INTERIM ARCHAEOLOGICAL EVALUATION

Land at Markfield Road, Ratby, Leicestershire

ARS Report N°: 2021/133





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An Archaeological Evaluation on Land at Markfield Road, Ratby, Leicestershire

ARS LTD REPORT 2021/133



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Prepared on behalf of: Heritage Archaeology Ltd.

Date of compilation: 8/20/2021

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Approved for issue by: Dr Dave Underhill **Planning Reference:** 20/00462/FUL

Local Authority: Hinckley & Bosworth Borough Council

Site central NGR: SK 50779, 06463 **OASIS ID:** Archaeol5-428752

EXECUTIVE SUMMARY

Project Name: An Archaeological Evaluation on Land at Markfield Road, Ratby,

Leicestershire

Site Code: MARK'21

Planning Authority: Hinckley & Bosworth Borough Council

Planning Reference: 20/00462/FUL

Location: Land at Markfield Road, Ratby, Leicestershire

Parish: Ratby

Hard Geology: Primarily Mudstone of the Edwalton Member formation, with sandstone

of the Cotgrave Sandstone Member in the Southernmost part of the PDA

Superficial Geology: Diamicton of the Anglian Thrussington Member,

Soil Type: Soilscape 18: Slowly permeable seasonally wet slightly acid but base-rich

loamy and clayey soils

NGR: SK 50779, 06463

Date of Fieldwork: 2.8.21 – 6.8.21 **Date of Report:** 03/09/2021

In August 2021, Archaeological Research Services Ltd (ARS Ltd) was commissioned to undertake evaluation trenching at land at Markfield Road, Ratby, Leicestershire, to determine the location, nature, date, character and form of any archaeologically sensitive features or deposits present within the proposed development area. The archaeological evaluation comprised the excavation of thirteen evaluation trenches the positions of which were informed by geophysical survey and an archaeological desk-based assessment. The evaluation fieldwork was undertaken in August 2021.

The evaluation revealed just one archaeological feature, a ditch in trench 1, whilst within Trenches 4 and 13 plough furrows were identified. These plough furrows correlate with the geophysical survey anomalies which are on the same alignment. The rest of the trenches revealed a layer of pure reddish-brown clay which was characterised as a naturally derived deposit. No further features of archaeological potential were revealed.

The archaeological evaluation was undertaken and reported upon by Dimitrios Katsifas, Assistant Project Officer at Archaeological Research Services Ltd and Caitlin Tilt Senior Assistant Project Officer at Archaeological Research Services Ltd. The project was managed by Dr David Underhill, Projects Manager at Archaeological Research Services Ltd.



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I Introduction

1.1 Background and Scope of Work

- 1.1.1 A planning application 20/00462/FUL was submitted to Hinckley & Bosworth Borough Council for a proposed residential development of 90 dwelling units, new access off Markfield Road, locally equipped children's play area, cycleway and footpaths, and SUDS measures.
- 1.1.2 The works were undertaken as a condition of consent and comments were provided by Sophie Clarke, Senior Planning Archaeologist for Leicestershire County Council (LCC) Historic and Natural Environment Team, which noted the following about the site:

'The Leicestershire and Rutland Historic Environment Record (HER) shows that the site has good potential for the presence of prehistoric and Anglo-Saxon remains and is also crossed by the projected line of the Via Devana Roman Road.

Archaeological deposits associated with these types of activity are not generally susceptible to geophysical survey – however this work has identified some possible archaeological features of uncertain origin, in the northwestern corner of the site. On the basis of the current information, it is not possible to ascertain what these features represent or what their significance. Fieldwalking undertaken in 2014 was not effective here as the ground was covered in developing crop at the time of the exercise and the visibility was poor.'

- 1.1.3 In accordance with the National Planning Policy Framework (NPPF), Archaeological Research Services Ltd (ARS Ltd) was commissioned by Heritage Archaeology Ltd to undertake an archaeological evaluation on land at Markfield Road, Ratby, Leicestershire (Figure 1), centred at NGR SK 50779, 06463
- 1.1.4 The evaluation comprised the excavation and recording of 13 30x2m trenches (Figures 2 and 3).
- 1.1.5 Works were undertaken in compliance with the Written Scheme of Investigation (WSI) (See Appendix III) approved by Hinckley & Bosworth Borough Council, and took place between 8/2/2021and 8/6/2021.

1.2 Site Location and Description

1.2.1 `The 'redline boundary' of the proposed development site (hereafter 'PDA') was located at the very northwestern edge of Ratby, immediately south of Markfield Road. The site itself comprised one of four separate agricultural and grassland fields. Twelve trenches were opened in Field 3 and a single trench (13) in Field 4. The site sloped gently southwards from Markfield Road at the north at an overall angle of 1.8° and the total area was c.3.79ha centred on NGR SK 50779, 06463

1.3 Geology and Soils

1.3.1 The underlying solid geology of the majority of the PDA largely comprised mudstone of the Edwalton Member formation, sedimentary bedrock formed approximately 228 to 237 million years ago in the Triassic Period when the local environment was previously dominated by hot deserts.



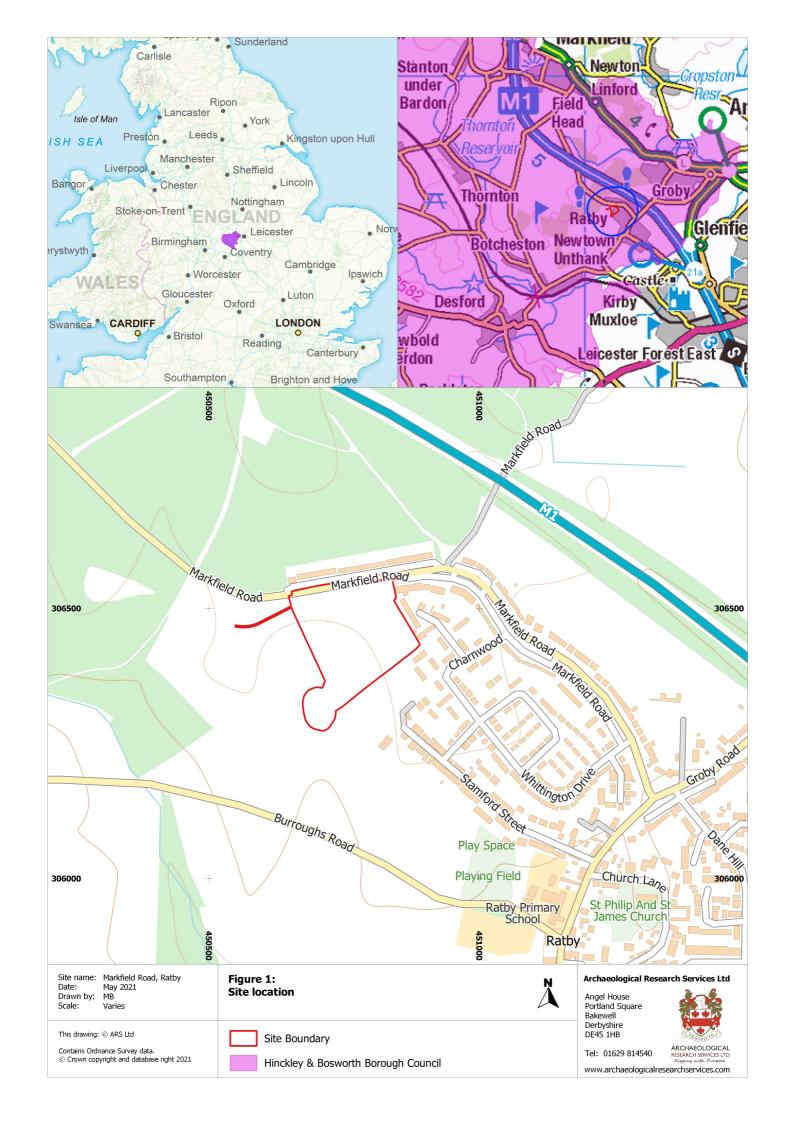
- 1.3.2 The underlying solid geology of the southernmost part of the PDA comprises sandstone of the Cotgrave Sandstone Member, sedimentary bedrock formed approximately 228 to 237 million years ago in the Triassic Period when the local environment was previously dominated by rivers.
- 1.3.3 The northern part of the PDA is overlain by superficial deposits of Thrussington Member, a Diamicton related to the Anglian Glaciation nearly half a million years ago (BGS 2021).
- 1.3.4 The soils of the PDA are classified as Soilscape 18: slowly permeable seasonally wet slightly acid but base-rich loamy and clayey soils (Soilscape, accessed 11.8.21).

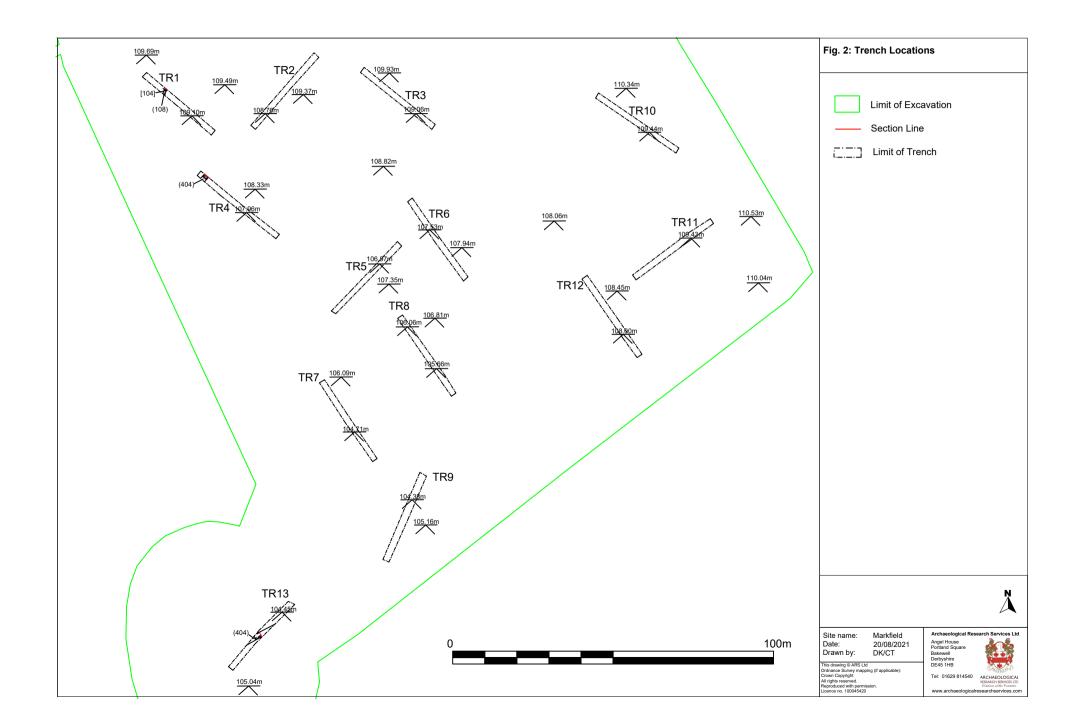
1.4 **Archaeological and Historical Background**

- 1.4.1 A series of noninvasive archaeological works have been carried out within the boundary of the PDA, including an archaeological desk based assessment (George, 2005), geophysical survey (Richardson, 2014), and fieldwalking (Browning, 2014), though it should be noted that these works included the PDA within a wider boundary. The following is a summary of these results as applicable to the PDA itself.
- 1.4.2 Various prehistoric remains have been recorded in the surrounding landscape, including Mesolithic and Neolithic flint flakes, a flint axe, and a pebble hammer. A late Neolithic or Early Bronze Age flint knife is also recorded as being found c.1km to the west of the PDA, whilst a possible Bronze Age round barrow is also documented c.900m to the northeast. The most substantial prehistoric remains within this area comprise the scheduled Bury Camp Hillfort (NHLE 1005079), which is located c.830m to the southwest. This univallate hillfort is thought to be Iron Age in date, although late Bronze Age pottery has been found during excavations within the fort itself.
- The projected line of the Colchester to Chester Roman Road (Via Devana) runs 1.4.3 southeast/northwest through the southwestern part of the PDA, though the fieldwalking report does note that previous attempts to verify this have proven unsuccessful (Browning, 2014, 2). Possible Romano British remains within the wider landscape include earthworks and a possible mosaic. Finds, including pottery and coins have been discovered both to the southeast and southwest of the PDA.
- Within the fields immediately to the west of the PDA boundary, a number of metal finds 1.4.4 dating from the late Anglo-Saxon period to the post-medieval period were recovered in 2004/5. These included a Saxon bridle fitting, a medieval spindle whorl, and coins of both medieval and post-medieval date. The site itself is located c.350m to the northwest of the medieval core of Ratby, as deduced from landscape maps and conjectural evidence. Within this 'core', various cropmark and earthwork remains, including a moat, bank and trackway have all been identified. A number of medieval finds have also been identified within this area, including late medieval groats, a silver Venetian Soldino, an early 14th century Papal Bull, a long cross silver coin, an inlaid medieval shield shaped horse harness pendant, and pennies of both Edward III and Henry III (George 2005, 4).
- 1.4.5 The fieldwalking carried out within this area in 2014 recovered a very low level of medieval and post-medieval pottery across the site as could be expected from a background scattering of rubbish on fields. However, as noted in section 1 above, the sparsity of material found may well be due to the fields being covered in developing crop at the time of the survey (Browning, 2014). Likewise, the geophysical survey did not identify any evidence for prehistoric or Romano British remains within the site itself, with the two identified anomalies thought to be of either archaeological origin or representative of modern agricultural activity.



The remaining objects and fe	The remaining identified anomalies appear to be related to land drains, made ground, ferrous objects and fencing (Richardson, 2014).					





2 AIMS AND OBJECTIVES

2.1 Research Aims and Objectives

- 2.1.1 The aims and objectives of the archaeological evaluation are outlined in detail in the WSI (see Appendix III). This was prepared by ARS Ltd. in consultation with Sophie Clarke, Senior Planning Archaeologist with Leicestershire County Council (LCC) Historic and Natural Environment Team, prior to the commencement of the works. They are summarised below.
- 2.1.2 Research topics identified in the East Midlands Heritage. An Updated Research Agenda and Strategy for the Historic Environment of the East Midlands (Knight *et al.* 2012) with relevance to the site include:

Mesolithic Period

• 2.4.4 Can we shed further light upon variations in the lithic assemblages surviving in earlier and later Mesolithic industries?

Neolithic and Early – Middle Bronze Age

3.9.1 Can we locate flint, chert, igneous rock and other lithic raw material sources and identify exchange networks?

Romano British Period

- 5.7.1 Can the chronology of road construction and links between road building and campaigns of conquest be clarified?
- 5.7.2 How were roads, rivers and artificial waterways integrated?

Early Medieval Period

6.3.1 To what extent were Roman roads used and maintained from the fifth century, and may some have acted as social or political boundaries?

2.2 Project Aims and Objectives

- 2.2.1 As identified in the WSI (Appendix III) the aims and objectives of the fieldwork were to:
 - Identify the presence/absence of archaeological features and deposits within the site.
 - Record any archaeological features and deposits encountered.
 - Sample sufficient of the archaeological features and deposits to establish relative sequence, likely dating and quality of preservation.
 - Gather sufficient information to establish the character, extent, form, function and likely status of any surviving archaeological deposits with a view to evaluating their significance and their informing any additional pre-commencement fieldwork.



3 METHOD STATEMENT

The methodology for the evaluation is set out in detail in the Written Scheme of Investigation (Appendix III) but is summarized here.

3.1 Coverage

- 3.1.1 The location of the evaluation trenches is depicted in Figure 2.
- 3.1.2 Thirteen 30m x 2m trenches were spaced evenly across the PDA excluding a 10m buffer zone around electrical power lines which crossed the site

3.2 Professional Standards

- 3.2.1 The archaeological fieldwork was undertaken in accordance with the Chartered Institute for Archaeologists (CIfA) *Code of Conduct* (2019) and *Standard and Guidance for Archaeological Evaluations* (2020a).
- 3.2.2 All staff employed on the project were suitably qualified for their respective project roles and had substantial experience of archaeological excavation and recording. All staff were made aware of the archaeological importance of the area surrounding the site and were fully briefed on the work required by this specification.

3.3 Health and Safety

- 3.3.1 All works were undertaken in full compliance with the Health and Safety at Work Act 1974 and with the Management of Health and Safety Regulations 1992.
- 3.3.2 A risk assessment (061/21/B) was produced before commencement of the work and was adhered to throughout the course of the fieldwork.

3.4 Fieldwork

- 3.4.1 The trenches were sited in accordance with the WSI (Appendix III) using survey grade equipment that typically give a minimum tolerance of sub-metre accuracy and usually centimetre accuracy, dependent upon satellite visibility. The same equipment was used to record known points on drawn plans and sections and to take spot heights within the trenches.
- 3.4.2 Overburden was removed in level spits down to the first archaeological horizon using a 360° mechanical excavator equipped with a 1.8m wide toothless ditching bucket, under continuous archaeological supervision.
- 3.4.3 Each trench was cleaned by hand to expose and define archaeological features. Preexcavation photographs were taken of each trench and any exposed archaeology within them.
- 3.4.4 All archaeological features were drawn and recorded at an appropriate scale and were sample excavated in accordance with the WSI. All trenches and features were accurately drawn in accordance with the ARS Ltd Field Recording Manual.
- 3.4.5 All features and trenches were tied into the Ordnance Survey Grid and all spot heights expressed in metres above Ordnance Datum (aOD).



3.4.6	All features were photographed using both a Canon EOS 3000 loaded with black and white film, and a Fujifilm FinePix XP140 with 16 megapixel resolution, and a full register of photographs was kept.
3.4.7	All written records were kept on pro-forma recording sheets.

4 RESULTS

- 4.1.1 An overall plan of trench locations is presented in Figure 2. Individual trench plans and photographs, for those trenches where archaeological features were present, are included as subsequent figures here.
- 4.1.2 The context records are summarised in Table 1, providing an overview of the presence/absence, or potential for archaeology associated with each evaluation trench. The table should be viewed in association with the figures, photographs, matrices and text for each trench where archaeological remains were present. Those trenches where only modern features or no archaeological remains were present are described in table 1 but their plans are not produced within this report. Further details of such trenches are preserved within the site archive.
- 4.1.3 The overburden across the area subject to evaluation was machine excavated down to the start of the archaeological horizon or depth of development, whichever was the shallower, under continuous archaeological supervision. The depth of the excavations varied from 0.35m to 0.90m on a per-case basis.

4.2 Site Taphonomy and Condition of Preservation

- 4.2.1 The underlying solid geology of the majority of the PDA largely comprises mudstone of the Edwalton Member formation.
- 4.2.2 As described earlier (Section 1.4), the field-walking and previous archaeological investigations did not reveal sufficient archaeological data to provide a conclusive outcome. The geophysical survey shows linear anomalies on south-west to north-east alignment across the PDA. The presence of the anomalies was confirmed by the plough furrows found in trenches 4 and 13, and are indicative of previous farming activities.
- 4.2.3 In several trenches a thick layer of mid-reddish-brown pure clay was found. This layer varied from being quite thin (16cm) to quite a thick deposit (in excess of 60cm). This was found in different areas of the PDA but was essentially absent at the north-west, and thicker at the eastern part of the site, although there was no real discernible pattern.

4.3 Results

- 4.3.1 A total of thirteen evaluation trenches were excavated, which measured 30m x 2m, with the array of trenches extending across the PDA (Figure 2). In total 780m² was excavated over an extent of c.3.79ha. All evaluation trenches were sited to provide appropriate coverage of the proposed development area and were located specifically to target anomalies identified on the geophysical survey, as well as 'blank' areas, and placed specifically to evaluate the potential impact of the footprint of the proposed development.
- 4.3.2 Of the thirteen trenches excavated, just one contained archaeological remains, two contained proof of farming activities, whilst ten were sterile; only containing modern features such as land drains. The trench summary (Table 1) is presented below, providing a synthesis of the presence/absence of archaeology or potential archaeology in each of the trenches, as well as the depths of the topsoil/over burden and subsoil below ground level (BGL). The following text describes those trenches where archaeological remains are present. This section should be read in conjunction with the accompanying figures and captions and the Trench Summary (Table 1) and Context Summary (see Appendix I).



Table 1. Trench information summarised by trench number.

Tr	Tr Dimensions (m)	Top soil thickness (m)	Sub soil thickness (m/mm)	Clay thickness (m)	Archaeology	Features	Context Number	Finds	Period
1	30m x 2m	0.26m	0.17m	-	yes	ditch	[104]	none	unknown
2	30m x 2m	0.29m	50mm	-	no	-	-	-	-
3	30m x 2m	0.30m	0.18m	-	no	-	-	-	-
4	30m x 2m	0.38m	0.12m	-	yes	plough furrow plough furrow plough furrow	(404) (405) (406)	none	Unknown (possibly Medieval?)
5	30m x 2m	0.27m	60mm	-	no	-	-	-	-
6	30m x 2m	0.32m	80mm	0.2m	no	-	-	-	-
7	30m x 2m	0.37m	0.22m	0.26m	no	-	-	-	-
8	30m x 2m	0.28m	0.16m	0.29m	no	-	-	-	-
9	30m x 2m	0.26m	0.56m	0.16m	no	-	-	-	-
10	30m x 2m	0.36m	0.10m	0.62m	no	-	-	-	-
11	30m x 2m	0.22m	60mm	0.54m	no	-	-	-	-
12	30m x 2m	0.26m	90mm	0.17m	no	-	-	-	-
13	30m x 2m	0.24m	60mm	0.16m	no	plough furrow	(1305)	none	Unknown (possibly Medieval?)

4.3.3 Trench 1 (Figure 22) contained two deposits prior to the geological natural (103). The topsoil (101) was 0.26m thick and the subsoil (102) 0.17m thick. Also, Trench 1 contained one linear feature [104] on a north-east to south-west alignment characterised as a ditch, with four different layers as deposits (Figures 4 and 5). All the fills of the ditch [104] contained charcoal fragments as inclusions with the fill (107) containing the largest concentration, 20 litres of this deposit were sampled for environmental analysis but this revealed nothing of relevance (see.section 5). Some ephemeral, narrow linear features, all in the same alignment were found and characterised as plough scars. No further archaeological remains were encountered in Trench 1 beyond the modern field drain.



Figure 3: Trench 1. Looking south-east. Scale: 2m x 1m in 0.5 graduations.



Figure 4: Ditch [104]. Looking north-east. Scale: 1m in 0.50m graduations.

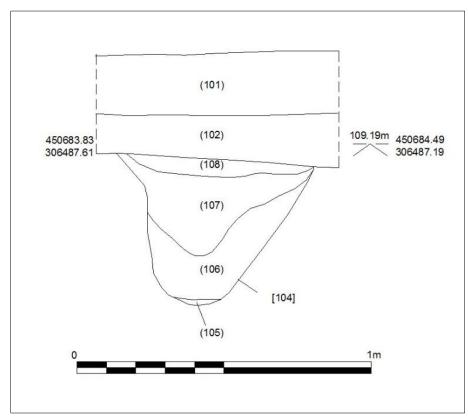


Figure 5: South West facing section of ditch [104]

4.3.4 Trench 2 presented two deposits prior to the geological natural (203), the topsoil (201) was 0.29m deep and the subsoil (202) 0.05m deep. Trench 2 was sterile of any archaeological remains.



Figure 6: Trench 2. Looking north-east. Scale: 2m x 1m in 0.50m graduations.

4.3.5 Trench 3 presented two deposits prior to the geological natural (303). The topsoil (301) 0.30m deep and the subsoil (302) 0.18m deep. The geological natural (303) in this trench appeared as a mixture of light yellowish sandy clay and mid reddish brown pure clay. No archaeological features were encountered in Trench 3.



Figure 7: Trench 3. Looking south-east. Scale: 2m x 1m in 0.50m graduations.

4.3.6 Trench 4 (Figure 23) presented two deposits prior to the geological natural (403), the topsoil (401) 0.38m thick and the subsoil (402) 0.12m thick. Trench 4 contained three parallel linear features running north-east to south-west. One of these linears was excavated by hand to aid understanding the group (Figures 9 and 10). The investigation confirmed that all parallel linears were plough furrows as suspected. No further archaeological remains were encountered in the trench 4.



Figure 8: Trench 4. Pre-excavated shot of the plough furrows (405), (406) and (407). Looking south-east. Scale:2m x 1m in 0.50m graduations.





Figure 9: North-west facing section of the plough furrow (405). Looking north-east. Scale: 1m in 0.50m graduations.

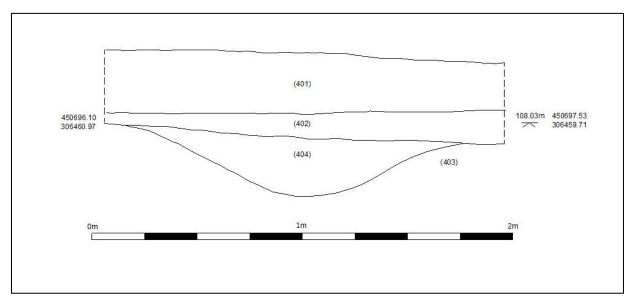


Figure 9: South West facing Section through (405)

4.3.7 Trench 5 presented 3 deposits prior to the geological natural (504), the topsoil (501) 0.27m thick, the subsoil (502) 0.06m thick and an additional clay deposit (503) 0.15m thick.

Trench 5 was barren of any archaeological remains beyond a modern land drain.



Figure 10: Trench 5. Looking south-west. Scale: 2m x 1m in 0.50m graduations.

4.3.8 As with Trench 5, Trench 6 presented 3 deposits prior to the geological natural (604), the topsoil (601) 0.27m thick, the subsoil (602) 0.06m thick, and the Clay deposit (603) 0.15m thick. Trench 6 was archaeologically sterile.



Figure 11: Trench 6. Looking south-east. Scale: 2m x 1m in 0.50m graduations.

4.3.9 Trench 7 also presented 3 deposits prior to the geological natural (704). The topsoil (701) was 0.37m thick, the subsoil (702) 0.22m thick and the clay deposit (703) 0.26m thick. No archaeological remains were encountered in Trench 7.



Figure 12:Trench 7. Looking south-east. Scale:2m x1m in 0.50m graduations.

4.3.10 Trench 8 presented 3 deposits prior to the geological natural (804), the topsoil (801) 0.28m thick, the subsoil (802) 0.16m thick, and the Clay (803) 0.29m thick. No archaeological remains were encountered in Trench 8.



Figure 13: Trench 8. Looking south-east. Scale: 2m x 1m in 0.50m graduations.

4.3.11 Trench 9 presented 3 deposits prior to the geological natural (904). The topsoil (901) was 0.26m thick, the subsoil (902) was 0.56m thick, and the Clay (903) was 0.16m thick. Trench 9 was archaeologically sterile.



Figure 14: Trench 9. Looking south. Scale: $2m \times 1m$ in 0.50m graduations.

4.3.12 Trench 10 presented 3 deposits prior to the geological natural (1004), the topsoil (1001) was 0.36m thick, the subsoil (1002) 0.10m thick, and the clay in this trench (1003) was 0.62m thick. No archaeological remains were encountered in Trench 10.



Figure 15: Trench 10. Looking north-west. Scale: 2m x 1m in 0.50m graduations.



4.3.13 Trench 11 presented 3 deposits prior to the geological natural (1104), the topsoil (1101) was 0.22m thick, the subsoil (1102) 0.06m thick, and the clay (1103) in this trench was 0.54m thick. No archaeological features were encountered in Trench 11 beyond a modern land drain.



Figure 16: Trench 11. Looking south-west. Scale: 2m x 1m in 0.50m graduations.

4.3.14 Trench 12 presented 3 deposits prior to the geological natural (1204), the topsoil (1201) was 0.26m thick, the subsoil (1202) 0.09m thick, and the clay (1203) 0.17m thick. No archaeological remains were encountered in Trench 12.



Figure 17: Trench 12. Looking south-east. Scale: 2m x 1m in 0.50m graduations.

4.3.15 Trench 13 (Figure 24) presented 3 deposits prior to the geological natural (1304). The topsoil (1301) was 0.24m thick, the subsoil (802) 0.06m thick, and the clay (1303) 0.16m thick. In this trench a linear feature (1305) was found on an east-west alignment and was characterised as a plough furrow (Figures 20 and 21). No further archaeological remains were encountered in Trench 13.



Figure 18: Trench 13. Looking south-west. Scale: 2m x 1m in 0.50m graduations.





Figure 19: Plough furrow (1304). Looking south. Scale: 2m x 1m in 0.50m graduations.

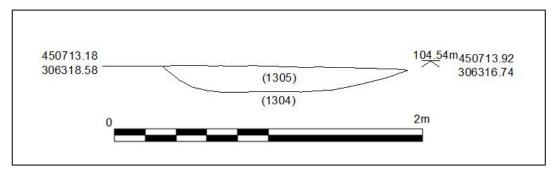
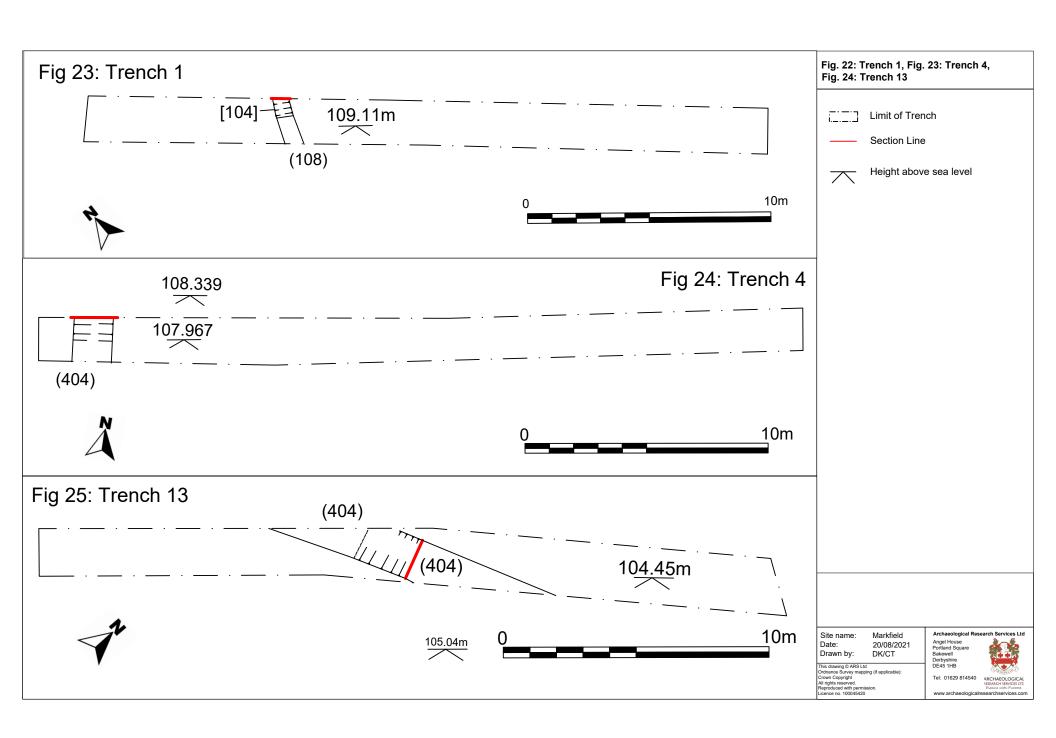


Figure 20: South West facing section through furrow (1305)





5 SPECIALIST ASSESSMENT AND ANALYSIS

Palaeoenvironmental Remains

- 5.1.1 A single 30L bulk sediment sample was recovered from Markfield Road, Ratby. This bulk sediment sample was recovered from the fill of a ditch (107) of unknown age. This bulk sediment sample was processed via water floatation through a siraf-style flotation tank using a 500 μ m flotation mesh and a 500 μ m sieve. Heavy residues were cleaned and searched for archaeological finds and non-floating palaeoenvironmental residues.
- 5.1.2 Resulting floating organic residues from this context was composed of 60% uncharred modern rootlets and four dock (*Rumex* sp.) seeds, as well as 40% small (<2mm) charcoal fragments. These fragments were too small to identify and analyse further. The organic assemblage can provide no real palaeoenvironmental insights and can be discarded.



6 DISCUSSION

- 6.1.1 The archaeological evaluation on land at Markfield Road, Ratby, Leicestershire consisted of the excavation of 13 trenches, covering all the areas where the geophysical survey returned strong signals, as well as areas with blank results.
- 6.1.2 The investigation showed the existence of a deposit of pure clay, mid-reddish-brown in colour underneath the subsoil. It's not clear how this deposit originated, but it is most likely to be weathered mudstone.
- 6.1.3 In all trenches, modern land drains running in different directions were found.
- 6.1.4 Trench 1 showed human activity, with the ditch [104] being the only real archaeological feature encountered across the site. The period of the construction and purpose of the ditch [104] remains uncertain.
- 6.1.5 Trenches 4 and 13 confirm farming activities taking place across the PDA. The plough furrows in Trench 4 shared the same alignment as both the geophysical survey signals and other plough scars found in trench 1. However, the furrow (1305) in Trench 13 was on a different alignment. This difference could be explained by the distance separating Trench 13 from the rest of the PDA, however, historic mapping make it clear that this part of the land was once within the adjacent field (Field 4), as such it is unsurprising that the orientation of the ploughing is different.
- 6.1.6 Beyond the unknown linear ditch in Trench 1 it seems as though this field was perpetually utilised for farming activities, with no other trace of human activity on site, including the complete lack of evidence for the roman road which had been projected to run across the southwestern edge of the field.



7 Publicity, Confidentiality and Copyright

- 7.1.1 Any publicity will be handled by the client.
- 7.1.2 ARS Ltd will retain the copyright of all documentary, photographic and video material under the Copyright, Designs and Patent Act (1988).

8 STATEMENT OF INDEMNITY

8.1.1 All statements and opinions contained within this report arising from the works undertaken are offered in good faith and compiled according to professional standards. No responsibility can be accepted by the author/s of the report for any errors of fact or opinion resulting from data supplied by any third party, or for loss or other consequence arising from decisions or actions made upon the basis of facts or opinions expressed in any such report(s), howsoever such facts and opinions may have been derived.

9 ARCHIVE

- 9.1.1 A digital archive will be prepared by ARS Ltd, consisting of all primary written documents, plans, sections, photographs and electronic data will be deposited with the Archaeology Data Service.
- 9.1.2 The archive will be prepared in line with CIfA's (2020) 'Standard and Guidance for the creation, compilation, transfer and deposition of archaeological archives', and the Society of Museum Archaeologists' (1993) 'Selection, Retention and Dispersal of Archaeological Collections. Guidelines for use in England, Wales and Northern Ireland'.
- 9.1.3 A set of annotated, illustrative pictures of the site is contained within the digital archive.
- 9.1.4 An OASIS online record http://ads.ahds.ac.uk/project/oasis/ has been initiated and completed for this work and all parts of the OASIS online form completed for submission to the HER. This will include an uploaded pdf version of this report. In addition, a copy of this report will be deposited with Leicestershire Historic Environment Record (HER).

10 ACKNOWLEDGEMENTS

10.1.1 ARS Ltd would like to thank all of those involved with the project and especially Heritage Archaeology Ltd for commissioning the project and Sophie Clarke, Senior Planning Archaeologist from the Leicestershire County Council for her excellent cooperation during the fieldwork.



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APPENDIX I CONTEXT DESCRIPTION TABLE

Trench No	Context No	Context Type	Tier I Interpretation	length	width	depth	aOD Highest	aOD Lowest	Context Description
1	101	Deposit	Topsoil	30m+	2m+	0.26m	109.37	109.11	A medium texture, dark brown, clayey silt containing moderate small to medium subrounded to sub-angular stones. Overlays subsoil (102). Represents topsoil formed over time by agricultural use of the land (ploughing).
1	102	Deposit	Subsoil	30m+	2m+	0.17m	109.11	108.94	A medium texture, mid brown, clayey silt containing frequent small to medium rounded to sub-angular stones. Overlain by topsoil (101). Overlays natural clay. Represents subsoil formed over time by agricultural use of the land (ploughing)
1	103	Deposit	Boulder Clay	30m+	2m+	unknown	108.94	-	A finely textured, dark red, mottled with occasional bluish grey patches, clay, containing occasional small to medium sub-rounded to subangular stones. Overlain by subsoil (102). Represents natural geology, boulder clay.
1	104	Cut	Ditch	2m+	0.67m	0.53m			A north-east to south-west orientated ditch with sharp top break of slope, concave sides, gradual bottom break of slope and a u-shaped base. Contains fills (105) (106) (107) (108). Represents construction of ditch.
1	105	Deposit	Ditch	2m+	0.15m	0.05m			A medium to finely textured, light greyish white, compacted sand, containing infrequent charcoal. Fill of [104]. Overlain by (106). Represents primary fill of ditch [104].
1	106	Deposit	Ditch	2m+	0.56m	0.43m			A medium texture, poorly sorted, light yellowish red, silty clay containing infrequnt charcoal and

									small to medium, sub-rounded to sub-angular mud stones. Fill of [104]. Overlain by (107). Overlays (105). Possibly represents backfill following disuse as poorly sorted.	
1	107	Deposit	Ditch	2m+	0.67m	0.35m			A medium texture, poorly sorted, dark greyish black, silty sand containing frequent charcoal. Fill of [104]. Overlain by (108). Overlays (106). Possibly represennts backfill following disuse as poorly sorted.	
1	108	Deposit	Ditch	2m+	0.63m	80mm			A medium texture, well sorted, light greyish brown, sandy silt containing infrequent charcoal. Upper fill of [104]. Overlays (107). Possibly represents silting over/accumulation fill in top of ditch following backfill after disuse.	
2	201	Deposit	Topsoil	30m+	2m+	0.29m	109.48	109.19	Topsoil. Overlies subsoil (202). Same as (101).	
2	202	Deposit	Subsoil	30m+	2m+	50mm	109.19	109.14	Subsoil. Overlain by topsoil (201). Overlays natural clay (203). (Same as (102).	
2	203	Deposit	Boulder Clay	30m+	2m+	unknown	109.14	•	Natural clay. Overlain by subsoil (202). Same as (103).	
3	301	Deposit	Topsoil	30m+	2m+	0.30m	109.48	109.18	Topsoil. Overlies subsoil (302). Same as (101).	
3	302	Deposit	Subsoil	30m+	2m+	0.18m	109.18	109	Subsoil. Overlain by topsoil (301). Overlies natural clay (303). Same as (102).	
3	303	Deposit	Boulder Clay	30m+	2m+	unknown	109	-	Natural clay. Overlain by subsoil (302). Same as (103).	
4	401	Deposit	Topsoil	30m+	2m+	0.38m	108.34	107.96	Topsoil. Overlies subsoil (402). Same as (101).	
4	402	Deposit	Subsoil	30m+	2m+	0.12m	107.96	107.84	Subsoil. Overlain by topsoil (401). Overlies natural clay (403) and plough furrows (404) (405) and (406). Same as (102).	
4	403	Deposit	Boulder Clay	30m+	2m+	unknown	107.84	-	Natural clay. Overlain by subsoil (402) and plough furrows (404) (405) and (406). Same as (103).	

4	404	Deposit	Plough furrow	2m+	1.6m+	0.3m	108.03m	107.68m	A medium texture, reddish brown, silty clay containing moderate small to medium subrounded to sub-angular stones. Overlays natural clay (403). Overlain by subsoil (402). Represents a south-east to north-west orientated plough furrow.	
4	405	Deposit	Plough furrow	2m+		unknown			A medium texture, reddish brown, silty clay containing moderate small to medium subrounded to sub-angular stones. Overlays natural clay (403). Overlain by subsoil (402). Not excavated as (404) excavated to characterise (404) (405) and (406) which confirmed all were very likely plough furrows. Represents a southeast to north-west orientated plough furrow.	
4	406	Deposit	Plough furrow	2m+		unknown			A medium texture, reddish brown, silty clay containing moderate small to medium subrounded to sub-angular stones. Overlays natural clay (403). Overlain by subsoil (402). Not excavated as (404) excavated to characterise (404) (405) and (406) which confirmed all were very likely plough furrows. Represents a southeast to north-west orientated plough furrow.	
5	501	Deposit	Topsoil	30m+	2m+	0.27m	107.36	107.09	Topsoil. Overlies subsoil (502). Same as (101).	
5	502	Deposit	Subsoil	30m+	2m+	60mm	107.09	107.03	Subsoil. Overlain by topsoil (501). Overlies natural (503). Same as (102).	
5	503	Deposit	Natural	30m+	2m+	0.15m	107.03	106.88	A finely textured, dark red, clay, containing occasional small to medium sub-rounded to subangular stones. Very similar to natural clay but subtly different texture and no bluish-grey mottling present. Overlain by subsoil (502).	

									Overlies natural clay (504). Represents natural, present in Trenches 5 - 13 in varying thickness.	
5	504	Deposit	Boulder Clay	30m+	2m+	unknown	106.88	-	Natural clay. Overlain by natural (503). Same as (103).	
6	601	Deposit	Topsoil	30m+	2m+	0.32m	108.07	107.75	Topsoil. Overlies subsoil (602). Same as (101).	
6	602	Deposit	Subsoil	30m+	2m+	80mm	107.75	107.67	Subsoil. Overlain by topsoil (601). Overlies + (603). Same as (102).	
6	603	Deposit	Natural	30m+	2m+	0.2m	107.67	107.47	Natural. Overlain by subsoil (602). Overlies natural clay (604). Same as (503).	
6	604	Deposit	Boulder Clay	30m+	2m+	unknown	107.47	-	Natural clay. Overlain by natural (603). Same as (103).	
7	701	Deposit	Topsoil	30m+	2m+	0.37m	105.37	105	Topsoil. Overlies subsoil (702). Same as (101).	
7	702	Deposit	Subsoil	30m+	2m+	0.22m	105	104.78	Subsoil. Overlain by topsoil (701). Overlies natural (703). Same as (102).	
7	703	Deposit	Natural	30m+	2m+	0.26m	104.78	104.52	Natural. Overlain by subsoil (702). Overlies natural (704). Same as (503).	
7	704	Deposit	Boulder Clay	30m+	2m+	unknown	104.52	-	Natural clay. Overlain by natural (703). Same as (103).	
8	801	Deposit	Topsoil	30m+	2m+	0.28m	106.28	106	Topsoil. Overlies subsoil (802). Same as (101).	
8	802	Deposit	Subsoil	30m+	2m+	0.16m	106	105.84	Subsoil. Overlain by topsoil (801). Overlies natural (803). Same as (802).	
8	803	Deposit	Natural	30m+	2m+	0.29m	105.84	105.55	Natural. Overlain by subsoil (802). Overlies natural (804). Same as (503).	
8	804	Deposit	Boulder Clay	30m+	2m+	unknown	105.55	Natural clay. Overlain by natural (803). Sam (103).		
9	901	Deposit	Topsoil	30m+	2m+	0.26m	105.17	104.91	Topsoil. Overlies subsoil (902). Same as (101).	
9	902	Deposit	Subsoil	30m+	2m+	0.56m	104.91	104.35	Subsoil. Overlain by topsoil (901). Overlies natural (903). Same as (102).	

9	903	Deposit	Natural	30m+	2m+	0.16m	104.35	104.19	Natural. Overlain by subsoil (902). Overlies natural clay (904). Same as (503).	
9	904	Deposit	Boulder Clay	30m+	2m+	unknown	104.19	-	Natural clay. Overlain by natural (903). Same as (103).	
10	1001	Deposit	Topsoil	30m+	2m+	0.36m	110.45	110.09	Topsoil. Overlies subsoil (1002). Same as (101).	
10	1002	Deposit	Subsoil	30m+	2m+	0.10m	110.09	109.99	Subsoil. Overlain by topsoil (1001). Overlies natural (1002). Same as (102).	
10	1003	Deposit	Natural	30m+	2m+	0.62m	109.99	109.37	Natural. Overlain by subsoil (1002). Overlies natural clay (1004). Same as (503).	
10	1004	Deposit	Boulder Clay	30m+	2m+	unknown	109.37	-	Natural clay. Overlain by natural (1003). Same as (103).	
11	1101	Deposit	Topsoil	30m+	2m+	0.22m	110.04	109.82	Topsoil. Overlies subsoil (1102). Same as (101).	
11	1102	Deposit	Subsoil	30m+	2m+	60mm	109.82	109.76	Subsoil. Overlain by topsoil (1101). Overlies natural (1103). Same as (102).	
11	1103	Deposit	Natural	30m+	2m+	0.54m	109.76	109.22	Natural. Overlain by subsoil (1102). Overlies natural (1104). Same as (503).	
11	1104	Deposit	Boulder Clay	30m+	2m+	unknown	109.22	-	Natural clay. Overlain by natural (1103). Same as (103).	
12	1201	Deposit	Topsoil	30m+	2m+	0.26m	108.61	108.35	Topsoil. Overlies subsoil (1201). Same as (101).	
12	1202	Deposit	Subsoil	30m+	2m+	90mm	108.35	108.26	Subsoil. Overlain by topsoil (1201). Overlies natural (1203). Same as (102).	
12	1203	Deposit	Natural	30m+	2m+	0.17m	108.26	108.09	Natural. Overlain by subsoil (1202). Overlies natural clay (1204). Same as (503).	
12	1204	Deposit	Boulder Clay	30m+	2m+	unknown	108.09	-	Natural clay. Overlain by natural (1203). Same as (103).	
13	1301	Deposit	Topsoil	30m+	2m+	0.24m	105.17	104.93	Topsoil. Overlies subsoil (1302). Same as (101).	
13	1302	Deposit	Subsoil	30m+	2m+	60mm	104.93	104.87	Subsoil. Overlain by topsoil (1301). Overlies natural (1303). Same as (102).	

13	1303	Deposit	Natural	30m+	2m+	0.16m	104.87	104.71	Natural. Overlain by subsoil (1302). Overlies natural clay (1304) and plough furrow (1305). Same as (503).
13	1304	Deposit	Boulder Clay	30m+	2m+	unknown	104.71	-	Natural clay. Overlain by natural (1303) and plough furrow (1305). Same as (103).
13	1305	Deposit	Plough furrow	2.05m +	1.6m+	0.18m+	104.53	104.36	A medium to finely textured, mixed dark red clay and mid brown clayey silt, with occasional inclusions of small to medium rounded to subangular stones. Overlain by natural (1303). Overlies natural clay (1304). Represents a plough furrow.



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OASIS ID: archaeol5-428752

Project details

Project name Archaeological Evaluation at land at Markfield Road, Ratby, Leicestershire

Short description of the project

In August 2021, Archaeological Research Services Ltd was commissioned to undertake evaluation trenching at land at Markfield Road, Ratby, Leicestershire, to determine the location, nature, date, character and form of any archaeologically sensitive features or deposits present within the proposed development area. The archaeological evaluation comprised the excavation of thirteen evaluation trenches the positions of which were informed by geophysical survey and an archaeological desk-based assessment. The

evaluation fieldwork was undertaken in August 2021.

Project dates Start: 02-08-2021 End: 06-08-2021

Previous/future

work

Yes / Not known

Any associated project reference

project reference codes

MARK'21 - Sitecode

Type of project

Field evaluation

Site status None

Current Land use Vacant Land 2 - Vacant land not previously developed

Monument type DITCH Medieval
Monument type NONE None
Significant Finds NONE None
Significant Finds NONE None

Project location

Country England

Site location LEICESTERSHIRE HINCKLEY AND BOSWORTH RATBY Markfield Road, Ratby

Postcode LE6 0LS

Study area 3.79 Hectares

Site coordinates SK 50779 06463 52.653166548181 -1.249274427348 52 39 11 N 001 14 57 W Point

Lat/Long Datum Unknown

Height OD / Depth Min: 104.38m Max: 110.53m

Project creators

Name of Organisation

Archaeological Research Services Ltd

organioanon

Project brief Archaeological Research Services Ltd

originator

Project design originator

Archaeological Research Services Ltd

Project

Dr David Underhill

director/manager

Project supervisor Dimitrios Katsifas

Type of

Client

sponsor/funding

body

Name of

sponsor/funding

body

Heritage Archaeology Ltd

Project archives

Physical Archive Exists?

No

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Land at Markfield Road, Ratby, Leicestershire

Written Scheme of Investigation for a Programme of Archaeological Work

March 2021 (Updated May 2021)



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Local Authority: Hinckley & Bosworth Borough

Council

Museum Accession No.: X.A34.2021

Site Code: MARK'21

Site central NGR: SK 50779, 06463

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1 INTRODUCTION

1.1 Project and Planning Background

- 1.1.1 This Written Scheme of Investigation (WSI) has been prepared by Archaeological Research Services Ltd (ARS Ltd) Heritage Archaeology Ltd. It details a scheme of archaeological evaluation trenching to be undertaken at land south of Markfield Road, Ratby, Leicestershire. A planning application (Planning Ref. 20/00462/FUL) has been submitted to Hinckley & Bosworth Borough Council for a proposed residential development for 90 dwelling units, new access off Markfield Road, locally equipped children's play area, cycleway and footpaths and SUDS measures.
- 1.1.2 Whilst the current planning application has not yet been decided, comments have been provided by Sophie Clarke, Senior Planning Archaeologist with Leicestershire County Council (LCC) Historic and Natural Environment Team, which note the following about the site.

'The Leicestershire and Rutland Historic Environment Record (HER) shows that the site has good potential for the presence of prehistoric and Anglo-Saxon remains and is also crossed by the projected line of the Via Devana Roman Road.

Archaeological deposits associated with these types of activity are not generally susceptible to geophysical survey – however this work has identified some possible archaeological features of uncertain origin, in the north-western corner of the site. On the basis of the current information, it is not possible to ascertain what these features represent or what their significance. Fieldwalking undertaken in 2014 was not effective here as the ground was covered in developing crop at the time of the exercise and the visibility was poor.'

- 1.1.3 The archaeological works will be carried out in accordance with *National Planning Policy Framework (NPPF)* paragraph 199 (MHCLG 2019, 56) 'to record and enhance understanding of the significance of any heritage assets to be lost during the proposed development in a manner proportionate to their importance, and to make this evidence (and any archive generated) publically accessible. '
- 1.1.4 This WSI confirms the nature of the archaeological works to be undertaken by ARS Ltd on land at Markfield Road, Ratby, Leicestershire. These works form the first phase of a possible multi-phased programme of work, with this phase of archaeological trial trenching designed to inform any future mitigative fieldwork that may be required. This is in accordance with guidance from Sophie Clarke, the Senior Planning Archaeologist with the LCC Historic and Natural Environment Team.

1.2 Site Description and Location

1.2.1 The 'red-line boundary' of the proposed development site (hereafter 'PDA') is located in the north-west of Ratby, south of Markfield Road. The site itself comprises parts of four separate agricultural and grassland fields and slopes gently from the north at Markfield Road to the south. The site is *c*.3.79ha in area and is centred at NGR SK 50779, 06463 (Figure 1).

1.3 Geology

- 1.3.1 The underlying solid geology of the majority of the PDA largely comprises mudstone of the Edwalton Member formation, sedimentary bedrock formed approximately 228 to 237 million years ago in the Triassic Period when the local environment was previously dominated by hot deserts.
- 1.3.2 The underlying solid geology of the southernmost part of the PDA comprises sandstone of the Cotgrave Sandstone Member, sedimentary bedrock formed approximately 228 to 237 million years ago in the Triassic Period when the local environment was previously dominated by rivers.
- 1.3.3 The northern part of the PDA is overlain by superficial deposits of Thrussington Member Diamicton (BGS 2021).

2 BACKGROUND

2.1 Archaeological and Historical Background

- 2.1.1 A series of non-invasive archaeological works have been carried out within the boundary of the PDA, including an archaeological desk-based assessment (George 2005), geophysical survey (Richardson 2014), and fieldwalking (Browning 2014), though it should be noted that these works included the PDA within a wider boundary. The following is a summary of these results as applicable to the PDA itself.
- 2.1.2 Various prehistoric archaeological remains have been recorded in the surrounding landscape, including Mesolithic and Neolithic flint flakes, a flint axe, and a pebble hammer. A late Neolithic or Early Bronze Age flint knife is also recorded being found c.1km to the west of the PDA, whilst a possible Bronze Age round barrow is also documented c.900m to the north-east of the PDA. The most substantial prehistoric remains within this area comprise the scheduled Bury Camp Iron Age Hillfort (NHLE 1005079), which is located c.830m south-west of the PDA. This univallate hillfort is thought to be Iron Age in date, though late Bronze Age pottery has been found during excavations within the fort itself.
- 2.1.3 The projected line of the Colchester to Chester Roman Road (*Via Devana*) runs south-east/north-west through the south-western part of the PDA, though the fieldwalking report does note that previous attempts to verify this have proven unsuccessful (Browning 2014, 2). Roman remains within the wider landscape include earthworks of possible Romano-British date and the possible site of a mosaic. Finds, including pottery and coins have been found both to the south-east and south-west of the PDA.
- 2.1.4 Within the fields immediately to the west of the PDA boundary, a number of metal finds dating from the late Anglo-Saxon period to the post-medieval period were recovered in 2004/5. These included a Saxon bridle fitting, a medieval spindle whorl, and coins of both medieval and post-medieval date. The site itself is located c.350m to the north-west of the medieval core of Ratby, as deduced from landscape maps and conjectural evidence. Within this 'core', various cropmark and earthwork

remains, including a moat, bank and trackway have all been identified. A number of medieval finds have also been identified within this area, including late medieval groats, a silver Venetian Soldino, an early 14th century Papal Bull, a long cross silver coin, an inlaid medieval shield-shaped horse harness pendant, and pennies of both Edward III and Henry III (George 2005, 4).

2.1.5 The fieldwalking carried out within this area in 2014 recovered a very low level of medieval and post-medieval pottery across the site though, as noted in section 1 above, this may be due to the fields being covered in developing crop at the time of the survey (Browning 2014). Likewise, the geophysical survey did not identify any evidence for prehistoric or Romano-British remains within the site itself, with the two identified anomalies thought to be of either archaeological in origin or representative of modern agricultural activity. The remaining identified anomalies appear to be related to land drains, made ground, ferrous objects and fencing (Richardson 2014).

3 AIMS AND OBJECTIVES

3.1 Regional Research Aims and Objectives

3.1.1 Research topics identified within *East Midlands Heritage*. An *Updated Research Agenda and Strategy for the Historic Environment of the East Midlands* (Knight *et al.* 2012) applicable for these archaeological works include the following:

Mesolithic Period

♦ 2.4.4 Can we shed further light upon variations in the lithic assemblages surviving in earlier and later Mesolithic industries?

Neolithic and Early - Middle Bronze Age

♦ 3.9.1 Can we located flint, chert, igneous rock and other lithic raw material sources and identify exchange networks?

Romano-British Period

- ♦ 5.7.1 Can the chronology of road construction and links between road building and campaigns of conquest be clarified?
- 5.7.2 How were roads, rivers and artificial waterways integrated?

Early Medieval Period

- 6.3.1 To what extent were Roman roads used and maintained from the fifth century, and may have some have acted as social or political boundaries?
- 3.1.2 It should be noted that other research objectives may come to the fore should any archaeological features from other periods be identified as a result of the trenching or any further stages of evaluation/mitigation that are required.

3.2 Fieldwork Aims and Objectives

- 3.2.1 If survival of archaeological deposits or features is demonstrated in line with that identified within the historic and archaeological background and covered by the research aims outlined in section 3.1, the outline aims and objectives of any fieldwork will be as follows.
 - Identify the presence/absence of archaeological features and deposits within the site.
 - Record any archaeological features and deposits encountered.
 - Sample sufficient of the archaeological features and deposits to establish relative sequence, likely dating and quality of preservation.
 - Gather sufficient information to establish the character, extent, form, function and likely status of any surviving archaeological deposits with a view to evaluating their significance and their informing any additional precommencement fieldwork.

4 ARCHAEOLOGICAL FIELDWORK

4.1 Coverage

- 4.1.1 A phase of archaeological trenching will be carried out within the development site. The proposed methodology of this scheme comprises thirteen 30m x 2m trenches to be excavated within the PDA (Figure 2).
- 4.1.2 Provision will be made for an additional 1% contingency trenching to enable further investigation or clarification of the initial trenching results, should this be required.
- 4.1.3 Should no significant archaeological remains be identified within the site, then no further work will be required.
- 41.4 Should significant archaeological remains be identified during the archaeological trenching, a second phase of pre-commencement archaeological works, comprising targeted open area excavation, may also be required by the Senior Planning Archaeologist with the LCC Historic and Natural Environment Team, which would be subject to a separate WSI.

4.2 General Statement of Practice

- 4.2.1 All elements of the archaeological trenching will be carried out in accordance with CIfA's *Code of Conduct* (2019) and *Standards and Guidance for Archaeological Field Evaluation* (2020a).
- 4.2.2 All staff employed on the project will be suitably qualified for their respective project roles and have substantial experience of archaeological excavation and recording. All staff will be made aware of the circumstances and potential archaeological importance of the work and will be fully briefed on the requirements of this specification.

- 4.2.3 All ground works covered under this specification will be undertaken by a suitable mechanical excavator fitted with a toothless ditching bucket or by hand. Should archaeological deposits or structures be revealed that are more numerous, better preserved, or of higher status than expected or than which could reasonably be expected consultation will take place the Senior Planning Archaeologist with the LCC Historic and Natural Environment Team to identify and agree further excavation/recording strategy.
- 4.2.4 ARS Ltd will ensure that plant or machinery will not be operated in the immediate vicinity of any archaeological remains until they have been recorded.
- 4.2.5 Contractors and plant operators will be notified that any observations of archaeological remains must be reported immediately to the archaeologist on site. Regular contact will be ensured between ARS Ltd and the site project manager to ensure that ARS Ltd is kept up to date with site works and given the chance to respond appropriately and in line with the Senior Planning Archaeologist with the LCC Historic and Natural Environment Team.
- 4.2.6 All site operations will be carried out in a safe manner in accordance with ARS Ltd's health and safety policy. A risk assessment will be prepared before commencement on site.

4.3 Methodology

- 4.3.1 Modern overburden and topsoil will be removed by a mechanical excavator using a 2m wide toothless ditching bucket to the first significant archaeological horizon in successive level spits. No machinery will track over the areas that have previously been excavated until the area has been signed off my ARS Ltd.
- 4.3.2 The trenches will be appropriately cleaned using hand tools in order to expose the full nature and extent of archaeological features and deposits.
- 4.3.3 All spoil removed during ground works will be scanned visually to recover small finds. Any finds so recovered will be recorded and their location noted on a site plan at a relevant scale. The finds will be retained and recorded.
- 4.3.4 All archaeological features will be planned and sectioned as a minimum objective. Dispensation may be sought, in relation to sectioning of features from the Senior Planning Archaeologist with the LCC Historic and Natural Environment Team, where said features are so large in instances where excavation may be better effected during subsequent mitigation.
- 4.3.5 Isolated, discrete features such as pits and postholes not belonging to structure or industrial activities will be 50% sampled, although if they produce artefacts then provision is made for full excavation.
- 4.3.6 Sampling of linear features such as ditches or gullies will be sufficient to determine the character, stratigraphy and relationship to other features and attempts made to obtain dating evidence.

- 4.3.7 The depositions at junctions or interruptions in linear features will be sufficiently excavated for the relationship between components to be established. All termini will be investigated.
- 4.3.8 Any deposits relating to funerary/ritual activities, such as burials and cremation deposits will initially be left *in-situ* and, if removal is deemed necessary, this will be undertaken in accordance with the relevant Ministry of Justice regulations. Should it be deemed necessary to Historic England 2004; Historic England and The Church of England 2017; APABE/ Historic England 2013; Brickley and McKinley 2004).
- 4.3.9 Domestic/industrial activity (such as walls, postholes, floors, hearths) will be sufficiently excavated to understand their form and function and to recover potential dating evidence and artefact and ecofact assemblages.
- 4.3.10 Area deposits, such as buried soils, or middens, will be hand excavated at a minimum 10%. Subsequent excavation by machine will be considered. Large intrusions, such as reservoirs, will be sufficiently excavated by machine, within safe limits, to provide information on their character.
- 4.3.11 Limited representative samples of bricks from brick-built structures will be retained for specialist analysis where appropriate.

4.4 Sampling, Faunal Remains, Human Remains and Treasure

- 4.4.1 This section outlines sampling methodologies to be utilised in all excavation types.
- 4.4.2 A minimum bulk sample of 40 litres will be taken from sealed and stratigraphically secure deposits, that are adjudged to have the potential to provide environmental evidence relating to diet and economy, dating evidence or land use regime. A 100% bulk sample of the deposit will be taken if the deposit is less than 40 litres in volume.
- 4.4.3 In the case of waterlogged or anaerobic deposits a minimum sample size of 20 litres will be taken.
- 4.4.4 Should a sequence of superimposed deposits of note be present, column sampling may be considered.
- 4.4.5 Samples will be assessed by a suitable specialist and provision will be made for scientific dating, where justified against the project aims.
- 4.4.6 Where there is evidence for industrial activity, macroscopic technological residues (or samples of them) will be collected by hand. Separate samples (c.10ml) will be collected from micro-slags (hammer scale and spherical droplets) in accordance with *Archaeometallurgy: Guidelines for Best Practice* (Historic England 2015a) and *Archaeological Evidence for Glassworking* (Historic England 2018).
- 4.4.7 Samples will be taken for scientific dating (such as radiocarbon dating) in specific circumstances that will apply where dating by artefacts is insecure or absent.

- 4.4.8 Appropriate consideration will be given to the need for any geoarchaeological assessment of buried soils and sediment sequences exposed. Where said is necessary these will be inspected and recorded on site by a recognised geoarchaeologist as field inspection may provide sufficient data for understanding site formation processes. The procedures and techniques presented in *Geoarchaeology: Using earth sciences to understand the archaeological record* (Historic England 2015b) will be applied. Samples for laboratory assessment will be collected where appropriate, following discussion with the Senior Planning Archaeologist with the LCC Historic and Natural Environment Team.
- 4.4.9 Sampling strategies for wooden structures should follow the methodologies presented in Historic England's *Waterlogged Wood: Guidelines on the recording, sampling, conservation and curation of waterlogged wood* (2010). For other waterlogged organic finds, guidance provided by Historic England's *Waterlogged Organic Artefacts. Guidance on their Recovery, Analysis and Conservation* (2011) will be followed.
- 4.4.10 Should other types of environmental deposits be encountered, appropriate specialist advice will be sought and an appropriate sampling strategy devised. Samples will be assessed by a suitable specialist with provision for further analysis as required. Advice from the Historic England Scientific Advisor will be taken as appropriate.
- 4.4.11 In all instances sampling strategies will be in accordance with guidelines issued by Historic England's *Environmental Archaeology: A Guide to the Theory and Practice Methods, from sampling and recovery to post excavation* (Campbell *et al.* 2011) and will be targeted in order to explore the levels and types of preservation present.
- 4.4.12 Any human remains will initially be left *in-situ*, covered and protected. Removal will be undertaken, if deemed necessary, once a Coroners licence has been obtained in accordance with the relevant Ministry of Justice regulations, in line with current guidelines (English Heritage 2004; English Heritage and The Church of England 2017; APABE/English Heritage 2013; Mitchell and Brickley 2017) and in discussion with the Senior Planning Archaeologist with the LCC Historic and Natural Environment Team.
- 4.4.13 All finds that may constitute 'treasure' under the Treasure Act, 1996, will be removed to a safe place and reported to the local Coroner in accordance with the Treasure Act (DCMS 2008). The Portable Antiquities Liaison Officer will also be notified.

HM Coroner Mrs Catherine Mason Room 6, Town Hall Town Hall Square

Leicester Leicestershire ME1 9BG Finds Liaison Officer
Megan Gard
Rutland County Museum
Catmos Street
Oakham
Rutland

LE15 6HW

Tel: 0116 225 2534 Tel: 01572 758131

4.4.14 The Senior Planning Archaeologist with the LCC Historic and Natural Environment Team will also be notified and, if necessary, a site meeting arranged to determine if further investigation in the vicinity of the find spot is required.

4.5 Recording

- 4.5.1 The site will be recorded in accordance with ARS Ltd's field recording manual and single context recording system, and will include as a minimum context record sheets, an accurate site plan and record photography where no archaeological features are present.
- 4.5.2 The site will be tied into the National Grid and located on a 1:2500 or 1:1250 map of the area.
- 4.5.3 A full and proper record (written, graphic and photographic as appropriate) will be made for all work, using pro-forma record sheets and text descriptions appropriate to the work. Accurate scale plans and sections/elevations will be drawn where required at the appropriate scale.
- 4.5.4 Sample representative levels will be taken to record the maximum depth of excavation and /or natural should no archaeological features be uncovered.
- 4.5.5 All archaeological deposits and features will be recorded with above ordnance datum (aOD) levels.
- 4.5.6 Site photography will comprise black & white print and will be compiled under the following (excepting those provisions specifically relating to digital photography). Where digital photography is undertaken:
 - Photographs will be taken with a high resolution digital SLR with sensor exceeding 12 mega pixels;
 - Photographs will only be taken by staff who have been trained properly to use the camera;
 - All photographs will be taken using the highest quality setting and saved in JPEG format. JPEG images will not be constantly re-opened and re-saved and that filing naming processes do not lead to additional image compression.
 - All digital photographs will be taken in colour;
 - Digital photographs will be taken either on a manual, aperture or shutter priority setting;
 - A low ISO setting will be used.
 - The aperture setting will be appropriate to the required depth of field of the image;
 - A tripod will be used in low light conditions so that a long exposure shot (slower shutter speed) can be taken;

- All photographs (except large general or publicity shots) will include a suitable scale bar or rod.
- Photographs of features will include a north arrow;
- All photographs (except general shots) must include an information board displaying the Site Code or Accession Number and the principal context number;
- The information board must be legible;
- Photographs will be taken in appropriate light conditions (i.e. not strong sun).
 Where this is not feasible measures will be taken to ensure detail and clarity in representation of the object photograph.
- A photographic register will be compiled.
- Where 'bracketed shots' are taken (where is may not be possible to check an image for quality immediately to where lighting levels may affect contrast) only one image from the bracketed shot will be archived, the rest should be deleted.
- All digital photographs should be saved with a file name that uses the Accession Number, then an underscore followed by 'Figure' and a simple numerical sequence.
- 4.5.7 ARS Ltd has a daily and weekly back-up and data recovery protocols. All digital photographs will be updated onto the project file on our network at daily intervals where backup copies are also made on a daily basis.

4.6 Finds Processing and Storage

- 4.6.1 All finds processing, conservation work and storage of finds will be carried out in accordance with the CIFA (2020b) *Standard and Guidance for the collection, documentation, conservation and research of archaeological materials* and the UKIC (1990) *Guidelines for the Preparation of Archives for Long-Term Storage.*
- 4.6.2 Artefact collection and discard policies will be appropriate for the defined purpose.
- 4.6.3 Bulk finds which are not discarded will be washed and marked. Marking and labelling will be indelible and irremovable by abrasion. Bulk finds will be appropriately bagged, boxed and recorded. This process will be carried out no later than two months after the end of the excavation.
- 4.6.4 All small finds will be recorded as individual items and appropriately packaged (e.g. lithics in self-sealing plastic bags and ceramic in acid-free tissue paper). Vulnerable objects will be specially packaged and textile, painted glass and coins stored in appropriate specialist systems. This process will be carried out within two days of the small find being excavated.
- 4.6.5 During and after the excavation all objects will be stored in appropriate materials and storage conditions to ensure minimal deterioration and loss of information (including controlled storage, correct packaging, and regular monitoring,

immediate selection for conservation of vulnerable material). All storage will have appropriate security provision.

- 4.6.6 The deposition and disposal of artefacts will be agreed with the legal owner and the repository museum prior to the work taking place. All finds except treasure trove are the property of the landowner.
- 4.6.7 All retained artefacts and ecofacts will be cleaned and packaged in accordance with the requirements of the recipient museum.

4.7 Timetable, Staffing and Resources

4.7.1 The timetable for the works is as follows.

Proposed Commencement Date	Task
Week 1	Site set up and mobilisation
Week 1	Trial trenching and site sign off
Week 2	Archive consolidation, specialist reports
Week 2	Reporting and archive deposition

- 4.7.2 The Project Manager for the archaeological evaluation will be Karl Taylor MCIfA. Head of Field Archaeology at ARS Ltd. The fieldwork Project Officer will be Caitlin Halton Project Officer at ARS Ltd. Additional ARS Ltd Archaeological Officers may be allotted to the project as necessary and required.
- 4.7.3 Finds analysis will be carried out by appropriately qualified specialists as detailed subject to availability.

•	Flint and prehistoric pottery:	Dr Robin Holgate MCIfA
•	Romano-British pottery:	Dr Phil Mills MCIfA
•	Samian ware:	Dr Gwladys Monteil
•	Romano-British small finds:	Alex Croom
•	Medieval and post-medieval pottery:	Dr Chris Cumberpatch or Dr Robin Holgate MCIfA
•	Medieval and post-medieval metalwork, glass and clay pipes:	Gary Taylor MCIfA
•	Industrial Remains:	Roger Doonan
•	Plant macrofossils and charcoals:	Luke Parker
•	Human and animal bone:	Milena Grzybowska
•	Radiocarbon dating:	Professor Gordon Cook (SUERC)
•	Finds conservation:	Vicky Garlick (Durham University)

4.8 Post-Excavation and Reporting

- 4.8.1 Following completion of the archaeological works, ARS Ltd will produce a report which will include the following at a minimum:
 - Non-technical summary
 - Introductory statement
 - Aims and purpose of the project
 - Methodology
 - Historical research about the site and any remains identified
 - A location plan showing all excavated areas and any archaeological features with respect to nearby fixed structures and roads
 - Illustrations of all archaeological features with appropriately scaled hachured plans and sections
 - An objective summary statement of results
 - Conclusions
 - Supporting data tabulated or in appendices to include
 - Specialist Reports
 - Structural and Stratigraphic details
 - Index to archive and details of archive location
 - References
 - Statement of intent regarding publication
 - Confirmation of archive transfer arrangements
 - A copy of copy of this WSI and OASIS form.
- 4.8.2 One digital PDF/A copy of the final report will be deposited with the Leicestershire & Rutland Historic Environment Record (HER). A copy of the report will be updated as part of the OASIS record for online access via the Archaeological Data Service.

5 Monitoring Arrangements

5.1 Prior notice of the commencement of the archaeological fieldwork will be given to the LCC Historic and Natural Environment Team.

Sophie Clarke
Senior Planning Archaeologist
Historic and Natural Environment Team
Room 200, Penn Lloyd Building
Leicestershire County Council
County Hall

Glenfield LE3 8RA

Tel: 0116 305 9392

Email: Sophie.Clarke@leics.gov.uk

- 5.2 ARS Ltd will liaise with the Senior Planning Archaeologist with the LCC Historic and Natural Environment Team, or their representative, throughout the course of the works.
- 5.3 The client will afford reasonable access to the Senior Planning Archaeologist with the LCC Historic and Natural Environment Team, or their representative, for the purposes of monitoring the archaeological works.

6 ARCHIVE DEPOSITION

Archive Selection Strategy

6.1 Selection of the working project archive will be guided by the aims and objectives as set out in this WSI (section 3 above), the *East Midlands Heritage*. *An Updated Research Agenda and Strategy for the Historic Environment of the East Midlands* (Knight *et al.* 2012) and *The Transfer of Archaeological Archives to Leicestershire County Council Museum Collections* (LCC 2018).

Documentary Archive

- 6.2 All original documentary material created and collected during the archaeological works will be selected for inclusion in the final archive. Any duplicates (including photocopies) of original documents will not be included in the final archive, in line with *The Transfer of Archaeological Archives to Leicestershire County Council Museum Collections* (LCC 2018).
- 6.3 The deselected documents will be recycled, subject to final checks by ARS Ltd's Post-Excavation and Archives Officer.

Digital Archive

6.4 All digital data created over the course of this project will be collected, stored, and selected for final deposition in line with the project's Data Management Plan. The key types of digital data produced will include the following.

Туре	Data
Text	Digital copies of the Written Scheme of Investigation and final report
Images	Site photography, scans of site drawings, graphics for reports, digitised drawings
Finds Data	Finds reports and tables, conservation records, images

6.5 Only final copies of any born digital data will be selected and deposited in the final project archive.

- 6.6 Digital data to be included in the final archive will be reviewed during the post-excavation and archiving phase of works.
- 6.7 The project manager and digital archive repository will be consulted on the fate of any deselected material. Deselected material is expected to include duplicates and any non-final versions of data. Digital photographs will be assessed during post-excavation works and selected in line with Historic England's *Digital Image Capture and File Storage* (2015c). The deselected material will be stored on the ARS Ltd server for a period before reviewed and deleted.

Material Archive

- 6.8 The selection of material finds for final deposition in the archaeological archive will be decided in collaboration with the finds specialist during the post-excavation phase, based on addressing the aims and objectives of the project set out in this WSI, the *East Midlands Heritage Strategy*. An Updated Research Agenda and Strategy for he Historic Environment of the East Midlands (Knight et al. 2012) and The Transfer of Archaeological Archives to Leicestershire County Council Museum Collections (LCC 2018).
- 6.9 No material will be discarded without processing and recording. Deselected material can be retained as part of a handling or teaching collection, returned to the landowner, or discarded as agreed by the landowner, specialists, collecting museum and planning archaeologist.

Archive Deposition

- 6.10 The digital, paper and artefactual archive will comprise all the primary written documents, plans, sections, photographs and electronic data and an accompanying metadata statement.
- 6.11 High resolution digital photographs would, in discussion with LCC, be submitted to the Archaeological Data Service (ADS) digital archive repository with the associated photographic registers and metadata. The digital archive will be prepared in line with current best practice outline in *Archaeology Data Service/Digital Antiquity Guides to Good Practice* (ADS/Digital Antiquity 2011).
- 6.12 One digital PDF/A copy of the final report will be deposited with the Leicestershire and Rutland HER. A copy of the report will be uploaded as part of the OASIS record (see below) for online access via the Archaeological Data Service.
- 6.13 The archive will be deposited in line with Archaeological Archives: A guide to best practice in creation, compilation, transfer and curation (Brown 2007), CIfA (2020c) Standard and Guidance for the creation, compilation, transfer and deposition of archaeological archives and the Society of Museum Archaeologists' (1993) Selection, Retention and Dispersal of Archaeological Collections. Guidelines for use in England, Wales and Northern Ireland. In addition, the archive will be prepared in accordance with the guidance provided in The Transfer of Archaeological Archives to Leicestershire County Council Museum Collections (LCC 2018).
- 6.14 LCC Museums has been notified of the archaeological works and have allotted the following Accession Number to the works: **X.A34.2021**.

- 6.15 Upon completion of the fieldwork, LCC Museums will be contacted in order to determine a provisional timetable for archive review. The museum will be afforded the opportunity to review the material archive at two specific stages:
 - At the start of the assessment stage to discuss the post-fieldwork material retention strategy and to assess and discuss initial conservation needs.
 - Prior to deposition of the archive to ensure that the archive has been prepared to the agreed standards.
- 6.16 All artefacts and associated material will be cleaned, recorded, properly stored and deposited in the archive.
- 6.17 A valid transfer of title will be obtained as a part of the deposition proceedings.
- 6.18 The Senior Planning Archaeologist with the LCC Historic and Natural Environment Team and Museum Curator will be notified in writing on completion of the fieldwork with projected dates for the completion of the final reports and deposition of the archive. The date for deposition of the archive will be confirmed in the report and the Senior Planning Archaeologist with the LCC Historic and Natural Environment Team informed in writing on final deposition of the archive.
- 6.19 At the start of work (immediately before fieldwork commences) an OASIS online record http://ads.ahds.ac.uk/project/oasis/ will be initiated and key fields completed on Details, Location and Creators forms. All parts of the OASIS online form will be completed for submission to the SMR. This will include an uploaded .pdf version of the entire report.

7 GENERAL ITEMS

7.1 Health and Safety

7.1.1 All work will be carried out in accordance with The Health and Safety at Work Act 1974. Specific health and safety policies exist for all our workplaces and all staff employed will be made aware of the policy and any relevant issues. The particular risks involved with this project will be assessed, recorded and relevant mitigation measures put in place as part of a full risk assessment, which will be compiled in advance of fieldwork and will be read and signed by all on-site operatives. ARS Ltd retains Citation as its expert health and safety consultants.

7.2 Insurance Cover

7.2.1 ARS Ltd has full insurance cover for employee liability public liability, professional indemnity and all-risks cover.

7.3 Changes to the Written Scheme of Investigation

7.3.1 Changes to the approved methodology or programme of works will only be made with prior written approval of the Senior Planning Archaeologist with the LCC Historic and Natural Environment Team.

7.4 Publication

7.4.1 If significant archaeological remains are recorded, a summary of the project with, if appropriate, selected drawings, illustrations and photographs will be prepared for publication in online, journal or monograph form as appropriate. Additional popular articles will also be produced for local and/or national magazines as appropriate. The final form of the publication is to be agreed with the planning archaeologist and the client dependent on the results of the fieldwork.

7.5 Publicity and Copyright

7.5.1 Any publicity will be handled by the client. ARS Ltd will retain the copyright of all documentary and photographic material under the Copyright, Designs and Patent Act (1988).

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APPENDIX 1: FIGURES

