# Archaeological Evaluation at Riverside Business Park, Bakewell, Derbyshire



General view of the site, looking south-west

### ARS Ltd Report 2011/75

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# Archaeological Research Services Ltd

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### Executive Summary

In July 2011 Archaeological Research Services Ltd were commissioned by W M D Twelves of Litton Properties Ltd. to undertake an archaeological evaluation at Riverside Business Park, Bakewell, Derbyshire, prior to the proposed development of the site. This development will consist of the construction of a new bridge for additional access to the site.

The archaeological evaluation established that the proposed development area contained remains of the former Gas Works consisting of a series of buildings' walls. Furthermore, it also uncovered substantial remnants of a former chimney stack which would have been associated with a large building of which part of its wall is presently acting as a retaining wall. These remains may date to the 19<sup>th</sup> century.

The proposed development may impact on these archaeological remains which are considered as a heritage asset of local significance in accordance with PPS5; and thus may require mitigation measures.

### 1 Introduction

- 1.1 This document reports the findings of an archaeological evaluation undertaken by Dr. Gareth Davies, Dr. Gillian Eadie and Alvaro Mora-Ottomano of Archaeological Research Services Ltd on 18<sup>th</sup> 19<sup>th</sup> July 2011 at Riverside Business Park (formerly Lumford Mill) Buxton Road, Bakewell, Derbyshire (centred at NGR: SK 2111 6899, Fig. 1).
- 1.2 A planning application (NP/DDD/1210/1298) for the construction of a new bridge from the A6 to the Riverside Business Park complex has been submitted to the Peak District National Park Authority (PDNPA). The site of the proposed development area corresponds to that of the Bakewell Gas Company Works, which is known to have been established by 1850. The layout of the former Gas Works complex is clearly shown on the 1922 ed. 25" O.S. map. The development of the bridge will affect the western edge of this area at which a range of building foundations survive.
- 1.3 It was recommended by the Peak District National Park Authority that an archaeological trial trenching evaluation be undertaken as it was believed that the proposed development could impact on archaeological remains which may be present on the site.
- 1.4 The evaluation took the form of two targeted trenches which aimed to determine the presence and nature of any archaeological remains which may be disturbed or destroyed by the development. The site of the proposed new bridge and the archaeological trial trenches are shown below (Fig. 2).
- 1.5 The underlying geology comprises carboniferous limestone of the Monsal Dale formation (British Geological Survey). The site is situated at a height of c. 130 metres Above Ordnance Datum (AOD).

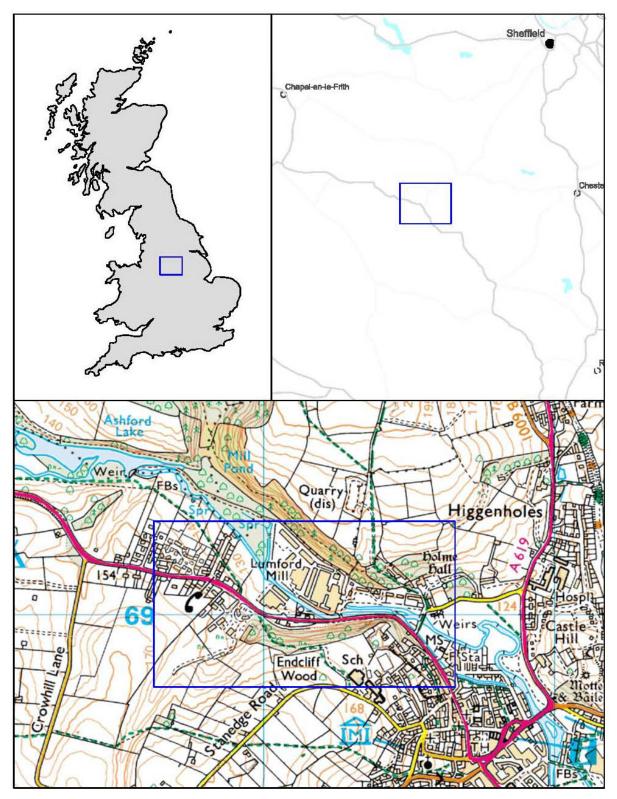
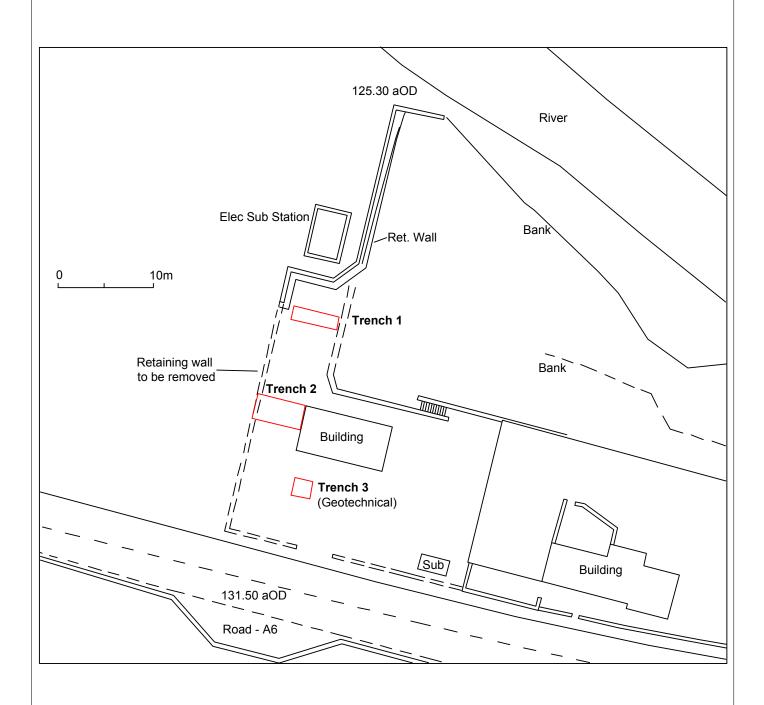


Figure 1: General site location





Archaeological Research Services Ltd Portland Square Bakewell Derbyshire DE45 1HB	Figure 2 Site plan and location of archaeological trial trenches	
Site Code: BRS Drawing Ref: 2 Date: Aug 2011 Drawn: GD Scale: As shown		Copyright/Licencing: This drawing © A.R.S. Ltd  Ordnance Survey data if applicable © Crown Copyright, all rights reserved reproduced with permission. Licence No. 100045420

### 2 Background

- A series of comprehensive desk-top assessments have been produced which examine the historical and archaeological background of the entire development site (Strange 2001 amended 2010; Strange 2006). These included cartographic regression analysis and discussed the results of documentary studies of the historical evolution of the site. These assessments have previously been submitted to the local planning authority in support of the planning application for re-development of the site, and thus they should be read in conjunction with this report (available online: <a href="http://pam.peakdistrict.gov.uk/?s=0&r=NP%2FDDD%2F1210%2F1298&q=NP%2FDDD%2F1210%2F1298">http://pam.peakdistrict.gov.uk/?s=0&r=NP%2FDDD%2F1210%2F1298&q=NP%2FDDD%2F1210%2F1298</a>).
- 2.2 The site appears to have been meadowland prior to the construction of Lumford Mill in 1777 by Richard Arkwright. By 1786 the site was occupied by the main millpond, with two smaller ponds also shown on plans from 1813. A gas plant was installed at Lumford Mill in 1844 which also provided lighting in the town of Bakewell. The gas plant appeared to have been located within proposed development site. The original mill building was completely destroyed by fire in 1868, and was replaced by a new single-storey building in 1875 (*ibid.*).

### 3 Aims and Objectives

- 3.1 The objective of the archaeological evaluation was to provide sufficient information for informed decisions to be made regarding:
  - i) the presence or absence of archaeological features
  - ii) an assessment of their significance and importance in line with PPS5 (Planning for the Historical Environment) (CLG 2010) and Scheduled Monument Consent
  - iii) the likely impact of the development upon any such features
  - iv) the appropriate mitigation of the development's impact upon those remains

### 4 Methodology

- 4.1 A detailed project design was prepared by Archeological Research Services Ltd. The evaluation involved the excavation of two 6m x 2m trenches located across the proposed bridge. An earlier geotechnical trial pit was also excavated on site by Eastwood & Partners (Consulting Engineers) Ltd. Its result are summarised below.
- 4.2 Any features or structures were fully cleaned and recorded in accordance with the standards stipulated by the Institute for Archaeologists (1999 and 2001). The records consisted of the following:
  - Any features or structures were photographed, recorded and, where possible, fully-excavated. All the contexts were recorded on pro-forma sheets and a context register was maintained.
  - Photographs were taken using a 35mm SLR camera with black and white print film, as well as with a digital camera (7.1 megapixel resolution).

### 5 Results

5.1 Detailed summary of the trench records, including plans and sections, is presented in Appendix I. Full details are available in the project archive.

Trench 1

- 5.2 Trench 1 measured  $\epsilon$ . 6 metres in length (E/W), 2 metres in width (N/S) and reached an overall depth of 1.30 metres. The trench was located across the northernmost end of the proposed development area, between a boundary wall to the west and a retaining wall to the east.
- 5.3 The stratigraphic sequence consisted of a thin layer of topsoil (101), which in turn overlay a series of made-ground layers (102) and (103) to a maximum depth of 1.20 metres below ground level (BGL). The made-ground layers were composed of mixed mid grey-brown firm clayey silt with sandy silt lenses containing frequent rubble. Roots disturbance from former trees were also largely present within the made-ground layers (Fig. 3).
- 5.4 The excavation of the aforementioned layers revealed a basal section of a brick-built chimney stack to the east of the trench whose uppermost section was recorded at 700mm BGL (Figs 4 and 5). The structure is square in plan (c. 2 x 2 metres) and is composed of two double-skin brick walls (104) and (105). The outer wall (104) consists of eight courses of red bricks (9" x 4" x 3") bonded with lime mortar and laid mainly to English bond. The inner wall (105) consists of seven visible courses of fire or refractory yellow bricks (9" x 4" x 3") bonded with yellowish lime mortar. Brick samples of the aforementioned walls were retained. The structure appears to be built in situ and extends beneath the base of the trench. The eastern wall contains a barrel vaulted opening which would have connected the stack to a former boiler (Figs 6 and 7). The opening has a segmental arched head composed of two courses. Immediately over the opening, there is a similar arched head within the outer wall (104), acting as a relieving arch of the barrel vault of the former boiler. The vaulted opening extended to the east of the retaining wall where an equivalent arched opening was identified, although is now blocked with stones (Fig. 8). The interior of the stack measures c. 800 x 800mm and it was partially backfill with rubble, large sandstone architectural fragments and clayey silt with sandy silt lenses. A primary ashy deposit (106) was uncovered at c. 2 metres BGL inside the stack (Fig. 9); and an air/flue vent with a segmental arched head was also noticed within the western wall (Fig. 10).
- 5.5 The remains of this chimney base and the blocked-up opening within the current retaining wall represent the remnants of an earlier works which might have been powered with a steam engine located to the east of the trench. The retaining wall is currently an L-shaped structure which contains several blocked-up doorways as well as the barrel vaulted opening which would have connected a boiler with the revealed chimney stack. Thus the wall represents the internal side of a former works with its adjoining chimney stack to the north-west corner. These remains may date to the mid 19<sup>th</sup> century as cartographic records of the late 19<sup>th</sup> century do not show clear evidence of the standing retaining wall with its associated chimney stack uncovered during the evaluation.



Figure 3: Trench 1 during excavation, looking east



Figure 4: Trench 1 with remains of chimney stack in the eastern side, looking east (scale 1m)



Figure 5: Basal section of a brick chimney stack, looking south-east (scale 1m)



Figure 6: Segmental arched head of the barrel vaulted opening, looking east (scale 1m)

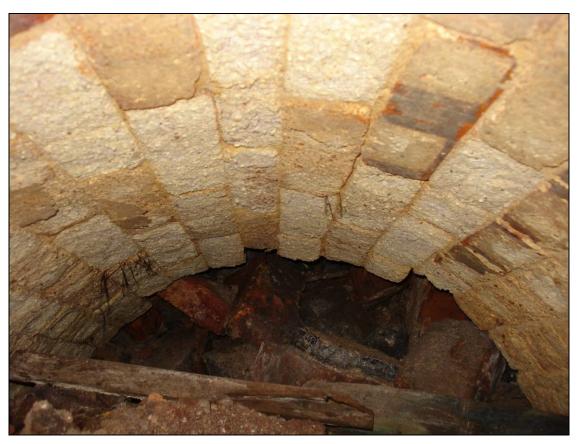


Figure 7: Vaulted flue opening, looking east



Figure 8: Arched opening of a former boiler adjacent to the stack behind the wall, looking west (scale 1m)



Figure 9: Ashy deposit (106) inside chimney stack, looking south (scale 1m)



Figure 10: Detail of arched vent in the western wall (scale 1m)

### Trench 2

- 5.6 Trench 2 measured 6.50 metres in length (E/W), 2 metres in width (N/S) and reached an overall depth of  $\epsilon$ . 500mm and a maximum of 1.40 metres at the western end (Fig. 11). The trench was located across the proposed development area adjoining the western wall of an existing single-storey building.
- 5.7 The stratigraphic sequence consisted of a thin layer of topsoil (201), which in turn overlay a series of made-ground layer (202) and (203), composed of mid orangey brown clay with frequent rubble.
- An east/west wall (206) was revealed along the southern edge of the trench. The wall returns southwards, forming a north-west corner (Fig. 11). An associated internal floor (207) was also observed immediately next to the edge of the trench (Fig. 12). The outer side of the N/S return of wall (206) was excavated to a depth of 1.40 metres BGL, exposing a maximum of ten courses. The uppermost course was encountered at 400mm BGL. The wall is constructed with roughly hewn limestone elongated blocks (c. 350mm x 90mm x 20mm), built to courses and bonded with white lime mortar. Floor (207) appears to be made of lime ash compressed screed. It is possible that the floor might have been a secondary construction, as the initial floor may be located substantially lower as the exposed masonry (206) does not seem to be a foundation wall; instead it appears to indicate a standing wall of a building.
- 5.9 The outer northern side of structure (206) was abutted by an additional N/S wall (204) positioned against the corner of (206) and possibly by an equivalent wall (205) a. 1.75 metres to the east (Figs 11 and 12). The former wall consists of unhewn angular limestone rubble bonded with coarse lime mortar to irregular courses; and the latter was not excavated and only the upper course was partially noticed which is comparable to (204).
- 5.10 The eastern end of wall (206) is truncated by a linear feature [208] which appears to be associated with the standing single-storey modern building immediately to the east. The linear feature may be a foundation or service trench.
- 5.11 Amongst the rubble within the made-ground layers, a group of several sandstones (210) situated around the north-eastern side of the trench, may be the remains of a possible structure such as a culvert or similar chamber-like feature, as voids beneath the stones were observed (Fig. 13). This possible feature was not excavated.
- 5.12 Structure (206) appears to be the corner of a large N/S building depicted in the 1898 Ordnance Survey map, and the abutments (204) and (205) may represent a northern extension indicated in the same map (Fig. 14).



Figure 11: General view of trench 2, looking east (scale 1m)

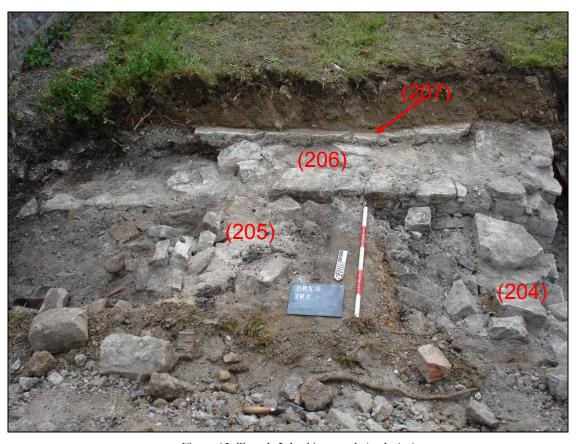


Figure 12: Trench 2, looking south (scale 1m)



Figure 13: Detail of possible structure 210, looking north (scale 1m)

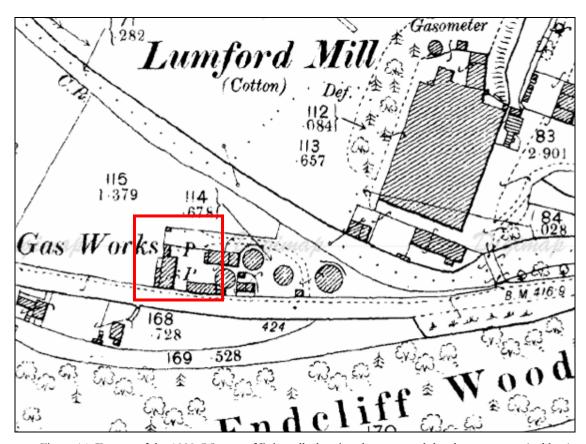


Figure 14: Extract of the 1898 OS map of Bakewell, showing the proposed development area (red box)

### Trench 3

5.13 Prior to the commencement of the archaeological evaluation, a geotechnical trial pit was also excavated on site by Eastwood & Partners (Consulting Engineers) Ltd on 29<sup>th</sup> November 2010. The trench was located to the south of the standing modern single-storey building. The results were supplied by Dr. Patrick Strange, who acted as a consultant. The trench measured 2.50 metres in length, 600mm in width and reached a depth of 3.70 metres. The underlying geological substratum (natural), composed of clay with gravel, was identified at 1.90 metres BGL. The made-ground layers overlying the natural consists of loosely compacted bricks, crushed concrete, limestone cladding blocks, cobbles and boulders with some red brown clayey sand with gravel.

### 6 Discussion and Conclusion

- 6.1 The archaeological evaluation has revealed structural remains of the former Gas Works consisting of a series of buildings' walls. Furthermore, it also uncovered substantial remnants of a former chimney stack which would have been associated with a large building of which part of its wall is presently acting as a retaining wall. These remains may date to the 19<sup>th</sup> century.
- 6.2 The proposed development may impact on these archaeological remains which are considered as a heritage asset of local significance in accordance with PPS5; and thus may require mitigation measures.

### 7 Publicity, Confidentiality and Copyright

- 7.1 Any publicity will be handled by the client.
- 7.2 Archaeological Research Services Ltd will retain the copyright of all documentary and photographic material under the Copyright, Designs and Patent Act (1988).

### 8 Statement of Indemnity

8.1 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 Acknowledgements

9.1 Archaeological Research Services Ltd would like to thank W M D Twelves of Litton Properties Ltd. for commissioning the work; Sarah Whiteley, Senior Conservation Archaeologist of the Peak District National Park Authority for monitoring and providing assistance throughout the project and Dr. Patrick Strange for his invaluable help and advice.

### 10 References

Strange, P. 2001. Lumford Mill, Bakewell. Archaeological desktop assessment for Litton Properties (unpublished report, Patrick Strange).

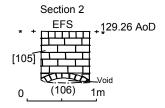
Strange, P. 2006. Riverside Works, Bakewell. A brief Archaeological and Historical survey of the former Gas Works building (unpublished report, Patrick Strange).

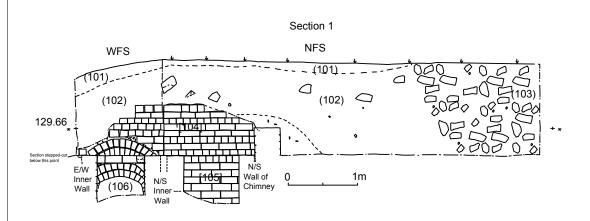
Institute for Archaeologist (revised 1999). Code of Conduct, the Standard and Guidance for Archaeological Field Evaluations.

Institute for Archaeologist (revised 2009). Standards and Guidelines for Archaeological Field Evaluation.

# APPENDIX I: Figures 15 and 16

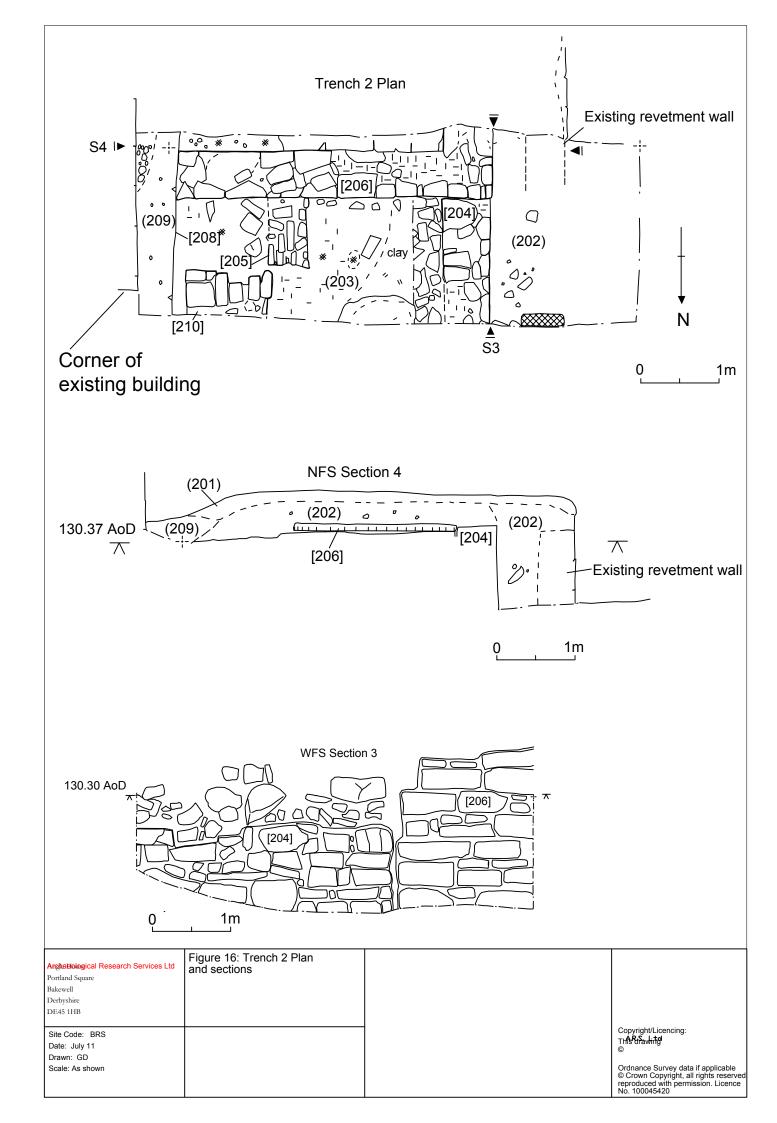
# Trench 1 Plan 0 1m (102) Section 1 (103) \*(106)\* \*(106)\* Mortar Obscuring Section 2





105

Arghatiological Research Services Ltd	Figure 15: Trench 1 Plan and sections	
Portland Square		
Bakewell		
Derbyshire		
DE45 1HB		
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### APPENDIX II: SPECIFICATION

# Archaeological Evaluation at Bakewell Riverside, Bakewell, Derbyshire. Written Scheme of Investigation

### 1.0 Introduction

1.1 A planning application for the construction of a new bridge from the A6 to the Lumford Mill complex has been submitted to the Peak District National Park Authority (PDNPA). The proposed development lies on Buxton Road to the West of Bakewell (Fig.1). The site of the proposed development area corresponds to that of the Bakewell Gas Company works, which is know to have been established by 1850. The lay out this complex is clearly shown on the 1922 ed. 25" O.S. map. The development of the bridge will affect the western edge of this area at which a range of building foundations survive.

### 2.0 Background

- 2.1 The Peak District National Park Authority has advised that the archaeological implications of the proposal cannot be adequately assessed on the basis of the available information. In line with government guidance as set out in Planning Policy statement 5 Planning for the Historic Environment it has therefore been recommended that an archaeological field evaluation should be carried out.
- 2.3 Senior Conservation Archaeologist at the PDNPA has issued a brief for this work. The evaluation is to comprise of limited investigation to establish presence/absence, character, extent, state of preservation and date of any archaeological deposits within the areas of proposed development. This document is a written scheme of investigation for the required trial trench evaluation at Bakewell Riverside, Derbyshire (SK2111 6899) (Fig. 2 as detailed in that brief.

### 3.0 Evaluation Aims and Methods

- 3.1 The evaluation technique will comply with all health and safety regulations. The trial trenching will comprise of three trenches (one 2m x 2m, one 1m x 6m and one 2m x 6m) excavated in the locations shown on Figure 2
- 3.2 The objective of the archaeological evaluation is to provide sufficient information for informed decisions to be made regarding:
  - v) the presence or absence of archaeological features
  - vi) an assessment of their significance and importance in line with PPS5 (Planning for the Historical Environment) (CLG 2010) and Scheduled Monument Consent.
  - vii) the likely impact of the development upon any such features
  - viii) the appropriate mitigation of the development's impact upon those remains

- 3.3 The research aims for any further work required following the field observation will be developed in an additional WSI.
- 3.4 If significant archaeological remains are identified during the field observations that require further examination, a site meeting will be arranged with the client, ARS Ltd and the Development Control Archaeologist in order to agree the requirement and timetable for further work. This is in accordance with Planning Policy Statement 5 (PPS5) (CLG 2010).
- 3.5 Any changes to the agreed WSI will be discussed with, and agreed with, the Development Control Archaeologist before implementation.
- 3.6 **Specific Methodology**: All archaeological fieldwork, recording of archaeological features and deposits and post-excavation analysis will be carried out to acceptable standards as set out in the Institute for Archaeologists' *Code of Practice* (2000) and *Standard and Guidance for Archaeological Evaluation* (2008).
- 3.7 Each trench will be cleaned by hand sufficiently to allow the identification and planning of archaeological features. Where archaeological features appear to be absent, sufficient work will be done to demonstrate this. Each intervention will be planned at an appropriate scale; 1:20 where complex deposits are present or 1:50 in areas of lesser complexity. One section of each intervention will be produced, at an appropriate scale. Sections and profiles of features will be drawn at 1:10 or 1:20, depending on the size of the feature. Spot levels relative to ordnance datum in metres will be taken as appropriate.
- 3.8 Identified archaeological features will be sufficiently sampled by manual excavation to allow their date, nature and degree of survival to be ascertained. All features thus investigated will be recorded in plan and section and all finds recovered retained for analysis.
- 3.9 For stone structures, the record will include details of stone dimensions and type (handmade/machine-made, plain/frogged), mortar (colour, composition, hardness) and the extent of structures (number of courses, thickness in skins).
- 3.10 All identified archaeological features will be accurately fixed using an EDM/Total Station, surveying in either the planning baselines or the features themselves.
- 3.11 The site archive will include plans and sections at an appropriate scale, a photographic record, and full stratigraphic records on recording forms/context sheets. Each context will be recorded on pro-forma records which will include the following: character and contextual relationships; detailed description (dimensions and shape; soil components, colour, texture and consistency); associated finds; interpretation and phasing as well as cross-references to the drawn, photographic and finds registers. Each context will be recorded on an individual record.
- 3.12 A photographic record will be maintained including photographs of all significant features and overall photographs of each area or trench. All images will be taken in digital format, and will contain a graduated photographic scale. The main photographic archive will comprise of colour digital SLR (minimum 7 megapixels).

- 3.13 All stratified finds will be collected by context or, where appropriate, individually recorded in 3 dimensions. Unstratified finds will only be collected where they contribute significantly to the project objectives or are of particular intrinsic interest. All pottery of early post-medieval date or earlier will be retained, whether stratified or un-stratified.
- 3.14 Deposits that have the potential for providing environmental or dating evidence will be assessed while the work is in progress.
- 3.15 Samples will be assessed by a suitable specialist with provision for further analysis as required. Specialist advice on the collection of industrial residues will be sought and their strategies implemented. The advice of the English Heritage Scientific Adviser will be followed in relation to the collection of palaeoenvironmental evidence.
- 3.16 All retained finds and palaeoenvironmental samples will be treated in accordance with the English Heritage guidance document *A Strategy for care and investigation of find (1995)* and the UKIC's document *Guidelines for the preparation of excavation archives for long term storage.*
- 3.17 Provision will be made for additional specialist advice, e.g. for finds analysis and conservation.
- 3.18 Finds of "treasure" will be reported to the Coroner in accordance with the Treasure Act procedures.
- 3.19 If grave cuts are discovered on site, then they will be sampled through hand excavation to determine the presence/absence, depth and preservation of the uppermost burials, before being initially left in situ. Where excavation of human remains is necessary, a license will be obtained from the Ministry of Justice and work will be carried out under appropriate environmental health regulations and, if appropriate, in compliance with the Disused Burial Grounds (Amendments) Act 1981.
- 3.20 Disarticulated human bone will be quantified and characterised prior to reinterrment on site.
- 3.21 The record of the extent and vulnerability of features will be sufficiently detailed to facilitate discussions regarding the need for preservation beneath any future potential development, or any other mitigation measures including further excavation.
- 3.22 A risk assessment will be undertaken before commencement of the work and health and safety regulations will be adhered to at all times.
- 4.0 Site Monitoring
- 4.1 Notice of the commencement of the evaluation will be given to the Senior Conservation Archaeologist of the Peak District National Park Authority Cultural Heritage team.

### 5.0 Report

- 5.1 A report will be produced which will include background information, a summary of the works carried out, and a description and interpretation of the findings in the form of a written catalogue. The report will also include:
- Non-technical summary
- Introductory statement
- Aims and purpose of the project
- Methodology
- A location plan showing all excavated areas with respect to nearby fixed structures and roads
- Illustrations of all archaeological features with appropriately scaled hachured plans and sections (illustrating height AOD)
- An objective summary statement of results
- Conclusions
- Supporting data tabulated or in appendices
- Index to archive and details of archive location
- References
- Statement of intent regarding publication
- 5.2 Copies of the final report and archive will be deposited with the Peak District National Park Cultural Heritage team and the Derbyshire HER Officer. Reports will be provided in both paper and electronic form.
- 5.3 The results of the work will be published in the appropriate issue of Archaeology and Conservation in Derbyshire, and, if of regional or national significance, within an archaeological journal.
- 5.4 Archaeological Research Services Ltd will complete the online OASIS form at <a href="http://ads.ahds.ac.uk/project/oasis/">http://ads.ahds.ac.uk/project/oasis/</a> prior to commencement of the project and will complete the relevant forms on completion of the project.
- 6.0 Deposition of Archive and Finds
- 6.1 A field archive will be compiled consisting of all primary written documents, plans, sections, photographs and electronic data (in a format to be agreed by the repository museum).
- After agreement with the landowner, the field archive will be deposited with PDHMS. The archaeological contractor will liaise with the Senior Conservation Archaeologist for the PDNPA at the beginning of the project, to arrange this.

### 7.0 Standards

7.1 All work undertaken by Archaeological research services Ltd will be undertaken in accordance with the Institute of Field Archaeologists *Standard and Guidance for archaeological field evaluation* (revised September 1999).