An Archaeological Watching Brief, During Ground Level Floor Reduction At Sharpe's Industrial Estate Swadlincote, Derbyshire.

Greg Jones

For Sharpe Bros. & Co. Ltd

Planning Application Sd/92004/1343/L

Planning Authority: South Derbyshire District Council

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1. Summary

1.1 An archaeological watching brief was carried out by ULAS for Mr J.M.S. Whitaker, director of Sharpe Bros. & Co. Ltd, Swadlincote in October 2005 during the reduction of ground floor levels at Sharpe's Industrial Estate, Alexandra Road, Swadlincote, Derbyshire (SK 298 195). A small kiln structure was uncovered during machining along with two walls, one of which was the original warehouse wall. Examples of kiln furniture, known as saggers, were encountered within the demolition back fill as were vast quantities of pottery and sanitary wares. The archive will be deposited with Derby Museums and Art Gallery under accession number DBYMU: 2005-746.

2. Introduction

- 2.1 This document constitutes the second phase of archaeological assessment to have been carried out on land at Sharpe's Industrial Estate, Swadlincote, Derbyshire (SK 298 195). The archaeological assessment was undertaken on behalf of Mr J.M.S. Whitaker, director of Sharpe Bros & Co. Ltd by University of Leicester Archaeological services.
- 2.2 Planning permission has been granted to Sharpe's Bros & Co. Ltd for the demolition of a steel framed building on Alexandra Road and the reduction of ground levels to form a car park. The Development Control Archaeologist for South Derbyshire District Council, in his capacity as archaeological advisor to the planning authority, requested that a programme of archaeological work be carried out. The assessment was to be undertaken in two stages, the first a Conservation Plan for Sharpe's Pottery, which was previously carried out by South Derbyshire District Council (Heath 1999), and a second stage of an archaeological watching brief. The watching brief was concerned with monitoring the reduction of the floor levels in this area.

2.3 Archaeological and Historical Background

Sharpe's Pottery was established by Thomas Sharpe in 1821. Early products were varied but it is known that Derbyshire Ironstone Cane-ware (so-called "yellow ware") was a major product. Edmund Sharpe took over upon the death of his brother in 1838. Edmund saw the business grow from two to four kilns employing more than 100 workers. By 1878 production had expanded to include a wide range of pottery forms. In the 1850's following the 1848 Public Health Act, Sharpe's started producing sanitary ware for interior use and introduced a series of innovations, including the patented 'flushing rim'. Although they continued to manufacture domestic pottery it was as a world leader in the manufacture of sanitary ware for which they became best known over the next 100 years. By the 1930s there were six coal-fired bottle kilns in operation. The three nearest to Alexandra Road were used

for "glost" firing (firing glaze onto biscuit (initial fired) ware). In the 1950s the process of replacing the old kilns with electric ovens began and the old kilns were, one-by-one, demolished. With the closure of Sharpe's pottery in 1967 only one bottle kiln and the kiln hovel were left standing. The former was subsequently demolished. Plans of 1856 and 1873 show a small, circular structure c. 5m in diameter in this area. This is presumably a small kiln, but its purpose is unknown.

3. Site Background.

- 3.1 The underlying geology is First Terrace Gravel (Geological Survey of Great Britain sheet 125) and the site lies at a height of c. 30-31m OD.
- 3.2 The site is located on Alexandra Road/West Street, Swadlincote, south Derbyshire (SK 298 195). It is currently occupied by Sharpe Brothers and Co and is immediately to the west of the Heritage centre formed by the oldest part of Sharpe's Pottery, the buildings of which are listed. The area contained a steel framed warehouse building on Alexandra Road, which was demolished to create car parking space.

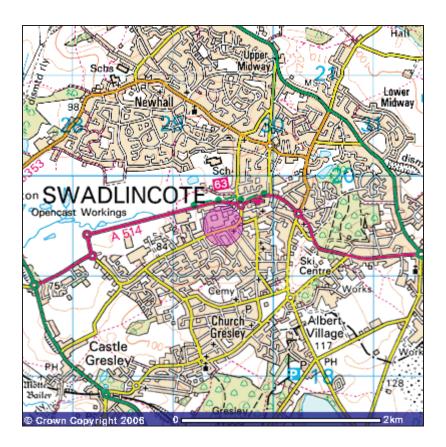


Figure 1 Site Location

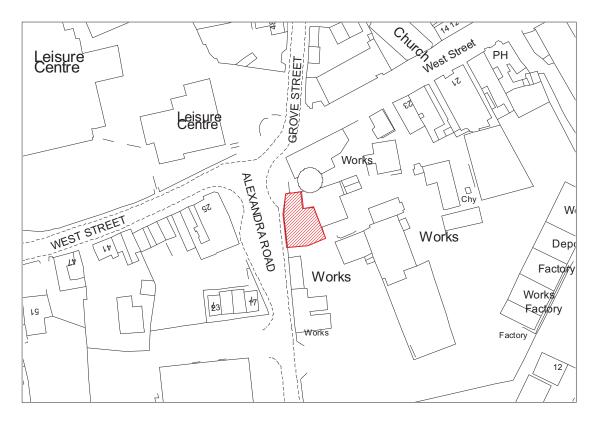


Figure 2. Location of the Development Site

4. Methodology

- 4.1 The aim of the watching brief was to identify and record any archaeological evidence revealed by the reduction of the floor levels and to establish the character, extent and date range for any archaeological deposits to be affected by the proposed ground works. The watching brief took place in October 2005.
- 4.2 All work adhered to the Institute of Field Archaeologist's (IFA) Code of Conduct and Standard and Guidance for Archaeological watching briefs and excavations (1999).

4. Results

During October 2005 machining took place under archaeological supervision on the surfaces within building 1, at Sharpe's Industrial Estate, Swadlincote. This work revealed a small rounded brick built structure (2), (3), and (4), (diameter 4.5m), with an internal brick surface (5) and abutting the present wall of the Heritage Centre. The remains of the walls of the circular building stood at a height of approximately 0.40m above the internal brick surface. An arched opening (6), measuring 0.8m wide, was observed on the north-western edge of (2) and appeared to be below brick surface (5). The bricked surface (5) had been laid in a fairly random manner, with the odd firebrick mixed in with regular bricks. Surface (5) was sealed by patches of white clay (13).

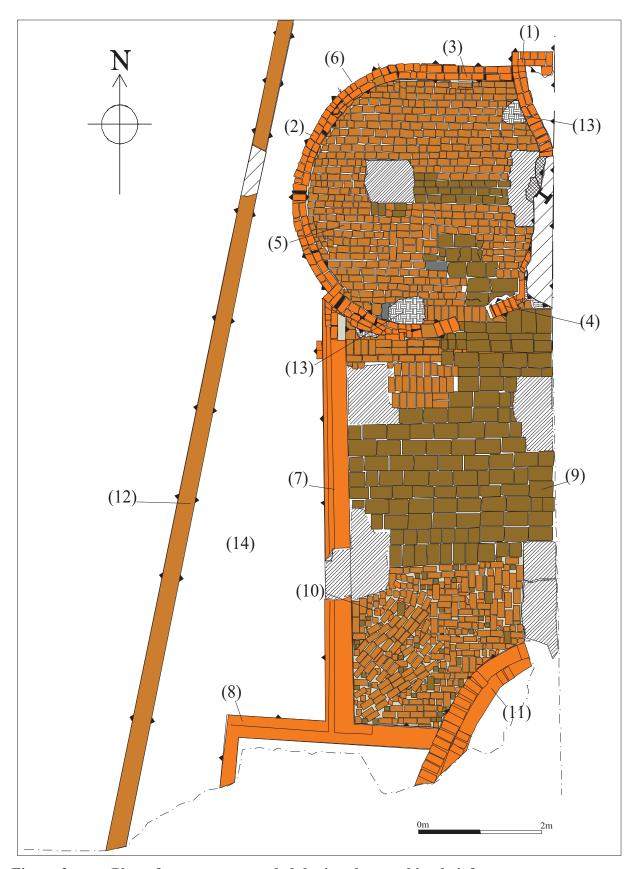


Figure 3 Plan of structures revealed during the watching brief

Further machining revealed a continuation of the floor surface to the south (9), outside the circular structure. This surface however was predominantly made up of laid firebrick slabs. Machining at the most southerly end of the area revealed a further brick laid surface (10), also at the same level, which was laid in a random manner utilising re-used bricks. There did however appear to be a strange circular pattern to some of the brick bonding. Enclosing this surface were two walls (8) and (10) and the corner of the original large kiln hovel (11), which would have been identical to the surviving northern kiln hovel.

To the west of these features machining revealed the wall footings of the 1920's warehouse (12). The make up fills below the reduced floor levels (14) were of a typical dirty dark gritty fill, containing high levels of coal dust and broken ceramics. These included the typical "yellow" and "Mocha ware" domestic pottery, in addition to large quantities of brown "Rockingham ware" teapots deposited in and around the kiln structure. These demolition/makeup fills also contained large numbers of broken sanitary wares and sanitary pipes.



Figure 4 The structures revealed during the watching brief looking North

6. Discussion (with David Barker)

6.1 The kiln structure (2) uncovered is quite small for an oven of any type, except perhaps for a muffle-kiln, used for hardening-on over-glaze decoration. However there is no evidence for over-glaze decoration being used at Sharpe's Pottery and so this hypothesis could be problematic. It is possible that gilding was used with some of the Rockingham wares, in which case hardening-on would be required. Muffle kilns from Stoke dating to the 19th and 20th centuries tend to have a rectangular floor

plan, but a possible mid 18th century example at Longton Hall is small and circular in shape with three fire mouths. In order to be certain that the structure is indeed an oven, further evidence of fireboxes and ash pits would be necessary. The arched opening (6) that has been exposed does indeed look like a typical firebox, which would indicate that a considerable amount of the oven is below the level to which the excavation has been carried so far. Some further, deeper excavation around the exterior of the oven would be needed to confirm the function of the arched opening and to determine whether any other openings of this type exist. As the car park levels were not to be lowered, however, no further excavation was necessary. If these arched openings are in fact fire mouths, then there should be expected that a minimum of four are present.

6.2 The structure certainly appears to have been modified at some unspecified date, as seen in the exterior brickwork and with the curved inner wall. The floor of the 'oven' (5) is most probably a later modification and therefore unrelated to the use of the structure from firing (re-use of ovens and of hovels without surviving ovens was commonplace, most usually for storage). The in-situ white clay (13) does suggest re-use for clay storage. However other uses could be possible which would only be ascertained through further investigation into the 'fire mouth' (6). If this was not a fire mouth it may possibly be that the archway could actually be a flue leading from an unidentified heat source, or firebox. If this is the case then this would suggest that instead of clay storage, the structure may have been re-used as something akin to a slip kiln, in which slip was heated to drive off the liquid and the result being a usable clay. Although this is considered to be highly unlikely, if no further fireboxes present such use becomes distinct possibility. were then



Figure 5 The Kiln Structure (2) and brick surface (5) looking north

The relationship between the 'oven' and the area of firebrick floor (9) beyond is problematic if there are any other fire mouths. If so it would suggest that the brick floor area is a later addition/alteration, related perhaps to the re-flooring of the circular structure.

The brick surface (10) next to the kiln hovel (11), is also enigmatic in as much as the bricks appear on the one hand quite rough, reused and random, yet their arrangement also appears to have some form associated with them, due to the circular nature of the brick pattern. This surface is most probably associated with the kiln hovel (11), but like the firebrick surface mentioned above, this cannot be stated for certain without further investigation.

6.3 The uncovered walls connected with the 1920's warehouse were located in the exact positions anticipated, including wall (7). However the exact phasing and purpose of this wall remains problematic due to the uncertainty of the nature and dating of the three floor surfaces.

7. Conclusion

7.1 The kiln structure was approximately the same size as the kiln marked on the 1904 map measuring 4.5m across, but was actually positioned about 1m further to the north than it was on the 1904 depiction. The shape of the kiln structure is also different to the illustration on the1904 plan as it is fairly irregular in form, rather than a true circle as illustrated on the plan. The 'horseshoe' shaped wall (2) appears to be all that remains of the original kiln structure, with (13) appearing to be a rebuilt wall and curved wall (1) also being an additional later structure. Contexts (3) and (4), both appear to be non-bonded walled entrances. Floor surface (5) appears to be too high for a kiln floor in comparison to the positioning of the fire mouth (6), which suggests that this also may be a later alteration. The composition of this surface is of mainly non-firebricks, also indicating that it could not have been used as a kiln floor. Above this surface, patches of clean white clay (13) were discovered, which may indicate that the purpose of this structure after alteration was for clay storage, post dating structural modifications of the kiln structure.

8. Archive

8.1 The archive consists of a watching brief report sheet and context sheets, 3 permatrace plan drawings and digital photographs. The archive will be held by Leicestershire County Council, Heritage Services, accession number DBYMU:2005-746

9. Acknowledgements

The project was undertaken by the author and project management was by Dr. Patrick Clay. ULAS would like to thank Mr J.M.S. Whitaker for his co-operation and for funding the work. We would also like to thank Professor Marilyn Palmer and, in particular Dr. David Barker, for their expert assistance.

10. Bibliography

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21.03.2006

11. Appendix 1

UNIVERSITY OF LEICESTER ARCHAEOLOGICAL SERVICES

Design Specification for Archaeological Work

Job title: Building 1, Sharpes Industrial Estate, Alexandra Road, Swadlincote, Derbyshire

NGR: SK 298 195

Client: Sharpe Brothers and Co. Ltd

Planning Authority: South Derbyshire District Council

Planning application Sd/9/2004/1343/L

1 Introduction

1.1 Definition and scope of the specification

This document is a design specification forming a written scheme for archaeological work. The work comprises control and supervision of any ground works on the site which may disturb areas of archaeological potential in connection with a planning application, in accordance with DOE Planning Policy Guidance note 16 (PPG16, Archaeology and Planning, para.30). Depending on the results of the control and supervision further excavation and recording may be necessary to ensure a proper record is made of archaeological deposits likely to be impacted on by the proposed development. The document addresses the requirements detailed in the 'Brief for a conditioned programme of archaeological work: The demolition of an existing building at building 12 Sharpes Industrial Estate, Alexandra Road, Swadlincote' issued by the development control archaeologist for South Derbyshire District Council (4.2.2005).

2. Background

2.1 Context of the Project

- 2.1.1 The site is located on Alexandra Road/West Street, Swadlincote, South Derbyshire (SK 298 195). It is currently occupied by Sharpe Brothers and Co and is immediately to the west of the Heritage centre formed by the oldest part of Sharpes Pottery.
- 2.1.2 Planning permission has been granted for the demolition of a steel framed building on Alexandra Road and the reduction of ground levels to form a car park.

2.2 Geological and Topographical Background

2.2.1 The underlying geology is First Terrace Gravel (Geological Survey of Great Britain sheet 125) and the site lies at a height of c. 30-31m OD.

2.3 Archaeological and Historical Background

2.3.1 Sharpe's pottery was established by Thomas Sharpe in 1821. Early products were varied but it is known that Derbyshire Ironstone Caneware (so-called "yellow ware") was a major product. Edmund Sharpe took over upon the death of his brother in 1838. Edmund saw the business grow from two to four kilns employing more than 100 workers. By 1878 production

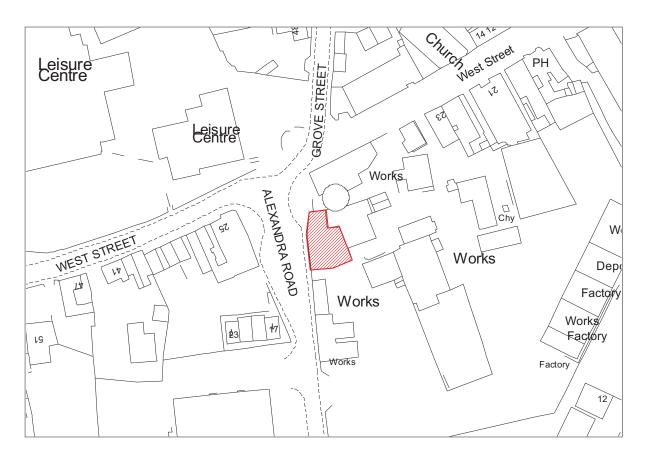


Fig1. Location of the development site.

had expanded to include a wide range of pottery forms. In the 1850s Sharpe's started producing sanitary ware for interior use and introduced a series of innovations, including the patented 'flushing rim'. Although they continued to manufacture domestic pottery it was as a world leader in the manufacture of sanitary ware for which they became best known over the next 100 years. By the 1930s there were 6 coal-fired bottle kilns in operation. The three nearest to Alexandra Road were used for "glost" firing (firing glaze onto biscuit (initial fired) ware). In the 1950s the process of replacing the old kilns with electric ovens began and the old kilns were, one-by-one, demolished. With the closure of Sharpe's pottery in 1967 only one bottle kiln and the kiln hovel were left standing. The former was subsequently demolished. Plans of 1856 (see below) and 1873 show a small, circular structure (c. 5m in diameter) in this area. This is presumably a small kiln, but its purpose is unknown ('Brief' 2.3).

- 2.2.1 No archaeological desk-based assessment has been produced. However, in 1999 Philip Heath of South Derbyshire District Council produced a conservation plan for Sharpe's Pottery. The report contains a detailed account of the known development of Sharpe's Pottery using a variety of textual and cartographic historical evidence.
- 2.2.2 Sharpes pottery is identified as a regionally important industrial site (Campion 2000; 2005).

3. Development Impact

3.1 There is a steel framed building on the Sharpes site, fronting Alexandra Road, that is to be demolished to create car parking space. This building is adjacent to the Heritage centre, the buildings of which are listed. The floor levels inside the steel framed building are to be reduced.

4 Archaeological Objectives ('Brief' 3.0)

- 4.1 The main objectives of the archaeological control and supervision will be:
 - To identify the presence/absence of any archaeological deposits.

- To establish the character, extent and date range for any archaeological deposits to be affected by the proposed ground works.
- To formulate a strategy for their recording in consultation with Derbyshire County Council, Planning Archaeologist
- To produce an archive and report of any results.

5. Methodology ('Brief' 4.0)

5.1 General Methodology and Standards

- 5.1.1 All work will follow the Institute of Field Archaeologists (IFA) Code of Conduct and adhere to their *Standard and Guidance for Archaeological watching briefs* and *excavations* (1999).
- 5.1.2 Staffing, recording systems, health and safety provisions and insurance details are included below.
- 5.1.3 Internal monitoring procedures will be undertaken including visits to the site by the project manager. These will ensure that project targets are met and professional standards are maintained. Provision will be made for external monitoring meetings with the Derbyshire County Council Planning Archaeologist, the Planning authority and the Client.

5.2 *Methodology*

- 5.2.1 The project will involve the control and supervision of demolition (as appropriate) and groundworks by an experienced professional archaeologists during the ground reduction works specified above (3.1). During these groundworks, if any archaeological deposits are seen to be present, the archaeologists will demarcate areas of archaeological interest.
- 5.2.2. Following the ground reduction the archaeologists will formulate a recording strategy in consultation with Derbyshire County Council development Control Archaeologist and Philip Heath, South Derbyshire District Council,
- 5.2.3 Archaeological deposits located will be hand cleaned and planned as appropriate. Samples of any archaeological deposits located will be hand excavated according to the agreed recording strategy. Measured drawings of all archaeological features will be prepared at a scale of 1:20 and tied into an overall site plan of 1:100. All plans will be tied into the National Grid using an Electronic Distance Measurer (EDM) where appropriate.
- 5.2.4 Archaeological deposits will be excavated and recorded as appropriate to establishing the stratigraphic and chronological sequence of deposits, recognising and excavating structural evidence and recovering economic, artefactual and environmental evidence. Particular attention will be paid to the potential for buried palaeosols and environmental potential in consultation with ULAS's environmental officer.
- 5.2.5 All excavated sections will be recorded and drawn at 1:10 or 1:20 scale, levelled and tied into the Ordnance Survey datum. Spot heights will be taken as appropriate.
- 5.2.6 Any human remains encountered will be initially left *in situ* and only be removed under a Home Office Licence and in compliance with relevant environmental health regulations. The developer, South Derbyshire District Council, Derbyshire County Council, t and the coroner will be informed immediately on their discovery (Brief 7.0).

6 Recording Systems

- 6.1 The ULAS recording manual will be used as a guide for all recording.
- 6.2 Individual descriptions of all archaeological strata and features excavated or exposed will be entered onto pro-forma recording sheets.

- 6.3 A site location plan based on the current Ordnance Survey 1:1250 map (reproduced with the permission of the Controller of HMSO) will be prepared. This will be supplemented by a trench plan at appropriate scale, which will show the location of the areas investigated in relationship to the investigation area and OS grid.
- A record of the full extent in plan of all archaeological deposits encountered will be made. Sections including the half-sections of individual layers of features will be drawn as necessary, typically at a scale of 1:10. The OD height of all principal strata and features will be recorded.
- A photographic record of the investigations will be prepared illustrating in both detail and general context the principal features and finds discovered. The photographic record will also include 'working shots' to illustrate more generally the nature of the archaeological operation mounted.
- 6.6 This record will be compiled and checked during the course of the excavations.

7. Finds and Samples

- 7.1 The IFA *Guidelines for Finds Work* will be adhered to.
- 7.2 All antiquities, valuables, objects or remains of archaeological interest, other than articles declared by Coroner's Inquest to be subject to the Treasure Act, discovered in or under the Site during the carrying out of the project by ULAS or during works carried out on the Site by the Client shall be deemed to be the property of ULAS provided that ULAS after due examination of the said Archaeological Discoveries shall transfer ownership of all Archaeological Discoveries unconditionally to the relevant Museum for storage in perpetuity.
- 7.3 Before commencing work on the site, a Site code/Accession number will be agreed with the Planning Archaeologist that will be used to identify all records and finds from the site.
- 7.4 During the fieldwork, different sampling strategies may be employed according to the perceived importance of the strata under investigation. Close attention will always be given to sampling for date, structure and environment. If significant archaeological features are sample excavated, the environmental sampling strategy is likely to include the following:
 - A range of features to represent all feature types, areas and phases will be selected on a judgmental basis. The criteria for selection will be that deposits are datable, well sealed and with little intrusive or residual material.
 - ii. Any buried soils or well-sealed deposits with concentrations of carbonised material present will be intensively sampled taking a known proportion of the deposit.
 - iii. Spot samples will be taken where concentrations of environmental remains are located.
 - iv. Waterlogged remains, if present, will be sampled for pollen, plant macrofossils, insect remains and radiocarbon dating provided that they are uncontaminated and datable. Consultation with the specialist will be undertaken.
- 7.5 All identified finds and artefacts are to be retained, although certain classes of building material will, in some circumstances, be discarded after recording with the approval of the Senior Planning Archaeologist. The IFA *Guidelines for Finds Work* will be adhered to.
- All finds and samples will be treated in a proper manner. Where appropriate they will be cleaned, marked and receive remedial conservation in accordance with recognised best-practice. This will include the site code number, finds number and context number. Bulk finds will be bagged in clear self sealing plastic bags, again marked with site code, finds and context numbers and boxed by material in standard storage boxes (340mm x 270mm x 195mm). All materials will be fully labelled, catalogued and stored in appropriate containers.

8. Report and Archive

8.1 The full report in A4 format will usually follow within six months of the completion of the fieldwork and copies will be dispatched to the Client, Derbyshire Planning Archaeologist; SMR and Local Planning Authority.

- 8.2 The report will include consideration of:-
 - The aims and methods adopted in the course of the evaluation.
 - The nature, location, extent, date, significance and quality of any structural, artefactual and environmental material uncovered.
 - The anticipated degree of survival of archaeological deposits.
 - The anticipated archaeological impact of the current proposals.
 - Appropriate illustrative material including maps, plans, sections, drawings and photographs.

Summary.

- 8.1 The location and size of the archive.
- 8.2 A quantitative and qualitative assessment of the potential of the archive for further analysis leading to full publication, following guidelines laid down in *Management of Archaeological Projects* (English Heritage).
- 8.3 A full copy of the archive as defined in *The Guidelines For The Preparation Of Excavation Archives For Long-Term Storage* (UKIC 1990), and *Standards In The Museum: Care Of Archaeological Collections* (MGC 1992) and *Guidelines for the Preparation of Site Archives and Assessments for all Finds* (other than fired clay objects) (Roman Finds Group and Finds Research Group AD 700-1700 1993) will usually be presented to within six months of the completion of fieldwork. This archive will include all written, drawn and photographic records relating directly to the investigations undertaken.
- 8.4 An OASIS record will be completed for the project (Brief 9.2).

9 Publication and Dissemination of Results

9.1 A summary of the work will be submitted for publication in the *South Derbyshire**Archaeology. A larger report will be submitted for inclusion if the results of the evaluation warrant it.

10. Acknowledgement and Publicity

- 10.1 ULAS shall acknowledge the contribution of the Client in any displays, broadcasts or publications relating to the site or in which the report may be included.
- 10.2 ULAS and the Client shall each ensure that a senior employee shall be responsible for dealing with any enquiries received from press, television and any other broadcasting media and members of the public. All enquiries made to ULAS shall be directed to the Client for comment.

11. Copyright

11.1 The copyright of all original finished documents shall remain vested in ULAS and ULAS will be entitled as of right to publish any material in any form produced as a result of its investigations.

12. Timetable

- 12.1 The scheduled start of the evaluation is with to be arranged.
- 12.2 The report will be ready within six months of the completion of fieldwork. The on-site director/supervisor will carry out the post-excavation work, with time allocated within the costing of the project for analysis of any artefacts found on the site by the relevant in-house specialists at ULAS.

13. Health and Safety

- 13.1 ULAS is covered by and adheres to the University of Leicester Archaeological Services
 Health and Safety Policy and Health and Safety manual with appropriate risks assessments for
 all archaeological work. A draft Health and Safety statement for this project is attached as
 Appendix 1. The relevant Health and Safety Executive guidelines will be adhered to as
 appropriate. The HSE has determined that archaeological investigations are exempt from
 CDM regulations.
- 13.2 A Risks assessment form will be completed prior to work commencing on-site, and updated as necessary during the site works.

14. Insurance

All employees, consultants and volunteers are covered by the University of Leicester public liability insurance with Gerling Insurance Service Co. Ltd. and others (leading policy no. 62/99094/D). Professional indemnity insurance is with Sun Alliance, £10m cover, policy no. 03A/SA 001 05978. Employer's Liability Insurance is with Eagle Star, cover £10m. Copies of the certificates of insurance are provided.

15. Monitoring arrangements

- 15.1 Unlimited access to monitor the project will be available to both the Client and his representatives and Planning Archaeologist subject to the health and safety requirements of the site. At least one weeks notice will be given to LMARS Planning Archaeologist before the commencement of the archaeological evaluation in order that monitoring arrangements can be made.
- 15.2 All monitoring shall be carried out in accordance with the IFA *Standard and Guidance for Archaeological Field Evaluations*.
- 15.3 Internal monitoring will be carried out by the ULAS project manager.

16. Contingencies and unforeseen circumstances

In the event that unforeseen archaeological discoveries are made during the project, ULAS shall inform the site agent/project manager, Client and the Planning Archaeologist and Planning Authority and prepare a short written statement with plan detailing the archaeological evidence. Following assessment of the archaeological remains by the Planning Archaeologist, ULAS shall, if required, implement an amended scheme of investigation on behalf of the client as appropriate.

17. Bibliography

Campion G., 2000 An Archaeological Resource Assessment of the Modern period for the east Midlands Midlands Archaeological Research Frameworks http://www.le.ac.uk/archaeology/east_midlands_research_frameworks.htm.

Campion, G., 2005 (in press) 'The Modern period' in N.J. Cooper (ed) *The Archaeology of the East Midlands. An Archaeological Resource Assessment* Leicester; Leicester Archaeology Monograph 13.

The management of archaeological projects 2nd edition English Heritage 1991

MAP 2

MGC 1992 Standards in the Museum Care of Archaeological Collections 1992 (Museums and Galleries Commission)

RFG/FRG Guidelines for the preparation of site archives (Roman Finds Group and Finds 1993 Research Group AD 700-1700 1993)

SMA 1993 Selection, retention and Dispersal of Archaeological Collections. Guidelines for use in England, Wales and Northern Ireland 1993 (Society of Museum Archaeologists)

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APPENDIX 1

Job title: Building 1, Sharpes Industrial Estate, Alexandra Road, Swadlincote, Derbyshire

NGR: SK 528 367

Client: Sharpe Brothers and Co. Ltd

Planning Authority: South Derbyshire District Council

Planning application Sd/9/2004/1343/L

Draft Project Health and Safety Policy Statement

A risks assessment will be produced by on-site staff, which will be updated and amended during the course of the evaluation.

1. Nature of the work

1.1 Brief description of the work involved e.g.

The work will involve machine excavation by JCB 3C or equivalent during daylight hours to reveal underlying archaeological deposits. Overall depth is likely to be c. 0.5 m with possible features excavated to a depth of another 1m. Trenches will not be excavated to a depth exceeding 1.2m. Spoil will be stockpiled no less than 1.5 m from the edge of the excavation, the topsoil and subsoil being kept separate. Remaining works will involve the examination of the exposed surface with hand tools (shovels, trowels etc) and excavation of archaeological features. Deeper features will be fenced with lamp irons and hazard tape. Three staff will be used on the evaluation.

2 Risks Assessment

2.1 Working on an excavation site.

Precautions. Trenches to not be excavated to a depth exceeding 1.2m. Spoil will be kept 1.5m away from the edge of the excavated area to prevent falls of loose debris. Loose spoil heaps will not be walked on. Protective footwear will be worn at all times. Hard hats will be worn when working in deeper sections or with plant. First aid kit to be kept in site accommodation/vehicle. Vehicle and mobile phone to be kept on site in case of emergency.

2.2 Working with plant.

Precautions. Archaeologists experienced in working with machines will supervise topsoil stripping at all times. Hard hats, protective footwear and hazard jackets will be worn at all times. Machine driver to be suitably qualified and insured. If services or wells are encountered machining will be halted until extent has been established by hand excavation or areas where it is safe to machine have been established. Overhead power lines are present to the south of the areas to be evaluated. The machine will maintain a distance of at least 10 m to the north of the powerlines.

2.3 Working within areas prone to waterlogging.

If waterlogging occurs on site preventing work continuing it is proposed to excavate a sump, suitably fenced and clearly marked to enable the water to drain away. If this is insufficient a pump will be used. The sump will be covered when not in use and backfilled if no longer

required. Protective clothing will be worn at all times and precautions taken to prevent contact with stagnant water which may carry Vialls disease or similar.

2.4 Working with chemicals.

If chemicals are used to conserve or help lift archaeological material these will only be used by qualified personnel with protective clothing (i.e. a trained conservator) and will be removed from site immediately after use.

2.5 Other risks

Precautions. If there is any suspicion of unforeseen hazards being encountered e.g. chemical contaminants, unexploded bombs, hazardous gases, work will cease immediately. The client and relevant public authorities will be informed immediately.