

WRITTEN SCHEME OF INVESTIGATION

Land at Kirkby Valley Golf Club,
Knowsley, Merseyside
Archaeological Mitigation



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Written Scheme of Investigation for Strip, Map Sample and archaeological evaluation at Land at Kirkby Valley Golf Club Knowsley, Merseyside

ARS Ltd Project No. ARS25-294



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Prepared on behalf of: Green Circle Estates LTD
Planning Reference: 21/00744/FUL
Local Authority: Local Authority: Knowsley Council
Site central NGR: SJ 39640 97729

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I INTRODUCTION

1.1 Project and Planning Background

- 1.1.1 This is a Written Scheme of Investigation (WSI) for Strip Map and Sample and archaeological evaluation that has been prepared by Archaeological Research Services Ltd (ARS Ltd) on behalf of Green Circle Estates Ltd.
- 1.1.2 A planning application was submitted by the Client relating to the development of a parcel of land adjacent to Kirkby Valley Golf Club, Merseyside for the re-development of the existing golf course including the creation of a new 9-hole, par 3 golf course, driving range, and the erection of a two-story clubhouse, remodelling of the existing golf course including a 2 tier driving range with outfield and an adventure golf course (18 hole) with carpark for the new facilities (Application No: 21/00744/FUL). The proposed work will also include the erection of a footbridge over the River Alt, creation of new access onto valley road, extension to the existing car park and site wide landscaping including replacement tree planting.
- 1.1.3 The development area (DA) is considered by Merseyside Environmental Advisory Service (MEAS) as archaeological advisors to the Local Planning Authority Knowsley Council to have the potential to host buried archaeological remains.
- 1.1.4 A phased archaeological evaluation was therefore required relating to the archaeological condition (10) of the planning permission in line with the National Planning Policy Framework (NPPF) “...where a site on which development is proposed includes, or has the potential to include, heritage assets with archaeological interest, local planning authorities should require developers to submit an appropriate desk-based assessment and, where necessary, a field evaluation” (MHCLG 2025).
- 1.1.5 A geophysical survey was undertaken in May 2025 by ARS Ltd across three areas of disused land adjacent to the existing 18 hole golf course in order to help determine what further, if any, level of archaeological mitigation might be necessary prior to any development. The survey identified a former historic field system which could date to the Medieval period or earlier, alongside two rectilinear enclosures which could have been stock or property enclosures. Possible ridge and furrow ploughing remnants were also identified, as well as evidence of the former route of the River Alt. Large swathes of magnetic disturbance from rubbish tipping and ground disturbance as well as large ferrous deposits were prevalent across the whole of the site (Cowap and Greasley 2025).
- 1.1.6 This WSI therefore sets out a scheme of further archaeological mitigation for Construction Phase 2b of the development, comprising the excavation of one 50 x 50m area and two 30 x 2m trenches.
- 1.1.7 Any variations/additions to this scope of works will be by agreement of the Client and the archaeological planning advisor to the Local Planning Authority (LPA). Should further mitigation requirements, outside the scope of this WSI, be deemed appropriate by the LPA, then these will be informed to the Client and only proceed if agreed by both parties prior to implementation.



Figure 1: Site Location

Site name: Kirkby Valley Golf Club
 Date drawn: 09/04/2025
 Drawn by: WHC



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 DE45 1HB
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1.2 Site Location and Description

- 1.2.1 The development area (hereafter the 'DA') is located on a disused parcel of land adjacent to the Kirkby Valley Golf Club, 1.6km west of Kirkby town centre, Merseyside (NGR SJ 39640 97729; Figure 1). The site lies to the immediate south-west of the River Alt and the active Kirkby Valley Golf Course and is bounded to the south by Valley Road / the A506 and Aintree Lane to the west.
- 1.2.2 Construction Area 2b lies in the south-western corner of the DA, bordered by Moor Lane to south

1.3 Geology and Soils

- 1.3.1 The underlying solid geology of the DA is sandstone of the Chester Formation, a sedimentary bedrock formed 250 and 247.1 million years ago during the Triassic period; with superficial deposits of the Shirdley Hill Sand Formation (BGS 2025). Magnetometer survey responds well over sedimentary geology but can be affected by distorting factors such as parent geology of the sandstone (English Heritage 2008).
- 1.3.2 The soils across the site are described as "naturally wet, very acid, sandy and loamy soils" ("Soilscape 15"; Cranfield University 2025).

1.4 Archaeological and Historical Background

- 1.4.1 A desk-based assessment was produced by ARS LTD in advance of the initial planning application (Jacklin 2019). A review of the archaeological and historical background within a 1km search radius of the site was conducted using data provided from a search by the Merseyside Environmental Advisory Service, the National Heritage List for England (NHLE) and historic mapping sourced from the National Library of Scotland mapping portal (NLS 2025). A summary of the background is provided below.
- 1.4.2 The site and surrounding area were assessed to have moderate potential for surviving archaeological remains, likely relating to multiple phases of human activity ranging from the prehistoric to modern period. The known heritage assets recorded in the MEAS HER indicate that the surrounding landscape is characterized by an archaeological and historical narrative that is multiphasic, rich, and complex.
- 1.4.3 There is a moderate potential for prehistoric remains within the site. A flint core (MHER MME4410), was identified in 1973 c.250m north-west of the DA and a Neolithic polished axe head (MHER MME4676), located c.245m north of the DA. An excavation carried out by National Museums Liverpool Field Archaeology Unit of land at Old Hall Lane, Kirkby, (abutting the Chapel of St Chad) just 1.6km east of Kirkby Golf Club found a Mesolithic or Neolithic flint scraper, a Mesolithic blade production flake and a possible Mesolithic flint blade fragment.
- 1.4.4 There is no known evidence of archaeological remains dating to the Romano-British period identified within the DA, however Roman coins have been recorded at Toxteth park, Wavertree, West Derby, Speke, and Tarbook, along with a coin hoard in Pool.
- 1.4.5 There is considered to be a moderate potential for the presence of medieval remains within the site. Notably pottery fragments were recovered during a watching brief approximately 300m east of the DA on Ingoe Lane (MHER MME11984). Approximately 1.5km to the northeast lie the former location of a medieval chapel dedicated to St Chad.

Historical records indicate the existence of this chapel in Kirkby during the reign of Edward VI, with further documentation provided by a 1650 survey of churches in Lancashire.

- 1.4.6 Potential for surviving below-ground archaeological remains associated with post-medieval activity is high with multiple post-medieval archaeological remains identified within the DA. Alder's Bridge (MHERR MME4661), evident on the 1769 Molyneux Estate Map (Jacklin 2019) is located in the south-east corner of the DA. The Former Cottage Hospital (MHERR MME4660), evident on the 1888 Ordnance Survey is situated along the northern boundary of the DA. The site of Nicholson's Cottage is also present along the northern boundary c.240 south-west of the Former Cottage Hospital, also evident on OS map (1888). A barn (MME 19886) is also present abutting the northern boundary of the DA.
- 1.4.7 Historic mapping from 1888 (ibid) also reveals that the River Alt deviates in the northern corner of the site, where it has been artificially straightened and channelled in an effort to drain the river and allow access for more land. Further review of the site shows very little change in land use of the site from 1885 until the founding of Kirkby Valley Golf Club in 1928. Given the site's proximity to the Leeds and Liverpool Canal, the railway signal and carriage works and Fazakerley siding and junction, it is expected that evidence of industrial activity will be present within the site.
- 1.4.8 The area surrounding the golf course was subject to militarisation during the Second World War to safeguard Liverpool's infrastructure from aerial bombardment. Among these defensive installations was an anti-aircraft battery recorded in the wider study area (NHRE 147401).

Previous investigations

- 1.4.9 A geophysical survey was undertaken in May 2025 by ARS Ltd across three areas of disused land adjacent to the existing 18 hole golf course. The survey identified a former historic field system which could date to the Medieval period or earlier, alongside two rectilinear enclosures which could have been stock or property enclosures. Possible ridge and furrow ploughing remnants were also identified, as well as evidence of the former route of the River Alt. Large swathes of magnetic disturbance from rubbish tipping and ground disturbance as well as large ferrous deposits were prevalent across the whole of the site (Cowap and Greasley 2025).

2 AIMS AND OBJECTIVES

2.1 Fieldwork Aims and Objectives

- 2.1.1 The aim of the fieldwork is to 'to record and enhance understanding of the significance of any heritage assets to be lost during the proposed development in a manner proportional to their importance, and to make this evidence (and any archive generated) publicly accessible' (MHCLG 2025).
- 2.1.2 The objectives of the fieldwork are to:
- ◆ excavate, sample, record and interpret all archaeological features and deposits found;
 - ◆ recover artefacts and ecofacts to evidence the character, nature and function of the remains and provide datable materials to aid in establishing their chronological sequence and the processes of archaeological deposition;
 - ◆ establish the significance of the archaeological remains;

- ♦ interpret and understand the evidence in relation to the surrounding landscape and within a wider regional and national context.

2.2 Research Aims and Objectives

2.2.1 These archaeological works have the potential to identify the presence of archaeology pertinent to research objectives and overarching research themes identified in research frameworks:

- ♦ **Regional** – *The North-west England Regional Research Framework* (Research Frameworks 2025a)
- ♦ **National & Thematic** – Historic England Research Agenda (Research Frameworks 2025b)

2.2.2 The Historic England Research Agenda sets out national thematic and period research questions and frameworks pertinent to the planned archaeological works, specifically in reference to the rural landscape. Themes of potential relevance to this project include questions relating to understanding, informing and innovation.

2.2.3 Research questions which may become relevant include:

- ♦ PH29: What activities were undertaken during the Palaeolithic in the North West of England?
- ♦ EM17: What evidence is there for landscape change in the early medieval period?
- ♦ GS38: How did land use and management change through time?
- ♦ What new narratives can we generate from synthesis of 'big data'?
- ♦ Which areas, types of site and historical periods would most benefit from the synthesis of commercially derived 'big data'?

2.2.4 Other research objectives may become relevant should any archaeological features investigated during investigations produce significant findings of regional or greater importance, that also feed into local, regional and national archaeological frameworks.

3 FIELDWORK STRATEGY

3.1 Coverage

- 3.1.1 The results of assessment and evaluation have determined that there are archaeological remains surviving within the site that are of local significance or greater. These areas will be the subject of archaeological mitigation by means of open area excavation
- 3.1.2 The extent of the site subject to archaeological excavation is depicted on Figure 2. Three proposed trenches, one measuring 50 x 50m and two 30 x 2, are located in the south-west of Construction Area B.
- 3.1.3 The exact edges of excavation will avoid utilities, overhead services, drains, tree preservation orders and/or other constraints (i.e. generally by no more than 1.0m, or allowing for exclusion). Any substantive change will be by agreement of the archaeological

planning advisor if is considered likely by the archaeological planning advisor to the LPA that there is significant archaeology within the site.

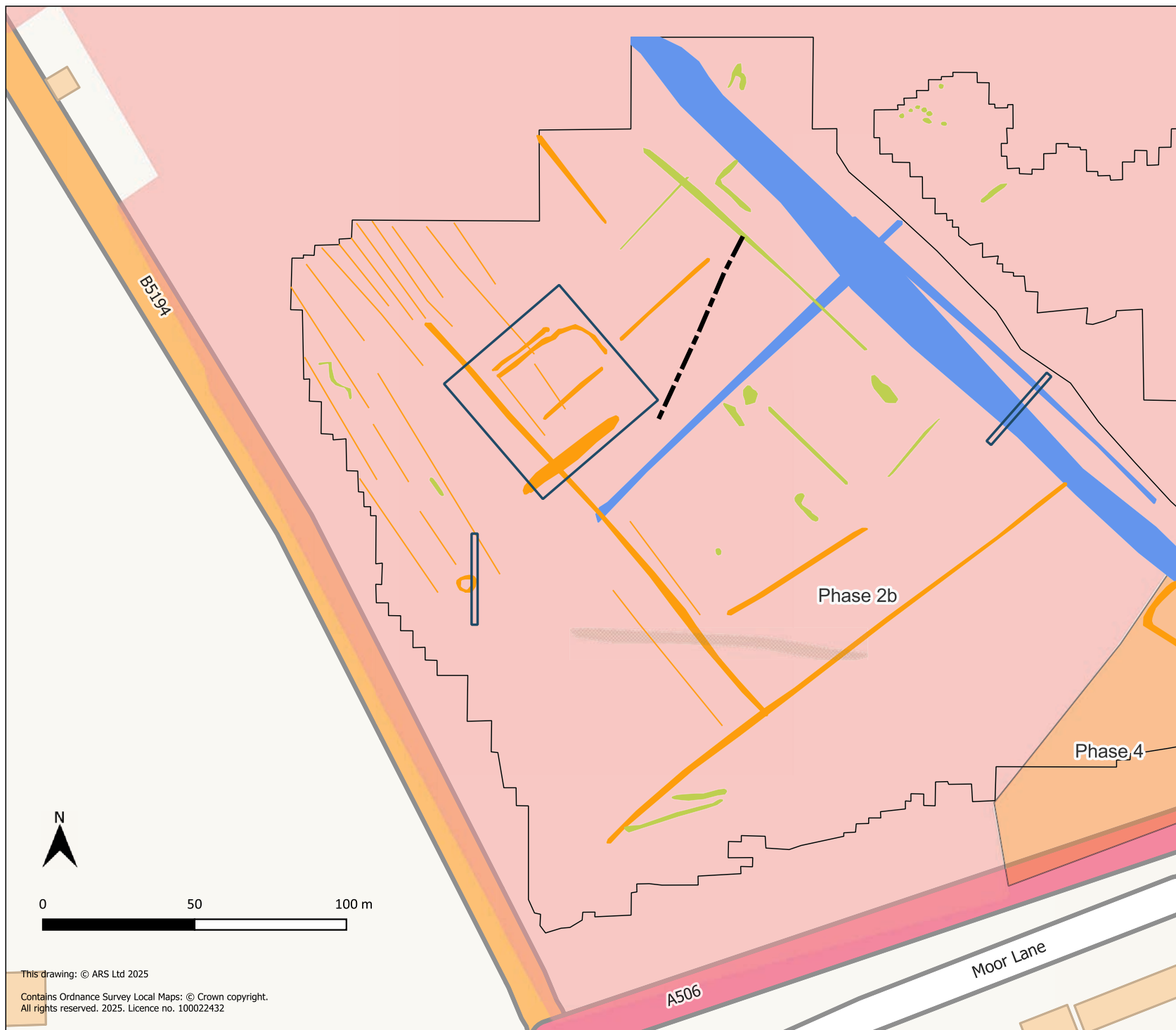


Figure 2: Location of archaeological works

Legend

- Sire boundar
- Phase 2b
- Trenches
- Features identified in geophysical survey:**
- Probable Archaeology
- Possible Archaeology
- Historic
- Uncertain
- Geological
- Agricultural trend
- Pipe

Site name: Kirkby Valley Golf Club
 Date: 05.09.2025
 Drawn by: JD



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3.2 Methodology

- 3.2.1 All mechanical excavation will be under the supervision of an attendant archaeologist who will be given the opportunity to stop excavation to investigate potential archaeological features/deposits where they arise. Adequate time will be allowed for recording any such remains.
- 3.2.2 There is to be no disturbance of archaeological remains until archaeological investigation and recording has been undertaken, and the archaeologist confirms that this has been completed.
- 3.2.3 As a minimum (i.e. where no archaeology is found) there will be an accurate site plan and photographic record. The stratigraphy of the site will be recorded even where no archaeological deposits have been identified.
- 3.2.4 The site will be accurately tied into the National Ordnance Survey Grid and located at a suitable scale. Survey data of features will be collected using survey grade equipment providing accuracy of $\pm 0.05\text{m}$ (Historic England 2016). Digital data will be surveyed with equipment using Real Time Kinematic (RTK) corrections from a Global Navigation Satellite System (GNSS) network. The same equipment will be used to record known points on drawn plans and sections and to take spot heights to supplement other available planning/survey techniques as applicable.

Machine Excavation

- 3.2.5 A suitably experienced archaeologist will direct machine excavation. The machine works will be undertaken using a toothless ditching bucket. Topsoil, subsoil, and non-archaeological modern overburden will be removed to the surface of the first archaeological horizon, or where this is absent the natural substrate. Where excavation requires digging through hard standing or tarmac, a breaker will be used. No machinery will track over areas that have previously been stripped. Excavations will not be reduced below 1.2m without stepping out the sides for safe working.
- 3.2.6 Excavation areas will be machined cleanly, sufficient to identify and establish the extent of any archaeological features present. Photographs will be taken during the machine works to record the process.
- 3.2.7 Machine operations will cease if unexpected, complex, or undated archaeological remains are encountered. The client will be informed, and the archaeological planning advisor will be consulted as to their requirements.

Investigation and Recording

- 3.2.8 All archaeological features and deposits will be sample excavated to achieve the mitigation objectives. Archaeologically sensitive horizons will be subject to limited hand excavation and/or auguring in the following ways:
 - ◆ Isolated discrete features such as individual pits, postholes, or scattered features without clear associations, will be half sectioned.
 - ◆ Where pits/postholes form structural features or are representative of industrial activities they will be fully excavated and recorded in association with each other.
 - ◆ If features contain deposits of particular value or significant artefactual or environmental assemblages, these may be fully excavated and sampled.

- ◆ Archaeological linear features, such as ditches and gullies that are not of a structural nature will be sample excavated at dispersed intervals. Where possible, interventions will be a minimum of 1m in width, and incorporating a minimum of 20% of the total length. All junctions and terminal will be investigated.
 - ◆ Where repetitious features occur in abundance, such as a pit alignment or stakeholes/postholes in their hundreds, then a sample of such remains will be selected for excavation in discussion with the archaeological planning advisor.
- 3.2.9 The overall proportion of features to be investigated will be representative of their significance and potential to inform upon the mitigation objectives. Typically, this will be greatest where structural deposition is present, and may be subject to a more specific sampling methodology in consultation with the archaeological planning advisor (*e.g.* the ditch has been used as a pottery waste dump *etc.*). Linear features that form post-medieval and later boundaries shown on historic mapping will only be minimally investigated.
- 3.2.10 Linear cut features (i.e. ditches and gullies) will receive investigation according to their hierarchy of importance within the site:
- ◆ No features will go without investigation; however, well-preserved features will receive greater attention than those of a fragmentary or highly truncated nature.
 - ◆ Linear features of a structural nature (*e.g.* beam slots, sill beam gullies *etc.*) and ditches/gullies within a settlement that are close to areas of domestic habitation or close to industrial/craft activities (*e.g.* roundhouse gullies, partitions between plots *etc.*) will be subject to the greatest attention.
 - ◆ Boundaries around settlements will receive the next level of priority for excavation.
 - ◆ The lowest priority will go to peripheral field systems, although key points (*i.e.* entranceways, corners of enclosures, mid-points, and intersections) will still be investigated as a base minimum.
- 3.2.11 Features requiring more specialist attention such as burials, kilns, wells, buildings, structures, floor levels and other significant industrial or domestic features or deposits will be cleaned, planned, and photographed in the first instance. Following discussion with the archaeological planning advisor they will then be subject to systematic sample excavation in reverse order of their deposition/construction as appropriate. Samples and finds will be recovered and recorded by context.
- 3.2.12 Deep features such as wells or ponds will be investigated by hand as far as Health and Safety measures allow, usually to 1.2m depth. An augur may be employed from this point to establish the anticipated full depth of the well or pond. Further excavation would be by consultation with the archaeological planning advisor and Client (as deep excavations may affect foundation designs). If agreed a machine section will be cut after all other programmed works are completed in order to allow a half-section to be recorded to full depth and finds/samples to be collected. This may require a system of machine stepped edges to reach the full depth.
- 3.2.13 Area deposits, such as buried soils and former land surfaces, will be sampled excavated in the first instance as deemed suitable in consultation with the archaeological planning advisor. Once the deposit is understood and has been recorded subsequent stripping, usually by spit, by machine will be undertaken to reveal any underlying features/deposits.

- 3.2.14 All excavated spoil will be visually scanned to retrieve any artefacts. Artefacts will be collected by hand and retained, provided they are uncontaminated, receiving appropriate care prior to removal from site (ClfA 2020; Walker 1990; Watkinson and Neal 2001). No contaminated finds or samples will be retained. Unstratified animal bones and modern material will not be collected. Selected examples of material that comprise a large quantity of a standard product, such as brick or tile, will be retained for assessment by a specialist.
- 3.2.15 Archaeological features will be recorded on an all-features plan at a scale of 1:50 or 1:100, appropriate to their complexity. Buildings and other significant remains (*i.e.* kiln, stone structures *etc.*) will be planned individually in greater detail. Sections or profiles through features and stratigraphic sequences will normally be drawn at a scale of 1:10, or 1:20 or larger for long sections. All levels will be related to Ordnance Datum.
- 3.2.16 All archaeological deposits and artefacts encountered during the investigation will be fully recorded. Recording will follow the Company's field recording practices appropriate to the archaeology under investigation (ARS Ltd 2020). All archaeological features will be given a separate context number. Deposits will be described on *pro-forma* context sheets. The information given will include details of the context, its relationships, interpretation and a checklist of associated finds and samples. Stratigraphic matrices will be compiled where archaeological sequences can be discerned.
- 3.2.17 Digital photographs will form the principal photographic record for report purposes and will follow the standards of Historic England where applicable (Historic England 2015a). Digital photographs will form the principal photographic record for report purposes. A photographic record will be maintained by high resolution digital photography. Overall images of the site will be taken prior to excavation. Detailed images of individual features will be recorded. All photographs, except general site images or specific images for publication, will include a north arrow and suitable photographic scale.

Soil Samples

- 3.2.18 Deposits of clear archaeological origin, with the potential to provide paleoenvironmental evidence, industrial residues, small animal/fish bones, datable charred remains and micro artefacts significant to the interpretation of the site will be reviewed by the project manager and archaeological planning advisor to agree an appropriate sampling strategy. Should a sequence of superimposed deposits of note be present, column sampling may be considered.
- 3.2.19 Where there is evidence for industrial activity, macroscopic residues will be collected by hand as a sample. Separate samples (*c.* 10ml) will be collected from micro-slugs (*i.e.* smithing hammer scale or glassworking spherical droplets) in accordance with best practice (Historic England 2015b; 2018).
- 3.2.20 Sampling methods will typically follow guidelines issued by Historic England (Campbell *et al.* 2011) and will be targeted in order to assess the quality of organic preservation that may be present.
- 3.2.21 Typically, bulk environmental samples will be collected from contexts that have potential for further analysis. Bulk sample sizes will be 40 litres per context or the entire excavated portion of smaller features if less than 40 litres and collected and stored in sealable buckets.

- 3.2.22 The application of specialist sampling techniques such as column sampling, geoarchaeological sampling, organic residue analysis, luminescence dating, archaeomagnetic dating or other alternative scientific methods will be considered where appropriate. If such a variation is required by the LPA, advice from the Historic England Regional Scientific Advisor (RSA) may be sought. Close attention will be paid to retrieve samples that have the potential to contribute to the proposed mitigation objectives.

Human Remains

- 3.2.23 If any human remains are encountered, they will be investigated sufficiently to confirm identification and then be left *in situ*. They will not be exposed, disturbed, cleaned, or recorded in detail. The client, local Coroner and the archaeological planning advisor will be informed immediately upon discovery of human remains by the Project Manager.
- 3.2.24 If removal is deemed necessary and appropriate on the requirement of the LPA it will be completed following the issue of the relevant Ministry of Justice license in accordance with the relevant legislation and according to the conditions set out therein. Any exhumation will be undertaken following current best practice guidelines (APABE/Historic England 2017; Mitchell and Brickley 2017).

Treasure

- 3.2.25 Finds coming under the definition of ‘treasure’ as defined by the Treasure Act 1996 (as amended) will be reported to the Portable Antiquities Finds Liaison Officer within 48 hours of discovery by the Project Manager and dealt with under the procedures of the Treasure Act and Code of Practice (DCMS 2023). This includes both precious metals and base metals where they are of prehistoric date. Suitable measures will be taken to ensure their security where removal cannot take place (e.g. they are within a human burial).
- 3.2.26 The archaeological planning advisor will also be notified and, if necessary, a meeting arranged to determine if further investigation in the vicinity of the find spot is required.

4 MONITORING ARRANGEMENTS

- 4.1.1 Following approval of the WSI by the archaeological planning advisor for the Local Planning Authority (LPA) notice will be given by email prior to commencement of the archaeological works. Work will not commence until the WSI has been approved and notice given.
- 4.1.2 If the start date is not known, then the archaeological planning advisor will be kept informed of progress and will be notified when a start date has been set within 5 working days, assuming that the WSI has already been approved and there have been no changes to the proposal.
- 4.1.3 The archaeological planning advisor for the Local Planning Authority (LPA) is Alison Plummer of MEAS.
- 4.1.4 ARS Ltd will consult with the archaeological planning advisor at regular intervals throughout the course of the work. The MEAS archaeological planning advisor will be afforded reasonable access at all times for the purposes of monitoring. It is expected that archaeological monitoring will take place on a regular basis for large projects.
- 4.1.5 The client will afford reasonable access to the archaeological planning advisor for the LPA or representative officers, for the purposes of monitoring the archaeological work.

5 VARIATIONS TO THE SCOPE OF WORKS

- 5.1.1 If an archaeological find is made for which the resources allocated to the project itself are not sufficient to support treatment to a satisfactory and proper standard, then work in the relevant area will cease until the client and local planning authority's archaeological advisor have been consulted and appropriate resource put in place to meet the necessary disbursements. On occasion this may require a new WSI or an addendum to the approved WSI.
- 5.1.2 Any variations to the coverage, methodology or scope of works will be made in agreement with the Client and the archaeological planning advisor.
- 5.1.3 Variations prior to the commencement of works will be agreed in writing by updating and resubmitting the WSI or an addendum. Variations on site will be tracked by the Project Manager as part of the course in monitoring the works.
- 5.1.4 Additional works that trigger contingency items or extra overs will be notified to the Client and agreed before they are implemented. Where no contingency agreement exists, such works will only be implemented where they are reasonably practicable with the resources already available, or unless the Client grants further resource.

6 TIMETABLE, STAFFING AND RESOURCES

- 6.1.1 ARS Ltd is a Chartered Institute for Archaeologists (CIfA) Registered Organisation. Registered Organisations are regularly assessed to ensure that high standards of work, processes and training are embedded in the organisation, in line with the professional Code of Conduct (CIfA 2022) and the Chartered Institute's Standards and Guidance documents.
- 6.1.2 The fieldwork will be managed and conducted by a suitably qualified Project Manager and Team Leader, supported by a team of archaeological staff and assistants, as necessary.
- 6.1.3 All staff employed on the project will be suitably qualified and experienced for their respective project roles and will be briefed on the archaeological context of the area and the work required by this specification.
- 6.1.4 The archaeological works are scheduled to commence on as soon as possible and should be completed within up to three weeks. Evaluation trenches will be opened in a continuous process and archaeological investigations will commence immediately in each trench once it is safe to do so.
- 6.1.5 All artefact and sample processing will be undertaken swiftly following the completion of fieldwork, whilst archive consolidation and post-excavation analysis of the plans and records are brought together.
- 6.1.6 Information will be provided to specialists by context and site location, appropriate to the relevant assemblages.
- 6.1.7 Specialist analysis will be undertaken by the following individuals where needed, subject to availability, and if not, other specialists will be found as appropriate:

Worked flint and prehistoric pottery:	Dr Robin Holgate
--	------------------

Iron Age/Roman pottery:	Dr Alice Lyons, Sarah Percival, Ian Rowlandson or Dr Jane Timby
Medieval and post-medieval pottery:	Paul Blinkhorn or Dr Chris Cumberpatch
Ceramic Building Materials:	Rob Atkins
Faunal remains:	Milena Grzybowska
Plant macrofossils (seeds and charcoal):	Emma Aitken
Metalwork and Small Finds:	Elizabeth Foulds

- 6.1.8 Sufficient time will be given for adequate specialist assessment of the materials recovered, and the production of the accompanying specialist reports.

7 FINDS AND SAMPLE PROCESSING

- 7.1.1 All artefact collection, processing, conservation and storage will be conducted in accordance with recognised industry standards and guidance (e.g ClfA 2020; Walker 1990).
- 7.1.2 Artefact collection will be appropriate to the contextual and stratigraphic circumstances of the material identified, its quality as a resource and the practicality of retention. As a general rule, unstratified finds will not be recorded and collected unless they are diagnostic or notable due to their type, date, or quantity. Modern and natural materials may be recorded on site but not retained unless considered significant in terms of context, type, or volume. In cases where large quantities of material are recovered, a representative sample will be retained.
- 7.1.3 The following table outlines standard procedures for the recording, retention, and discard of commonly encountered artefact types from stratified contexts. This policy will be reviewed in consultation with the appropriate repository as required.

Presence Recorded and Retained	Presence Recorded and Discarded
• Animal Bone • Ceramic Building Material (specifically unusual or diagnostic examples) • Clay Tobacco Pipe • Coins • Glass (pre-20th century) • Human remains • Pottery • Precious metals • Slag • Small finds • Unusual items such as toys, figurines, personal items etc. • Worked bone • Worked flint	• Unstratified artefacts, unless notable <i>Modern materials:</i> • Brick and tile • Concrete • Fabric • Glass • Metal (including metal scrap and nails) • Plastic <i>Natural materials:</i> • Coal • Common garden snails • Slate • Unworked flint and stone

- 7.1.4 All retained finds will be cleaned, recorded and packaged in accordance with industry standards (Watkinson and Neal 2001). Bulk finds will be packaged in clear plastic re-sealable bags with write-on strips. Fragile finds will be packaged in Stewart boxes and sufficiently cushioned with acid-free paper. Metal objects will be packaged with humidity strips and silica gel. All finds bags and containers will be marked with the site code, context number, small find number (if relevant), type, quantity and weight.
- 7.1.5 Finds will be stored in ARS facilities under controlled temperature and humidity conditions to mitigate deterioration. Vulnerable materials will be stabilised promptly, and further conservation will be undertaken by a specialist where necessary. All storage locations will be suitably secured.
- 7.1.6 Artefacts will not be marked unless required for museum deposition. Where marking is necessary, the National Museums Liverpool guidelines will be followed. Generally, artefacts will be marked with the accession number, site code, and context number using permanent ink on a varnish base in a discreet location.

- 7.1.7 Bulk soil samples taken for environmental purposes will be sieved and scanned during processing by ARS Ltd using the flotation technique to retrieve botanical macrofossils, charcoal and mollusc remains. All the resultant residues will then be hand sorted to retrieve any other items such as bone, flint, and other finds. Recovered finds will be subject to the protocol as outlined above.

8 REPORTING

8.1 Fieldwork reporting

- 8.1.1 Given the scale and extent of the mitigation works, and the likely quantity of archaeological remains and/or features, it is not envisaged that an Updated Project design (UPD) will be needed. Where archaeological planning advisor agrees with this at the sign-off stage, reporting will proceed directly to post-excavation analysis report.
- 8.1.2 The final archive report will contain details of all of the archaeological works conducted, together with the results, analysis, and discussion of any further analysis, and will be prepared in a format intended as the basis for any publication (where required). For large sites this may mean that the intended publication draft will be submitted in a form that can easily be edited down for public dissemination.
- 8.1.3 The arrangement of the final report will be bespoke to the size and scope of the project but would typically include:
- ◆ Non-technical summary
 - ◆ Introductory statement
 - ◆ Aims and objectives
 - ◆ Method statement
 - ◆ A location plan showing all excavated areas and any archaeological features with respect to nearby fixed structures and roads
 - ◆ An objective summary statement of results
 - ◆ Illustrations of archaeological features with appropriately scaled plans and sections
 - ◆ Specialists' assessments of artefacts and samples, where found
 - ◆ Discussion outlining conclusions
 - ◆ Supporting data – tabulated or in appendices to include
 - Specialist Reports
 - Context data
 - ◆ Index to archive and details of archive location
 - ◆ Bibliography
 - ◆ Confirmation of archive transfer arrangements
 - ◆ A copy of the OASIS form
- 8.1.4 A draft report will be submitted within 3-6 weeks (depending on what is found) to the archaeological planning advisor for agreement and comment before being issued as a planning document to the client. If required, an interim statement will be produced upon completion of fieldwork.
- 8.1.5 A digital copy of the report in PDF/A format will be deposited with the Historic Environment Record (HER). A copy of the report will be uploaded as part of the OASIS record, and a hardcopy will be included in the physical archive.

8.2 Provisions for publication

- 8.2.1 Any publication requirements contained within the archaeological planning brief will be reviewed between the Project Manager, Client, and archaeological planning advisor prior to preparation of the final archive report. A suitable form of publication will be agreed, should publication be deemed necessary, so as to fulfil the needs of the NPPF by making the significant knowledge and understanding gained accessible to the public.
- 8.2.2 The form of any publication will be agreed with the permission of the Client. Forms of publication could include making the report available on-line, an article in an academic journal, popular articles for magazines or web-based outlets, or potentially a monograph (digital or print) or popular booklet.
- 8.2.3 As a minimum publication would be as a c.300-word summary of the project with, if appropriate, selected illustration for inclusion in the annual round-up of fieldwork within the region. More significant sites may warrant a light article in a relevant county or period journal with, if appropriate, selected illustrations and photographs.

9 PROJECT ARCHIVE

9.1 Documentary Archive

- 9.1.1 The documentary archive shall comprise all original records created during the archaeological works. This includes (but is not limited to) the Written Scheme of Investigation (WSI), final reports, context sheets, drawings, registers, artefact and sample registers, and specialist reports.
- 9.1.2 Only project-specific and original documentation will be included in the final archive. Non-archaeological or irrelevant materials (e.g. unrelated site reports, planning documentation, health and safety records) will be excluded.
- 9.1.3 The documentary archive may be produced physically or digitally through the ARS digital recording application. Regardless of the format, all documentation will be created, consolidated and prepared for long-term archive storage.

9.2 Material Archive

- 9.2.1 The material archive will comprise artefactual and environmental material recovered during the course of project. All material will be collected, cleaned, recorded and stored in accordance with industry standards (Watkinson and Neal 2001) and ARS procedure.
- 9.2.2 The retention of artefactual and environmental material will be informed by the ARS retention and discard policy, specialist advice, and implemented with the agreement of the relevant planning authority and repository. This approach draws on guidance provided by the Chartered Institute for Archaeologists (CIfA 2019).
- 9.2.3 All artefacts intended for deposition will be accompanied by a signed Deed of Transfer, transferring legal ownership from the landowner to the repository. Artefacts that meet the definition of treasure will be treated in accordance with the Treasure Act (2023). The treatment of human remains will follow the relevant legislative policies and standard practices (Mitchell and Brickley 2017)

- 9.2.4 Deselected material will be returned to the landowner or, with landowner permission, discarded or retained as part of a handling or teaching collection.

9.3 Digital Archive

- 9.3.1 The digital archive comprises all digital born data created during the archaeological works. This includes, but is not limited to, digital photographs, survey data, AutoCAD and/or GIS site plans, 3D models and databases.
- 9.3.2 All digital data will be created, stored and managed in accordance with the Data Management Plan (Section 12), which includes relevant industry standards and guidance.

9.4 Archive Deposition

- 9.4.1 The archive deposition will be determined by the extent and significance of the archaeological features and finds. Archiving requirements will be confirmed with the archaeological planning advisor and relevant repository where necessary. At minimum, the approved report will be submitted to the local HER in their preferred format and uploaded via Online Access to the Index of Archaeological Investigations (OASIS).
- 9.4.2 Sites deemed “sterile” (ClfA 2022), with no significant archaeological features or finds, will be archived solely through submission of the report to the HER and OASIS, ensuring public accessibility via the Archaeology Data Service (ADS).
- 9.4.3 For sites with minimal archaeological features or finds, a digital archive containing site records, digital photographs, plans and reports will be uploaded via ADS. The digital data will undergo an assessment and selection process to ensure the final archive meets the quality and format standards outlined in the Data Management Plan (Section 12) and accepted standards (ADS 2025; Cole and Backhouse 2015).
- 9.4.4 Sites with significant archaeological features and finds will be prepared for physical and digital archiving as agreed upon with the archaeological planning advisor and relevant repository. Archive selection preparation will follow industry standards (SMA 1993; Brown 2011; ClfA 2020) and the guidance of the relevant repository to ensure the deposited archive is meaningful and appropriate for future re-use and research.
- 9.4.5 Projects conducted in areas without local repositories will be digitally recorded in their entirety so as to avoid loss of information. Where possible, the physical archive will then be returned to the landowner or discarded.

10 PUBLICITY, ENGAGEMENT AND COPYRIGHT

- 10.1.1 The Client will manage any publicity. ARS Ltd will not undertake media engagement except where approved and directed by the Client.
- 10.1.2 ARS Ltd retain and will retain the copyright of all documentary, photographic and video material under the Copyright, Designs and Patent Act 1988. This report and produced reports may not be reproduced in part or in whole without the express permission of the ARS Ltd.

11 PROFESSIONAL STANDARDS

- 11.1.1 The project will be managed according to the Historic England guidance for research projects (Historic England 2015c).
- 11.1.2 As a Registered Organisation Archaeological Research Services Ltd follows the Chartered Institute for Archaeologists (CIfA) Code of Conduct (2022). All archaeological works will follow accepted with industry standards and best practice guidelines (CIfA 2023a; b).

12 DATA MANAGEMENT PLAN

- 12.1.1 This Data Management Plan (DMP) outlines how data will be collected, stored, documented, shared, and preserved throughout a project to ensure its integrity, accessibility, and long-term usability.
- 12.1.2 All digital data will be created, stored and managed in accordance with the Archaeological Data Service (ADS) Guides to Good Practice (2011), Historic England's Data Image Capture and File Storage: Guidelines for Best Practice (2015) and Applied Digital Documentation in the Historic Environment (2018), ARS Data Management Policy (TBC), and the National Museums Liverpool deposition policy.
- 12.1.3 The Project Manager will be responsible for implementing the DMP. Data capture, metadata production and data quality is the responsibility of the whole Project Team. Data archiving is undertaken by the Post-Excavation and Archives Supervisor, who is responsible for transferring the archive to the agreed repository.
- 12.1.4 The table below summarises the data types, formats and estimated archive quantities of data expected to be generated as part of this project. All data will be produced in ADS preferred file formats for future reuse and archiving. As the project develops, this DMP will be updated and a project data summary (including data types, metadata tables, file counts, and software used) will be compiled and included in all reports.

Type	Format	Estimated Archive Quantity
Text/ Documents	Word (.docx) PDF (.pdf/a)	3 x documents, <100MB
Raster Images	Lossy Graphics File (.jpg) Preferred Deposition Format (.tiff)	150 x images, average size 4MB
GIS	ESRI Shapefile (.shp & .shx & .dbf)	1 x GIS site plan, including 10 shp layers

- 12.1.5 Data will be stored within a project-specific folder on the ARS server, accessible via secure login on/off, and backed up daily by an external IT provider. Project folders will follow established company naming conventions using unique project identifiers. File names will include site code, descriptor, and version control number (e.g., HSQ19_WSI_V2.pdf/a) following standard conventions set forth by ADS.
- 12.1.6 The DMP and digital selection strategy will be reviewed in the post-excavation phase and finalized with relevant stakeholders. The Selection Strategy will be based on the Written

Scheme of Investigation, and defined by the research aims, regional and national research frameworks, specialist advice and the significance of the results of the project.

- 12.1.7 Prior to deposition, all personal data will be excluded from the archive unless explicit consent is obtained as to meet ethical, copyright and Intellectual Property Rights (IPR). Copyright for all project data belongs to ARS Ltd.
- 12.1.8 The digital archive will be deposited with the ADS, a certified repository with Core Trusted Seal. All files will be deposited in the ADS preferred file formats with associated metadata tables as required. The ADS will disseminate the digital elements of the archive online under a creative commons licence and the dataset will receive a unique identifier (DOI).
- 12.1.9 Archiving costs have been assessed using the ADS Costing Calculator and are covered in the project budget.
- 12.1.10 In addition to the digital archive, an OASIS record has been created for the project and will be updated throughout the life of the project. The final report will be attached to the OASIS record and upon completion of the project, be released into the ADS Grey Literature Library and made publicly available.
- 12.1.11 A final copy of the report will be supplied to the Historic Environment Record in their preferred format.
- 12.1.12 If there is a physical archive deposition associated with this project, a complete digital archive index, DOI identifier and OASIS ID number will be provided to the repository.

13 HEALTH AND SAFETY

- 13.1.1 All works will be undertaken in full compliance with the Health and Safety at Work Act 1974 and with the Management of Health and Safety Regulations 1992.
- 13.1.2 A risk assessment will be produced before commencement of the work that will be followed throughout the course of the project, and updated as necessary.

14 REFERENCES

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