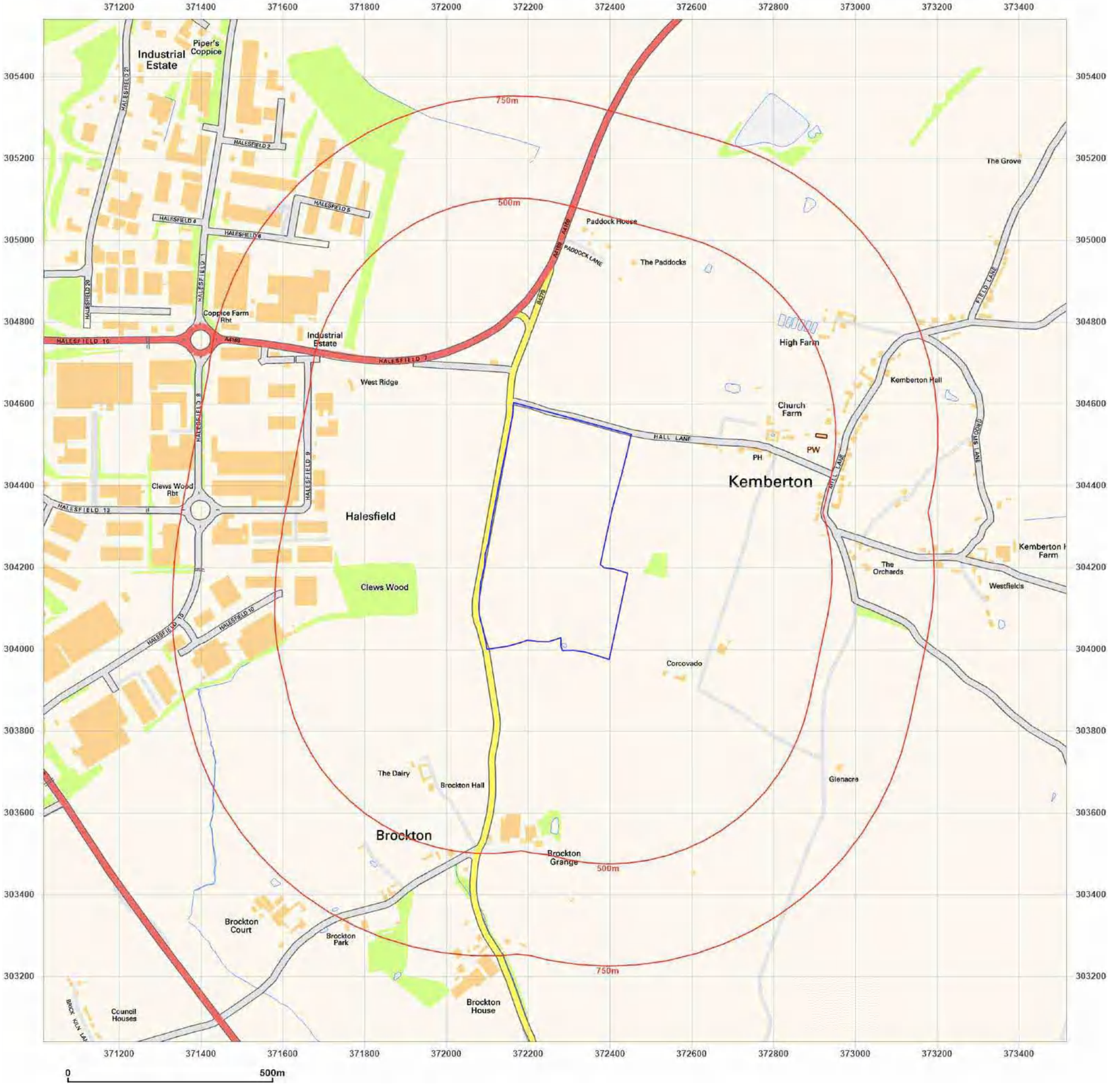
2001

Powered by OS

Produced by
Groundsure Insights
T: 08444 159000
E: info@groundsure.com
W: www.groundsure.com

Production date: 01 February 2022

Map legend available at:
www.groundsure.com/sites/default/files/groundsure_legend.pdf



Groundsure INSIGHTS

Site Details

372262.95854131033,
304277.98016386863

Client Ref: BM12261
Report Ref: GS-8485531
Grid Ref: 372266, 304290

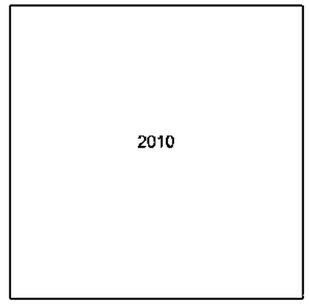
Map Name: National Grid

Map date: **2010**

Scale: 1:10,000

Printed at: 1:10,000

N
W E
S

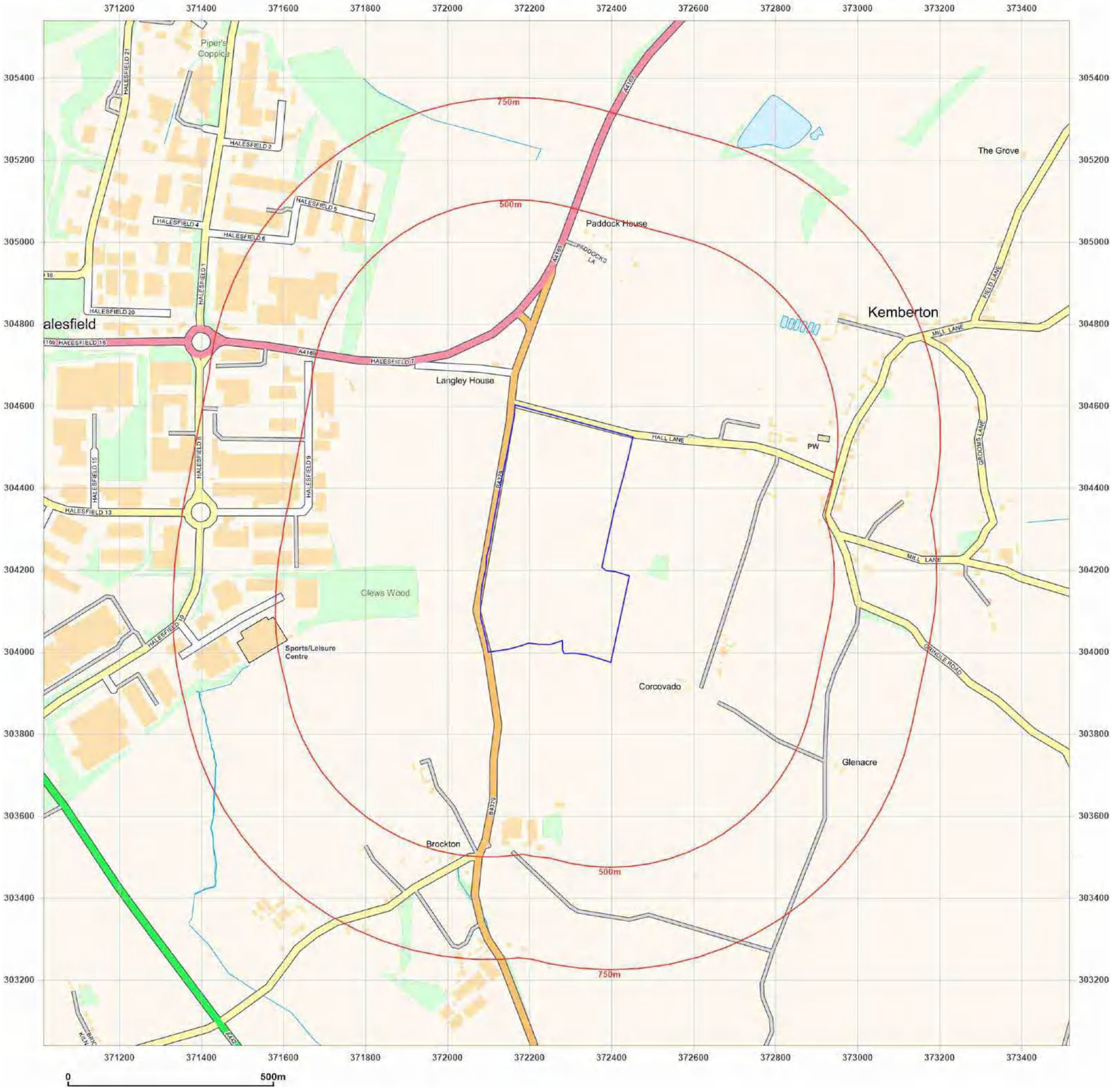


Powered by OS

Produced by
Groundsure Insights
T: 08444 159000
E: info@groundsure.com
W: www.groundsure.com

Production date: 01 February 2022

Map legend available at:
www.groundsure.com/sites/default/files/groundsure_legend.pdf



Groundsure INSIGHTS

Site Details

372262.95854131033,
304277.98016386863

Client Ref: BM12261
Report Ref: GS-8485531
Grid Ref: 372266, 304290

Map Name: National Grid

Map date: **2022**

Scale: 1:10,000

Printed at: 1:10,000

N
W E
S

2022

Powered by OS

Produced by
Groundsure Insights
T: 08444 159000
E: info@groundsure.com
W: www.groundsure.com

Production date: 01 February 2022

Map legend available at:
www.groundsure.com/sites/default/files/groundsure_legend.pdf

APPENDIX 3

Geophysical Survey Report

ARCHAEOLOGICAL SERVICES
DURHAM UNIVERSITY

on behalf of
Wardell Armstrong

Land at Hall Lane
Kemberton
Shropshire

geophysical survey

report 5777
April 2022

Durham University

Contents

Figures

Ushaw: Historic House, Chapels & Gardens · Durham · DH7 9RH · tel 0191 334 1121
archaeological.services@durham.ac.uk · www.dur.ac.uk/archaeological.services

1. Summary

The project

1.1 This report presents the results of a geophysical survey conducted in advance of proposed development at Hall Lane, Kemberton, Shropshire. The works comprised 19ha of magnetometer survey.

1.2 The works were commissioned by Wardell Armstrong and conducted by Archaeological Services Durham University.

Results

1.3 Areas of disturbed ground have been identified, three almost certainly reflecting in-filled waterlogged ground or former ponds and one that could possibly represent former industrial activity.

1.4 Land drains, some of which respect the line of former field boundaries shown on historic Ordnance Survey editions, have been detected.

1.5 Modern services have been detected.

2. Project background

Location (Figure 1)

2.1 The proposed development area (PDA) was located at Hall Lane, Kemberton, Shropshire (NGR centre: SJ 7227 0429). To the west was the B4379 road with farmland and the eastern outskirts of Telford beyond; to the north was Hall Lane, with farmland beyond; to the south and east was farmland with the settlements of Kemberton to the north-east and Brockton to the south-west.

2.2 Three surveys totalling 19ha were conducted in three land parcels.

Development proposal

2.3 The development of a solar farm is proposed.

Objective

2.4 The aim of the survey was to assess the nature and extent of any sub-surface features of potential archaeological significance within the PDA, so that an informed decision may be made regarding the nature and scope of any further scheme of archaeological works that may be required in relation to the development.

2.5 The regional research framework *The Archaeology of the West Midlands: a framework for research* (Watt 2011) contains an agenda for archaeological research in the region, which is incorporated into regional planning policy implementation with respect to archaeology. This research will inform regional research priorities in the framework.

Methods statement

2.6 The surveys have been undertaken in accordance with instructions from the client and national standards and guidance (see para. 5.1 below).

Dates

2.7 Fieldwork was undertaken between 29th November and 1st December 2021 with reporting originally prepared for January 2022. A second phase of fieldwork was undertaken on 19th April 2022. This report was originally prepared for April 2022.

Personnel

2.8 Fieldwork was conducted by Mark Woolston-Houshold. Geophysical data processing and report preparation was by Richie Villis, with illustrations by Dr Helen Drinkall.

Archive/OASIS

2.9 The site code is SKH21/22, for Shropshire Kemberton Hall Lane 2021/22. The survey archive will be retained at Archaeological Services Durham University and a copy supplied on CD to the client for deposition with the project archive in due course. Archaeological Services Durham University is registered with the Online Access to the Index of archaeological investigation project (OASIS). The OASIS ID number for this project is archaeol3-503710.

Acknowledgements

2.10 Archaeological Services Durham University is grateful for the assistance of the tenant farmer, Mr James Chatham, in facilitating this scheme of works.

3. Historical and archaeological background

3.1 A detailed archaeological desk-based assessment is in preparation (Wardell Armstrong, forthcoming). The following provides a summary of the known historic monuments in the vicinity of the PDA. All of the following information is taken from Historic England's Heritage Gateway resource (www.heritagegateway.org.uk).

3.2 Historic England's Heritage Gateway resource records within a 1km radius of the centre of the survey area: 30 Shropshire HER records; one Historic England research record; one Church Heritage record; and eight records on the National Heritage List for England.

3.3 The majority of the entries relate to post-medieval buildings, St Andrew's Church (H13807; Grade II listed: 1273840) and memorials in Kemberton Conservation Area, to the north of the survey area. Several agricultural buildings are recorded both within and beyond the conservation area including, but not limited to: the 18th-century Kemberton Hall (H13810) and the 17th-century Kemberton Hall Farm (H26315), including the Grade II listed farmhouse (H13811; List entry no. 1239202); and several entries relating to Brockton Hall Farm (H26320) to the south-west of the survey area.

3.4 The only other entries in the immediate vicinity relate to the site of a former WWII airfield at Brockton (H29106), approximately 200m east of the survey area.

3.5 Historic Ordnance Survey (OS) editions show the area divided into several smaller fields until the mid-1950s. Ponds are depicted in the centre of Area 1, the south-west of Area 2 and the north-western corner of Area 3. A small strip along the south-west of Area 2, adjacent to the former pond, is also shown as marshy ground. The very northern edge of Area 3 is depicted as being under trees. There is very little change depicted in the surrounding vicinity.

4. Landuse, topography and geology

4.1 At the time of survey the proposed development area comprised three fields of pasture used to graze dairy cows. The fields were bounded by post and wire fencing with mature hedgerows and trees and divided into smaller paddocks by removable electrical fencing. The south-western corner of Area 2 was waterlogged and boggy during survey. Several water troughs were noted across each area. Two gas pipeline markers were noted in the hedgerows in the north-eastern corner of Area 1. A single tree also stood in the north of Area 1. An open inspection chamber was present in the north of Area 3.

4.2 The area occupied a slight south-west facing slope with elevations of between 102m OD in the north-east corner to 94m OD in the south-west.

4.3 The underlying solid geology of the area comprises later Carboniferous to early Permian sandstone with subordinate conglomerate, siltstone and mudstone of the Enville Member, which are overlain by Devensian till.

5. Geophysical survey

Standards

5.1 The surveys and reporting were conducted in accordance with the Chartered Institute for Archaeologists (CIfA) *Standard and Guidance for archaeological geophysical survey* (2020); the *EAC Guidelines for the Use of Geophysics in Archaeology* (Schmidt *et al.* 2015); and the Archaeology Data Service & Digital Antiquity *Geophysical Data in Archaeology: A Guide to Good Practice* (Schmidt 2013).

Technique selection

5.2 Geophysical survey enables the relatively rapid and non-invasive identification of sub-surface features of potential archaeological significance and can involve a suite of complementary techniques such as magnetometry, earth electrical resistance, ground-penetrating radar, electromagnetic survey and topsoil magnetic susceptibility survey. Some techniques are more suitable than others in particular situations, depending on site-specific factors including the nature of likely targets; depth of likely targets; ground conditions; proximity of buildings, fences or services and the local geology and drift.

5.3 In this instance it was considered possible that cut features such as ditches and pits might be present on the site, and that other types of feature such as trackways, wall foundations and fired structures (for example kilns and hearths) could also be present.

5.4 Given the anticipated nature and depth of targets, and the non-igneous geological environment of the study area, a magnetic technique, fluxgate gradiometry, was considered appropriate for detecting the types of feature mentioned above. This technique involves the use of magnetometers to detect and record anomalies in the vertical component of the Earth's magnetic field caused by variations in soil magnetic susceptibility or permanent magnetisation; such anomalies can reflect archaeological features.

Field methods

5.5 Magnetic gradient measurements were determined using a Sensys Magneto MX V3 multi-sensor magnetometer survey system towed by a quad-bike. Eight FGM650/3 fluxgate gradiometer sensors were mounted at 0.5m intervals, logging data at less than 0.08m intervals along traverses, providing high density data collection.

5.6 Data collection point locations were recorded in relation to the OS National Grid using an integrated global navigation satellite system (GNSS) with real-time kinematic (RTK) correction typically providing 5-10mm accuracy.

5.7 Data were downloaded on site into a laptop computer for initial processing and storage and subsequently transferred to a desktop computer for processing, interpretation and archiving.

Data processing

5.8 Sensys MonMX, DLMGPS and MagnetoARCH software were used to record and display gradient and positional data, to create a matrix of gridded values at 0.2m by 0.2m intervals and to produce continuous tone greyscale images of the raw data. TerraSurveyor software was then used to produce continuous tone greyscale images of filtered data. Trace plots of the data were also prepared and examined but are

not presented in this report. The greyscale images are presented in Figures 2 and 3; geophysical and archaeological interpretations are presented in Figures 4 and 5. In the greyscale images, positive magnetic anomalies are displayed as dark grey and negative magnetic anomalies as light grey. Palette bars relate the greyscale intensities to anomaly values in nanoTesla.

5.9 The following basic processing functions have been applied to each dataset:

clip — clips data to specified maximum or minimum values; to eliminate large noise spikes; also generally makes statistical calculations more realistic

de-spike — locates and suppresses iron spikes in gradiometer data

interpolate — increases the number of data points in a survey to match sample and traverse intervals; in this instance the data have been interpolated to 0.1m x 0.1m intervals

5.10 The following filter has been applied to the magnetic data (Figure 3):

low pass filter — (applied with Gaussian weighting) to remove high frequency, small-scale spatial detail; for enhancing larger weak features and smoothing data

Interpretation: anomaly types

5.11 A colour-coded geophysical interpretation plan is provided. Two types of magnetic anomaly have been distinguished in the data:

positive magnetic — regions of anomalously high or positive magnetic field gradient, which may be associated with high magnetic susceptibility soil-filled structures such as pits and ditches

dipolar magnetic — paired positive-negative magnetic anomalies, which typically reflect ferrous or fired materials (including fences and service pipes) and/or fired structures such as kilns or hearths

Interpretation: features

5.12 A colour-coded archaeological interpretation plan is provided. For ease of reference, anomaly labels shown bold in the text below (eg **a**, **b**, etc) are also shown on the archaeological interpretation plan.

5.13 Series of regularly spaced, straight and narrow, positive and dipolar magnetic anomalies of varying intensity have been detected across all of the survey areas. These almost certainly reflect land drains (**a**). Many of these respect the line of former field boundaries as shown on historic OS editions, and the former boundaries themselves are indistinguishable from current drainage. It is very probable that many more field drains are present across the survey area than are shown on the archaeological interpretation.

5.14 Two regions of high concentrations of dipolar magnetic anomalies have been detected in Area 2 (**b** and **c**). These types of anomalies typically reflect areas of

disturbed ground and large concentrations of ferrous and/or fired materials. A former pond is shown on historic OS editions in the south-west of the area (**b**) and the ground here was also waterlogged and boggier than the rest of the field. These anomalies almost certainly represent dumped material in-filling the former pond, although the area of probable dumped material is considerably larger than the pond recorded on historic OS editions. Dipolar magnetic anomalies detected in the north-west of Area 3 (**d**), and a smaller dipolar magnetic anomaly detected in the centre of Area 1 (**e**), also correspond to former ponds.

5.15 The second large concentration of dipolar magnetic anomalies is in the eastern part of Area 2 (**c**). Here several large and intense dipolar magnetic anomalies have been detected; these broadly define a concentration of smaller, less intense dipolar magnetic anomalies. No features are shown here on historic OS editions, and no cropmarks are known. These types of features can be associated with industrial activities on the edge of Roman or medieval settlements, including kilns, furnaces and hearths with associated spreads of fired waste. Here, however, the lack of any known adjacent Roman settlement and the relatively large distance from known medieval or post-medieval activity makes such an interpretation unlikely, although not impossible. These features could equally reflect large buried ferrous items, such as modern tractor parts or other debris. The location of these anomalies, surrounded by a different orientation of drainage to the rest of the field, may also reflect a formerly waterlogged or boggy area, deliberately drained and improved. Two water troughs were also present in the vicinity.

5.16 A chain of intense dipolar magnetic anomalies has been detected in the north-eastern corner of Area 1 (**f**). This almost certainly reflects a service and corresponds to two gas pipe marker poles noted in the hedge. A similar chain of anomalies has been detected along the eastern edge of Area 2 and western edge of Area 3, which almost certainly reflects a service parallel to, or buried beneath, the track bisecting the two areas (**g**). Chains of smaller, less intense anomalies have also been detected across the centre of Area 2 (**h**), broadly corresponding to the line of a temporary paddock fence (lowered during survey), and continuing eastwards across Area 3. These could also reflect smaller services or more substantial drains. A chain of weaker dipolar magnetic anomalies and corresponding positive magnetic anomaly detected in the north of Area 3 (**i**) also almost certainly reflects a service or more substantial drain; an uncovered inspection chamber was noted here. This also broadly corresponds to former field boundaries shown on historic OS editions.

5.17 Small, discrete dipolar magnetic anomalies have been detected across the survey area. These almost certainly reflect items of near-surface ferrous and/or fired debris, such as horseshoes and brick fragments, and in most cases have little or no archaeological significance. A sample of these is shown on the geophysical interpretation plan, however, they have been omitted from the archaeological interpretation plan. Larger and stronger dipolar magnetic anomalies correspond to water troughs. There are three in Area 1, two in the eastern part of Area 2 and one in the centre of Area 3.

6. Conclusions

6.1 19ha of magnetometer survey was undertaken on land at Hall Lane, Kemberton, Shropshire, prior to the proposed development of a solar farm.

6.2 Areas of disturbed ground have been identified, three almost certainly reflecting in-filled waterlogged ground or former ponds and one that could possibly represent former industrial activity.

6.3 Land drains, some of which respect the line of former field boundaries shown on historic OS editions, have been detected.

6.4 Modern services have been detected.

7. Sources

CIfA 2020 *Standard and Guidance for archaeological geophysical survey*. Chartered Institute for Archaeologists

Schmidt, A, 2013 *Geophysical Data in Archaeology: A Guide to Good Practice*. Archaeology Data Service & Digital Antiquity, Oxbow

Schmidt, A, Linford, P, Linford, N, David, A, Gaffney, C, Sarris, A & Fassbinder, J, 2015 *EAC Guidelines for the Use of Geophysics in Archaeology: Questions to Ask and Points to Consider*. EAC Guidelines **2**, Namur

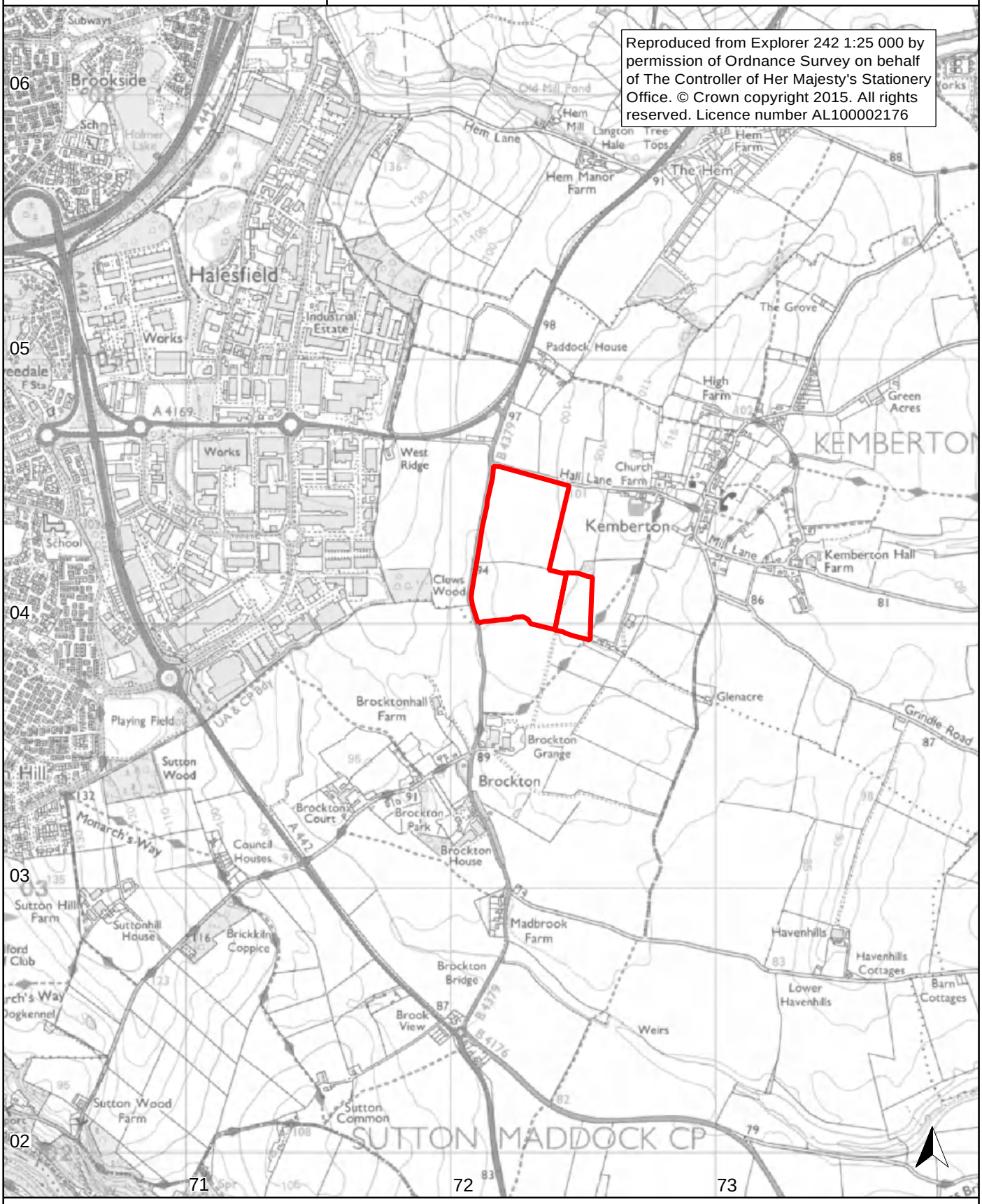
Watt, S, (ed.) 2011 *The Archaeology of the West Midlands: a framework for research*. Oxford

ARCHAEOLOGICAL SERVICES
DURHAM UNIVERSITY

Land at Hall Lane
Kemberton
Shropshire

geophysical survey
report 5777

Figure 1: Site location



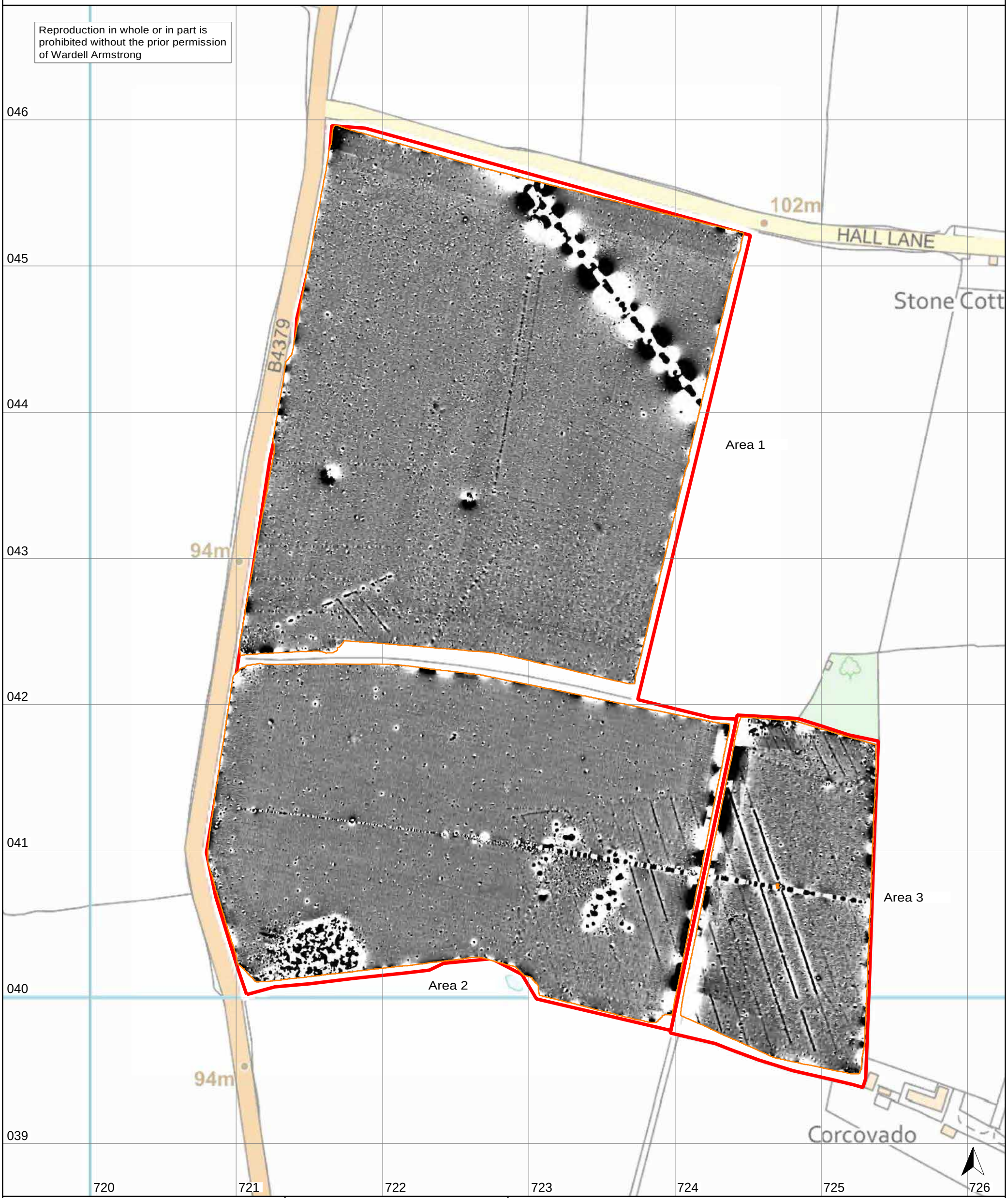
site boundary

0 1km
scale 1:20 000 for A4 plot

site boundary

magnetometer survey

-4 nT 6



ARCHAEOLOGICAL SERVICES
DURHAM UNIVERSITY

0 100m
scale 1:2500 for A3 plot

Land at Hall Lane
Kemberton
Shropshire

geophysical survey
report 5777

Figure 2: Magnetometer survey overview

site boundary

magnetometer survey

-4 nT 6

0 50m

scale 1:1000 for A1 plot

ARCHAEOLOGICAL SERVICES
DURHAM UNIVERSITY

Land at Hall Lane
Kemberton
Shropshire

geophysical survey
report 5777

Figure 3: Magnetometer survey (filtered data)

046
045
044
043
042
041
040

102m
HALL LANE
B4379
94m
Area 1
Area 3
Area 2
94m

721 722 723 724 725

site boundary
magnetometer survey
dipolar magnetic anomaly
positive magnetic anomaly

0 50m
scale 1:1000 for A1 plot

ARCHAEOLOGICAL SERVICES
DURHAM UNIVERSITY

Land at Hall Lane
Kemberton
Shropshire

geophysical survey
report 5777

Figure 4: Geophysical interpretation

site boundary
magnetometer survey
disturbed area
service
land drain
possible industrial area
water trough
tree
inspection chamber

0 50m
scale 1:1000 for A1 plot

ARCHAEOLOGICAL SERVICES
DURHAM UNIVERSITY

Land at Hall Lane
Kemberton
Shropshire

geophysical survey
report 5777

Figure 5: Archaeological interpretation

APPENDIX 4

Archaeological Impact Assessment Methodology

In ascribing levels of importance to heritage assets, the Design Manual for Roads and Bridges, LA 104 Environmental Assessment and Monitoring (Highways England 2019) has been used, see Table 1 below.

The magnitude of impact is measured from the condition that would prevail in a 'do nothing' scenario and it is assessed without regard to the importance of the receptor (Highways England, 2019).

The worst magnitude of impact would be Loss of resource and/or quality and integrity of resource and severe damage to key characteristics, features or elements.

In ascribing the magnitude of impact, guidance presented in the Design Manual for Roads and Bridges, LA 104 Environmental Assessment and Monitoring (Highways England 2019) has been used, see Table 2 below.

The significance of impact is devised by cross referencing the importance of the receptor with the magnitude of the impact, see Table 3. In some cases the significance of impact is shown as being one of two alternatives. In these cases a single description should be decided upon with reasoned judgement for that level of significance chosen.

Table 1: Establishing the importance of a heritage asset

Value (sensitivity)	Typical description
Very High	Very high importance and rarity, international scale and very limited potential for substitution
High	High importance and rarity, national scale, and limited potential for substitution
Medium	Medium or high importance and rarity, regional scale, limited potential for substitution.
Low	Low or medium importance and rarity, local scale
Negligible	Very low importance and rarity, local scale

Design Manual for Roads and Bridges, LA 104 Environmental Assessment and Monitoring (Highways England 2019)

Table 2: Establishing the magnitude of impact

Magnitude of impact (change)		Typical description
Major	Adverse	Loss of resource and/or quality and integrity of resource; severe damage to key characteristics, features or elements.
	Beneficial	Large scale or major improvement of resource quality; extensive restoration; major improvement of attribute quality.
Moderate	Adverse	Loss of resource, but not adversely affecting the integrity; partial loss of/damage to key characteristics, features or elements.
	Beneficial	Benefit to, or addition of, key characteristics, features or elements; improvement of attribute quality.
Minor	Adverse	Some measurable change in attributes, quality or vulnerability; minor loss of, or alteration to, one (maybe more) key characteristics, features or elements.
	Beneficial	Minor benefit to, or addition of, one (maybe more) key characteristics, features or elements; some beneficial impact on attribute or a reduced risk of negative impact occurring.
Negligible	Adverse	Very minor loss or detrimental alteration to one or more characteristics, features or elements.
	Beneficial	Very minor benefit to or positive addition of one or more characteristics, features or elements.
No change		No loss or alteration of characteristics, features or elements; no observable impact in either direction.

Design Manual for Roads and Bridges, LA 104 Environmental Assessment and Monitoring (Highways England, 2019)

Table 3: Establishing the significance of impact

Value/Importance	Very High	Neutral	Slight	Moderate/large	Large or very large	Very large
	High	Neutral	Slight	Slight or moderate	Moderate or large	Large or very large
	Medium	Neutral	Neutral/slight	Slight	Moderate	Moderate or large
	Low	Neutral	Neutral or slight	Neutral or slight	Slight	Slight or moderate
	Negligible	Neutral	Neutral	Neutral or slight	Neutral or slight	Slight
		No change	Negligible	Minor	Moderate	Major
		Magnitude of impact				

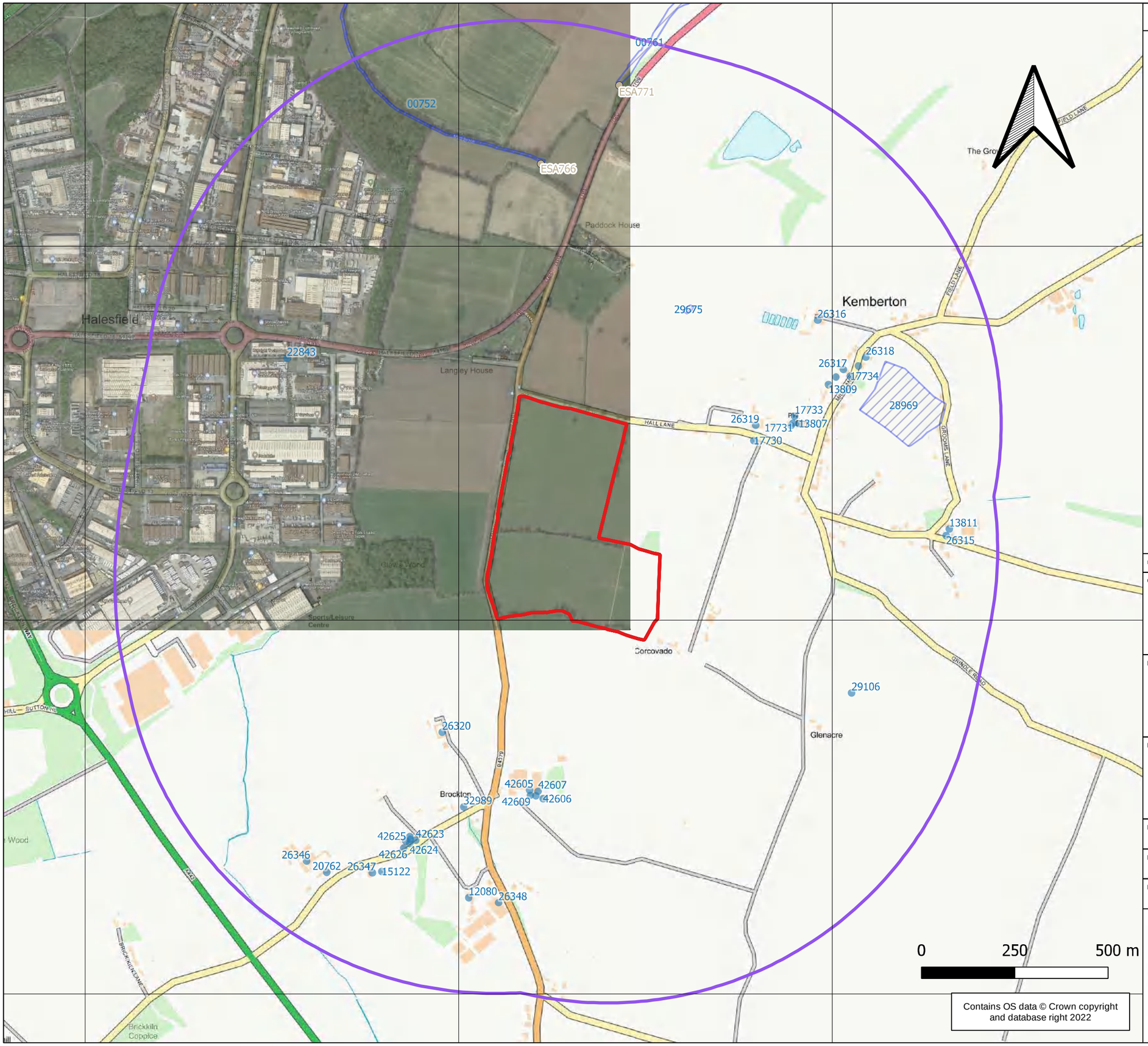
Design Manual for Roads and Bridges, LA 104 Environmental Assessment and Monitoring (Highways England, 2019

Table 4: Significance categories

Significance Category	Typical Description
Very large	Effects at this level are material in the decision-making process.
Large	Effects at this level are likely to be material in the decision-making process.
Moderate	Effects at this level can be considered to be material decision-making factors.
Slight	Effects at this level are not material in the decision-making process.
Neutral	No effects or those that are beneath levels of perception, within normal bounds of variation or within the margin of forecasting error.

Design Manual for Roads and Bridges, LA 104 Environmental Assessment and Monitoring (Highways England, 2019)

DRAWINGS



Contains OS data © Crown copyright and database right 2022

DO NOT SCALE FROM THIS DRAWING

Key

- Site Boundary
- 1km Study Area

Listed Building
- Grade II

HER
- Monument Area
- Monument Point
- Event Point

REVISION	DETAILS	DATE	DR'N	CHK'D	APP'D

CLIENT

Vattenfall Wind Power

PROJECT

Hall Lane, Kemberton, Shropshire

DRAWING TITLE

Archaeological Desk-Based Assessment
Figure 1: Recorded Assets and Features of Interest

DRG No.		REV
BM12261/001		P1
DRG SIZE: A3	SCALE: 1:10000	DATE: April 2022
DRAWN: RJ	CHECKED BY: RJ	APPROVED BY: RJ

wardell armstrong
BIRMINGHAM | TEL 0121 580 0909
WWW.WARDELL-ARMSTRONG.COM
BOLTON, CARDIFF, CARLISLE, EDINBURGH, GLASGOW, LONDON, MANCHESTER, NEWCASTLE UPON TYNE, SHEFFIELD, STOKE ON TRENT

wardell-armstrong.com

STOKE-ON-TRENT
Sir Henry Doulton House
Forge Lane
Etruria
Stoke-on-Trent
ST1 5BD
Tel: +44 (0)1782 276 700

BIRMINGHAM
Two Devon Way
Longbridge Technology Park
Longbridge
Birmingham
B31 2TS
Tel: +44 (0)121 580 0909

BOLTON
41-50 Futura Park
Aspinall Way
Middlebrook
Bolton
BL6 6SU
Tel: +44 (0)1204 227 227

BRISTOL
Desklodge
2 Redcliffe Way
Bristol
BS1 6NL
Tel: +44 (0)117 203 4477

BURY ST EDMUNDS
Armstrong House
Lamdin Road
Bury St Edmunds
Suffolk
IP32 6NU
Tel: +44 (0)1284 765 210

CARDIFF
Tudor House
16 Cathedral Road
Cardiff
CF11 9LJ
Tel: +44 (0)292 072 9191

CARLISLE
Marconi Road
Burgh Road Industrial Estate
Carlisle
Cumbria
CA2 7NA
Tel: +44 (0)1228 550 575

EDINBURGH
Great Michael House
14 Links Place
Edinburgh
EH6 7EZ
Tel: +44 (0)131 555 3311

GLASGOW
24 St Vincent Place
Glasgow
G1 2EU
Tel: +44 (0)141 428 4499

LEEDS
36 Park Row
Leeds
LS1 5JL
Tel: +44 (0)113 831 5533

LONDON
Third Floor
46 Chancery Lane
London
WC2A 1JE
Tel: +44 (0)207 242 3243

NEWCASTLE UPON TYNE
City Quadrant
11 Waterloo Square
Newcastle upon Tyne
NE1 4DP
Tel: +44 (0)191 232 0943

TRURO
Baldhu House
Wheal Jane Earth Science Park
Baldhu
Truro
TR3 6EH
Tel: +44 (0)187 256 0738

International office:

ALMATY
29/6 Satpaev Avenue
Hyatt Regency Hotel
Office Tower
Almaty
Kazakhstan
050040
Tel: +7(727) 334 1310

wardell armstrong