PROPOSED SOLAR FARM, DECOY FARM, SPALDING, LINCOLNSHIRE

WRITTEN SCHEME OF INVESTIGATION FOR ARCHAEOLOGICAL MONITORING & RECORDING

9th April 2015

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ARCHAEOLOGICAL MONITORING & RECORDING

1 INTRODUCTION
PLANNING AND DEVELOPMENT BACKGROUND

1.1 This WSI has been prepared in response to a brief issued by brief issued by the Planning Archaeologist of Lincolnshire County Council (LCC PA, Louise Jennings, dated 17th September 2014). It provides for a programme of archaeological monitoring and recording during proposed groundworks for the construction of a new solar farm at Decoy Farm, Crowland, Spalding, Lincolnshire (NGR TF 2627 1278). The work is to be carried out in compliance with a planning condition of South Holland District Council (Planning Ref. H02-0454-14). The WSI has been prepared for the approval of the LCC PA and South Holland District Council.

2 COMPLIANCE

2.1 The requirements contained in the brief have been read, understood and are accepted.

2.2 The programme of archaeological monitoring & recording and excavation for the proposed development will be conducted according to the brief, the guidelines set down in the document *Lincolnshire Archaeological Handbook* (Standard Briefs for Archaeological Projects in Lincolnshire) (1997, revised 2012) and the IfA *Standard and Guidance for Archaeological Watching Briefs* (revised 2008) and *Standard and Guidance for Archaeological Excavation* (also revised 2008).

3 BACKGROUND

3.1 The site is in arable use and forms part of the land of Decoy Farm, located to the north west of the village of Crowland. It lies on reclaimed marine alluvial deposits within an area of former creeks, at *c.*2m above sea level.

3.2 It lies within a general area of archaeological interest, with roddons of former creeks well-known, potential for evidence of Iron Age and Roman salt-making in the form of salterns and occupation, both of which are know some 1km to the east which include three Scheduled Ancient Monuments. Earlier prehistoric and Roman land surfaces may be buried here under later alluvium/peat. The village of Crowland occupies a raised gravel peninsula, which was an important

focus of settlement and other activity in the Saxon period. Decoy Farm likely originated in the later 18th or 19th century, and is the assumed location of a post-medieval decoy.

3.3 The HER has been consulted prior to the preparation of the WSI. The site lies *c.*3km to the north-east of the historic town of Crowland, which includes the ruins of a medieval abbey, within the Historic Landscape Character (HLC) zone of The Eastern Fens (FEN2), which is characterised by isolated farmsteads and ragged linear settlements along main roads. There is little evidence for settlement within this zone in the prehistoric to early medieval periods, except in and around Crowland and Stickney/Sibsey, though much evidence may have been obscured by the repeated fenland inundations. Crowland abbey was established in the 8th century and limited fenland reclamation occurred in the medieval period, but large scale fenland reclamation utilising new drainage channels, wind and steam powered engines did not occur until the 18th and 19th centuries. This reclamation allowed the establishment of farms within rectilinear field systems separated by drains, such as the post-medieval Decoy Farm (HER 25631; ELI9392), probably named after a former decoy pond once located there (HER 23226). The land drainage also allowed the exploitation of other natural resources, such as for a brickworks *c.*1km to the south (HER 20531). A number of geophysical, test pit and trial-trench investigations along the line of the A1073 Relief Road have not located any evidence of historic landscapes or occupation (HER ELI3480, ELI3258, ELI5016 & ELI11136).

3.4 It is proposed to develop a new solar farm on the site, with rows of PV panels supported on mounting racks mounted on stakes/posts, with a number of transformers and grid connection cabinets to be constructed. The proposed development will see the installation of a solar panel array. In addition to this, the development will involve the installation of infrastructure comprising a substation, transformer pods and grid connection cabinet mounted on concrete pads;

3.5 The project background will be presented in the project report, with reference to the HER and previous reports.

Research Aims

3.6 Research issues for the region are suggested in the East Midlands Archaeological Research Frameworks (Cooper 2006 and Knight, Vyner & Allen 2012) Research topics for the adjacent East Anglian region have been presented in Glazebrook (1997) and Brown & Glazebrook (2000), and updated by Medlycott & Brown (2008) and Medlycott (2011). Where possible, the results of the project will be assessed in the light of these research frameworks.

3.7 Clay (in Cooper 2006, 86-88) suggests that for the Neolithic and early to middle Bronze Age, research themes could centre on the study

of later Mesolithic-earlier Neolithic transitions, the introduction, character and development of agricultural practices, the study of how different landscape zones were exploited from the fifth to the second millennium BC, the development of ceremonial monuments and their environs, the nature of Neolithic and Bronze Age societies and access to resources and trade connections. To these themes Knight, Vyner and Allan (2012) add themes relating to the dating of Neolithic and early to middle Bronze Age sites, through scientific analysis and through more precise use of pottery and lithic chronologies; riverine monument and ritual foci, including specific questions relating to the development of burnt mounds, the chronological and spatial variation in the use of riverine and other watery contexts for ceremonial and ritual purposes; and, the settlement patterns of the period, incorporating more effective characterisation of structural remains, settlement morphology and function and temporal and spatial variability of settlement distributions.

3.8 For the later Bronze Age and Iron Age in the East Midlands, Knight, Vyner and Allan (2012, 58-59) and Willis (in Cooper 2006, 89-136) suggest research topics to consist of further research into issues of chronology (through scientific dating programmes), issues of archaeological visibility, site prospection and landscape exploration, settlement archaeology of both the later Bronze Age/early Iron Age, the middle Iron Age and the late Iron Age, issues of settlement and landscape, further research into hillforts and analogous sites, linear monuments and other land divisions, ritual, structured deposition and religion, the agricultural economy, craft industry and exchange, social relations and society in the first millennium BC and issues of conservation, management and the public.

3.9 For the Roman period in the East Midlands region, research issues are set out by Taylor in Cooper (2006, 137-159). Research topics centre on issues of chronology, research into the late Iron Age landscape and the strategy and consequences of conquest, issues of urbanism (origins, development, growth and the role of urban centres), issues of communications and new geographies of power, issues of rural settlement, landscape and society, artefact production, exchange and consumption and issues of ritual, religion and identity. To these subjects Knight, Vyner and Allan (2012, 70) add issues relating to the military impact of the Roman period and the area's position between the militarised north and the civil south, and the agricultural economy of the region. Research topics for the Roman period in immediately adjacent East Anglia are set out by Going & Plouviez (in Brown & Glazebrook 2000, 19-22). These topics include analysis of early and late Roman military developments, further analysis of large and small towns, evidence of food consumption and production, further research into agricultural production, landscape research (in particular further evidence for potential woodland succession/regression and issues of relict landscapes, as well as further research into the road network and

bridging points), further research into rural settlements and coastal issues.

3.10 Research subjects for the early medieval period in the East Midlands, as proposed by Knight, Vyner and Allan (2012, 82-83) include demography and the identification of political and social groups, ritual and belief, roads and rivers as transport routes and cultural boundaries, rural settlement patterns, towns, 'central places' and burhs and the way in which Roman towns were utilised, industry trade and the emergence of a monetary economy, and the agricultural and rural landscape. These update the Saxon research issues for the East Midlands region previously proposed by Vince (in Cooper 2006, 161-184). These include further study into the Roman-Saxon transition, the Trent valley as a cultural boundary, the emergence of a monetary economy in the middle Saxon period, issues of chronology and cultural history, demography, political and social groups, issues of ritual and belief, research into the road network, settlement hierarchy, inland towns and 'central places', issues of industry (such as salt production, lead mining and iron smelting, pottery production and other crafts, and issues of subsistence (agriculture and animal husbandry, fish consumption and hunting). Knight, Vyner and Allan (2012, 94-95) suggest research priorities for the High medieval period in the East Midlands consisting of research into urbanism, rural settlement, amnors and manorial estates, castles and military sites, country homes, religion, industry and trade, and the agrarian landscape (field systems, woodland, stock rearing and communications) and the food producing economy. These update similar research subjects proposed by Lewis (in Cooper 2006, 185-216).

3.11 For the post-medieval period, Knight, Vyner and Allan (2012, 108) update the research topics noted by Courtney (in Cooper 2006, 217-235) for the East Midlands. The comprise further research into urbanism (morphology, functions and buildings), landscapes of display (country houses and garden),the agricultural landscape and the food producing economy, rural settlement patterns and building traditions, industry and communications, ecclesiastical structures, estates and burials, battlefields and fortifications, and issues of material culture.

References

Brown, N & Glazebook, J (eds.), 2000, *Research and Archaeology: A Framework for the Eastern Counties,* East Anglian Archaeology Occasional Papers 8

Cooper, NJ (ed), 2006, The Archaeology of the East Midlands; An Archaeological Resource Assessment and Research Agenda, Leicester Archaeology Monograph 13, ULAS/English Heritage

Glazebrook, J (eds), 1997, *Research and Archaeology: A Framework for the Eastern Counties. 1. Resource Assessment,* East Anglian Archaeology Occasional Papers 3

Knight, D, Vyner, B and Allen, C, 2012, *East Midlands Heritage; An Updated Research Agenda and Strategy for the Historic Environment of the East Midlands,* University of Nottingham/York Archaeological Trust

Medlycott, M & Brown, N, 2008*, Revised East Anglian Archaeological Research Frameworks,* www.eaareports/algaoee

Medlycott, M. (ed.) 2011, *Research and Archaeology revisited: a revised framework for the East of England*, ALGAO East of England Region, East Anglian Archaeology Occasional Papers 24

4 REQUIREMENT FOR WORK

4.1 Objectives

Watching Brief

- The LCC PA requires archaeological monitoring of all the groundworks associated with the solar farm (inverters/transformers and grid connection/comms cabinets) that have the potential to impact on potential archaeological horizons.

- The presence of any archaeological features will be identified. If remains are encountered and cannot be preserved in situ will be subject to recording and excavation.

- The project aims to record any buried archaeological remains revealed during the groundworks phase of the project. The archaeological work should aim to record the location, extent, date, character, condition, significance and quality of any surviving archaeological remains.

5 GENERAL STANDARDS AND REQUIREMENTS
For drawn and written records
For photographic records
General guidance documents

5.1 As set out in the brief, and below

5.2 It is noted that all material used for the compilation of the record should be of archival quality.

6 ARCHAEOLOGICAL MONITORING& EXCAVATION METHODOLOGY

6.1 Staffing

6.1.1 Profiles of AS staff are provided (Appendix 2). The archaeological monitoring will be undertaken by a Project Officer, supported by Site Assistants as necessary.

6.2 Method Statement

6.2.1 The investigation will conform to the brief, document *Lincolnshire Archaeological Handbook* (Standard Briefs for Archaeological Projects in Lincolnshire) (1997, revised 2012), IFA *Code of Conduct* and *Standard and Guidance for Archaeological Watching Briefs* (revised 2008).

6.2.2 A Method Statement for the excavation of archaeological features (if present) is appended (Appendix 1).

6.3 Detailed Archaeological Monitoring and Recording

6.3.1 This will include the following stages:

- initial clearance of overburden and subsoil under archaeological supervision
- observation of all groundworks associated with the proposed development and mitigation by a programme of archaeological recording, as necessary
- examination of spoil derived from the excavation for archaeological material
- post-excavation analysis, archiving and publication, as appropriate to the results of the project, as appropriate

6.3.2 All of the above stages and operations will be carried out in accordance with MAP2 (EH 1991), MoRPHE (EH 2006), document *Lincolnshire Archaeological Handbook* (Standard Briefs for Archaeological Projects in Lincolnshire) (1997, revised 2012) and the IFA *Standard and Guidance for Archaeological Watching Briefs* (revised 2008). A Method Statement for dealing with archaeological remains, if present, is presented below (Appendix 1).

6.4 Stage Details

6.4.1 **Site clearance**: under archaeological monitoring

6.4.2 **Excavation and recording**: of those features which cannot be preserved and will be substantially disturbed. In accordance with the following standards:

- excavation of all discrete features
- all industrial features to be sampled for appropriate scientific analysis
- full written records of each context and all contexts to be planned
- sampling will adhere to the guidelines of English Heritage (*Environmental Archaeology; A guide to the theory and practice of methods, from sampling and recovery to post-excavation*, 2011).
- If significant remains are identified a meeting will be convened with the client and the LCC PA in order to agree an appropriate investigation
- A programme of post-excavation field work analysis, archiving and publication

6.4.3 Where possible effective **mitigation measures** will be devised according to the circumstances on site

6.4.4 **Assessment of the site archive**. The assessment will be completed within two months following the completion of the field work

6.4.5 **Post-excavation analysis and publication** The publication, if appropriate, will be completed within six months following the completion of the field work

6.4.6 **Archaeological Observation and Recording** during the groundworks phases of the project

- Monitoring of ground reduction and further groundworks (eg, inverters/transformers and grid connection/comms cabinets) and subsequent planning and recording of any archaeological deposits revealed
- Examination of spoil-heaps for archaeological material (and metal detection of the excavation and spoil heaps)
- If significant remains are identified a meeting will be convened with the client and the LCC PA following their discovery in order to agree an appropriate investigation. Those features which cannot be preserved *in-situ* will be excavated.
- A programme of post-excavation field work analysis, archiving and publication, as appropriate

6.4.7 **Excavation and recording**: of those features which cannot be preserved and will be substantially disturbed. In accordance with the following standards:

- excavation of all discrete features
- all industrial features to be sampled for appropriate scientific analysis
- written records of each context and all contexts to be planned

- sampling will adhere to the guidelines prepared by English Heritage (*Environmental Archaeology; A guide to the theory and practice of methods, from sampling and recovery to post-excavation,* 2011).

6.5 Long-Term Deposition of the Project Archive

6.5.1 The long-term deposition of the project archive will be with The Collection, City & County Museum, Lincoln

6.6 Health & Safety

6.6.1 AS is a member of FAME, formerly the Standing Conference of Archaeological Unit Managers (SCAUM), and operates under their Health & Safety Field Manual, which is regularly updated by supplements.

6.6.2 AS is a member of the Council for British Archaeology and is insured under their policy for members

7 PRESENTATION OF RESULTS

7.1 The archaeological report will include

- the archaeological background
- a detailed account of the nature, location, extent, date, significance and quality of any archaeological evidence recorded
- a section/s drawing showing the depth of deposits including present ground level with Ordnance Datum
- archaeological monitoring methodology and detailed results including a suitable conclusion and discussion
- plans and sections of any recorded features and deposits, with National Grid references
- discussion and interpretation of the evidence. An assessment of the project's significance in a regional and local context and appendices.
- all specialist reports or assessments
- a concise non-technical summary of the project results
- an OASIS summary sheet

7.2 The results of the project will be reported to the OASIS project. Report copies will be supplied the LCC PA for approval prior to submission to the LPA within three months of the conclusion of site works, supported by all specialist reports. An additional digital copy of the final report will be supplied to the LCC PA in single PDF format. AHER Summary Sheet will also be supplied, and publication of the results at least to summary level, (eg round up of archaeology in *Lincolnshire History &Archaeology*) will be undertaken.

8 ARCHIVE

8.1 The requirements for archive storage will be agreed with The Collection, City & County Museum, Lincoln, and an accession number obtained in advance of fieldwork, along with a site code and expected archive deposition date (**Site Code DFCR14, Accession No LCNCC:2014.249**). The archive will be deposited within six months of the conclusion of the fieldwork. The archive will be prepared in accordance with the The Collection's *Conditions for Acceptance of Project Archives*, UK Institute for Conservation's *Conservation Guideline No.2* and other relevant reference documents. The full archive of finds and records will be made secure at all stages of the project, both on and off site. Arrangements will be made at the earliest opportunity for the archive to be accessed into the collections of The Collection, Lincoln; with the landowner's permission in the case of any finds. It is acknowledged that it is the responsibility of the field investigation organisation to make these arrangements with the landowner and Museums Service. The archive will be adequately catalogued, labelled and packaged for transfer and storage in accordance with the guidelines set out in The Collection's guidelines and United Kingdom Institute for Conservation's *Conservation Guidelines No.2* and the other relevant reference documents. Archive records, with inventory, are to be deposited, as well as any donated finds from the site, at The Collection, Lincoln and in accordance with their requirements. The archive will be quantified, ordered, indexed, cross-referenced and checked for internal consistency. In addition to the overall site summary, it will be necessary to produce a summary of the artefactual and ecofactual data.

9 APPROVAL OF THE CONTRACTORS SPECIFICATION AND MONITORING OF THE PROJECT

9.1 ***Notification*** Archaeological Solutions will give the LCC PA notification prior to the commencement of the project on site (with a minimum of 2 week's notice).

9.2 ***Monitoring*** AS will make all aspects of the fieldwork, recording, post-excavation and archiving of the project available to be monitored by the Local Planning Authority as required. Monitoring will be carried out on the LPA's behalf by the LCC PA.

9.3 Any variations to the WSI will be agreed in advance with the LCC PA prior to them being carried out.

THIS DRAWING IS FOR THE PURPOSE OF OBTAINING PLANNING PERMISSION ONLY



N

0 20 40 60 80 100m

Key

Solar farm Installation Details

1275 no. mounting racks

61,200 no. PV modules
15.5MW

7 no. Transformers/ Inverter Containers

1 no. Grid Connection Cabinet

CDM NOTE:

The design has been undertaken as far as possible to avoid risks to health and safety or to reduce and control the effects of any unavoidable risks.

All relevant information identifying the unavoidable risks has been passed to the planning supervisor for inclusion in the Health & Safety plan.

The Health & Safety plan will be issued by the planning supervisor with these drawings.

push energy

Rev.	By	Notes	Date
D	AB	Mounting racks & PV module quantities revised	27-05-14
C	RB	Transformer no's revised. Grid connection building redesigned.	22-05-14
B	AB	PV Panel pitch notes added	09-04-14
A	AB	PV Panel layout & notes amended	02-04-14

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Client: Push Energy

Project: Proposed Solar Farm

Drawing title: Block Plan

Drawing No.	Rev.	Drawn
1118-01-BP01	D	ab
Scale	**Date**	**Checked**
1:2000 @ A1	14-02-14	

All measurements should be checked against on site conditions and any discrepancies should be brought to the attention of the Robert Doughty Consultancy.

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APPENDIX 1
METHOD STATEMENT

Method Statement for the recording of archaeological remains

The archaeological evaluation will be conducted in accordance with the project brief, and the code of the Institute of Field Archaeologists.

A unique site code will be obtained for the project

1 Mechanical Excavation

1.1 A mechanical excavator fitted with a wide toothless bucket will be used to remove the topsoil/overburden. The machine will be powerful enough for a clean job of work and be able to mound spoil neatly, at a safe distance from the trench edges.

1.2 The mechanical stripping will be controlled, and the mechanical excavator will only operate under the full-time supervision of an experienced archaeologist.

2 Site Location Plan

2.1 On conclusion of the mechanical excavation, a 'site location plan', based on the current Ordnance Survey 1:1250 map and indicating site north, will be prepared. This will be supplemented by an 'area plan' at 1:200 (or 1:100) which will show the location of the area(s) investigated in relationship to the development area, OS grid and site grid.

3 Manual Cleaning & Base Planning of Archaeological Features

3.1 Exposed areas will be hand-cleaned to define archaeological features sufficient to produce a base plan.

4 Excavation Methodology

5 Archaeological Excavation

The archaeological features will be excavated according to the requirements of the LPA, as appropriate to the requirements of the evaluation phase of the project. Excavation and recording will be undertaken according to the *Lincolnshire Archaeological Handbook* (Standard Briefs for Archaeological Projects in Lincolnshire) (1997, revised 2012)

Archaeological Excavation Strategy

Negative features will be half-sectioned and box sections may be excavated through more homogeneous layers as appropriate. These may provide a window into the underlying deposits present on the site.

Where archaeological features are encountered at a 'high' level; e.g. cutting earlier horizons, they will be base planned, cleaned, hand excavated and recorded prior to excavation proceeding to the underlying archaeological horizons.

The following are maximum samples, but sufficient will be excavated only in order to achieve the objectives of the evaluation phase of the project.

100% excavation will be undertaken of

- **structural features;** (excepting post holes, unless part of a clearly recognisable structure or containing significant deposits)

- **surviving internal floors;** e.g. within ring gullies, or buildings, will be fully exposed, carefully cleaned, planned (at 1:50 or 1:20) and photographed, prior to being hand excavated to reveal possible underlying features. Where appropriate these surfaces will be excavated in a grid of $1m^2$ test pits, in 5cm spits in order to assess artefact density and distribution.

- **positive features obscuring earlier features;** will be cleaned, photographed and planned (at 1:50 or 1:20) prior to being excavated stratigraphically and in phase. Component deposits or structural elements will be recorded on *pro-forma* recording (Context) sheets and in section if appropriate prior to 100% excavation.

- **hearths;** will be hand cleaned and planned, hand excavation of 50% of the feature will be carried out stratigraphically and in phase in order for a profile to be drawn and a full assessment the component deposits be made. Additional environmental and specialist sampling will be carried out on specialist advice, prior to 100% hand excavation of the feature.

- **graves or animal burials;** each grave cut will be cleaned, fully defined and planned. The grave fill(s) will be hand excavated in phase and any skeletal remains carefully cleaned and exposed; environmental bulk samples will be taken from the grave fill(s) and abdominal cavity (for stomach contents, kidney stones etc) as appropriate. The exposed skeletal remains will be recorded using *pro forma* recording (Skeleton) sheets photographed and planned at 1:20 or 1:10 dependant on size and complexity.

Small finds such as grave goods, shroud pins or coffin fittings will be will be three dimensionally recorded.

- **industrial features**; (pottery kilns, furnaces etc) will be excavated stratigraphically and in phase. Sections will be recorded through the length of each feature (large features such as a limekiln may be quadranted) incorporating any surviving flue or stoke hole allowing a full assessment the component deposits be made and any industrial waste, or structural components (e.g. kiln furniture, tuyeres) to be identified. These features will photographed and planned at 1:20. All industrial features will be sampled for appropriate scientific analysis (e.g. archaeometallurgical, artefactual and environmental analysis). The document Archaeomaetallurgy (English Heritage Centre for Archaeology Guidelines 2001) will be used to give guidance to the project. Advice on archaeomagnetic dating will be obtained from the relevant specialists (eg Dr Cathy Batt, University of Bradford) as necessary.

- **wells;** will be hand excavated stratigraphically and in phase. The backfills of the well shaft will be 'half-sectioned' to a maximum depth of 1.2m. The deposits revealed will be recorded using *pro-forma* recording (Context) sheets, photographed and drawn at 1:10 or 1:20 as appropriate, any lining or structure will be cleaned and recorded prior to 100% excavation and investigation of any possible construction cut. Excavation will only continue beyond a depth of 1.2m once the area of excavation has been made safe either by 'stepping' or shoring. Specialist advice (such as Maisie Taylor) will be sought if a preserved wooden lining or water-logged remains are encountered.

50% excavation will be undertaken of

- discrete features, pits, etc

10% excavation will be undertaken of

- simple linear features not directly associated with core settlement, with more detailed investigation of intersections/terminals/re-cuts/specialised deposits etc

A minimum of 25% excavation will be undertaken of linear features associated with settlement in hand excavated slots up to 2m in length.

Building remains

Building remains may be encountered. These structures are likely to comprise stake holes, post holes, beam slots, gullies and, masonry foundations or low masonry walls. Associated features may be represented e.g. stone, tile floors, cobbled yard surfaces and hearths.

These features will be fully excavated in plan/phase.

Where encountered the structural remains of any early buildings will be hand cleaned to reveal their full extent and then planned at 1:50 or 1:20 as appropriate.

The internal areas will be stratigraphically excavated and recorded by quadrants where appropriate to establish the sequence of post-use deposition and abandonment and to identify any *in situ* occupation or floor surfaces.

Any surviving walls or foundations of structures will be cleaned and recorded using *pro forma* recording (Masonry) sheets. Elevations will be drawn of external and internal wall faces as appropriate. Sections will be excavated and recorded through the fabric of the walls in order to fully understand their construction.

Samples of worked stone, early tile and any bonding or render material will be taken for specialist analysis.

Waterlogged Deposits/Remains

Should deposits such as the above be encountered, provision has been made for controlled hand excavation and sampling. Appropriate specialists will be on hand to advise as necessary.

All industrial features will be sampled for appropriate scientific analysis (eg archaeometallurgical, artefactual and environmental analysis). The document Archaeomaetallurgy (English Heritage Centre for Archaeology Guidelines 2001) will be used to give guidance to the project.

Charred Remains

Should deposits such as the above be encountered, specialist on-site identification and conservation will be sought as necessary.

5 Written Record

5.1 All archaeological deposits and artefacts encountered during the course of the excavation will be fully recorded on the appropriate context, finds and sample forms.

5.2 The site will be recorded using AS's excavation manual which is directly comparable to those used by other professional archaeological organisations, including English Heritage's own Central Archaeological Service.

6 Photographic Record

6.1 An adequate photographic record of the investigations will be made. It will include black and white prints and colour transparencies (on 35mm) illustrating in both detail and general context the principal features and finds discovered. It will also include 'working and promotional shots' to illustrate more generally the nature of the archaeological operations. The black and white negatives and contacts will be filed, and the colour transparencies will be mounted using appropriate cases. All photographs will be listed and indexed.

7 Drawn Record

7.1 A record of the full extent, in plan, of all archaeological deposits encountered will be drawn on A1 permatrace. The plans will be related to the site, or OS, grid and be drawn at a scale of 1:50 or 1:20, as appropriate. In addition where appropriate, e.g. recording an inhumation, additional plans at 1:10 will be produced. The sections of all archaeological contexts will be drawn at a scale of 1:10 or, where appropriate, 1:20. The OD height of all principal strata and features will be calculated and indicated on the appropriate plans and sections.

8 Recovery of Finds

GENERAL

The principal aim is to ensure that adequate provision is made for the recovery of finds from all archaeological deposits.

The Small Finds, e.g. complete pots or metalwork, from all excavations will be 3-dimensionally recorded.

A metal detector will be used to enhance finds recovery. The metal detector survey will be conducted on conclusion of the topsoil stripping, and thereafter during the course of the excavation. The spoil tips will also be surveyed. Regular metal detector surveys of the excavation area and spoil tips will reduce the loss of finds to unscrupulous users of metal detectors (treasure hunters). All non-archaeological staff working on the site should be informed that the use of metal detectors is forbidden.

WORKED FLINT

When flint knapping debris is encountered large-scale bulk samples will be taken for sieving.

POTTERY

It is important that the excavators are aware of the importance of pottery studies and therefore the recovery of good ceramic assemblages.

The pottery assemblages are likely to provide important evidence to be able to date the structural history and development of the site.

The most important assemblages will come from 'sealed' deposits which are representative of the nature of the occupation at various dates, and indicate a range of pottery types and forms available at different periods.

'Primary' deposits are those which contain sherds contemporary with the soil fill and in simple terms this often means large sherds with unabraded edges. The sherds have usually been deposited shortly after being broken and have remained undisturbed. Such sherds are more reliable in indicating a more precise date at which the feature was 'in use'. Conversely, `secondary' deposits are those which often have small, heavily abraded sherds lacking obvious conjoins. The sherds are derived from earlier deposits.

HUMAN BONE

Any human remains present would not normally be excavated at the stage of an evaluation, but would be protected and preserved in situ, on advice from the LCC HEA. Should human remains be discovered and be required to be removed, the coroner will be informed and a licence from the Ministry of Justice sought immediately; both the client and the monitoring officer will also be informed. Any excavation of human remains at the stage of an evaluation would only be carried out following advice from the LCC HEA. Excavators would be made aware, and comply with, provisions of Section 25 of the Burial Act of 1857 and pay due attention to the requirements of Health & Safety.

ANIMAL BONE

Animal bone is one of the principal indicators of diet. As with pottery the excavators will be alert to the distinction of primary and secondary deposits. It will also be important that the bone assemblages are derived from dateable contexts.

ENVIRONMENTAL SAMPLING

The sampling will adhere to the guidelines prepared by English Heritage (2011) and the specialist will make his results known to Jim Williams who co-ordinates environmental archaeology in the region on behalf of English Heritage. If important environmental remains are present a visit to the site by an environmental specialist will be arranged

Environmental sampling will follow guidelines outlined in *Working papers of the Association for Environmental Archaeology, No. 2: Environmental archaeology and archaeological evaluation* (1995) and *Environmental Archaeology; a guide to the theory and practice of methods, from sampling and recovery to post-excavation,* Centre for Archaeology Guidelines (2011).

Provision will be made for the sampling of appropriate materials for specialist and/or scientific analysis (e.g. radiocarbon dating, environmental analysis). The location of samples will be 3-dimensionally recorded and they will also be shown on an appropriate plan. AS has its own environmental sampling equipment (including a pump and transformer) and, if practical, provision will be made to process the soil samples during the fieldwork stage of the project.

If waterlogged remains are found advice on sampling will be obtained on site from Dr Rob Scaife/Dr John Summers. Dr Scaife/Dr Summers and AS will seek advice from the EH Regional Scientific Advisor if significant environmental remains are found.

The study of environmental archaeology seeks to understand the local and near-local environment of the site in relation to phases of human activity and as such is an important and integral part of any archaeological study. .

Environmental remains, both faunal and botanical, along with pedological and sedimentological analyses may be used to understand the environment and the impact of human activity.

There may be a potential for the recovery of a range of environmental remains (ecofacts) from which data pertaining to past environments, land use and agricultural economy should be forthcoming.

Sampling strategies on evaluations aim to determine the potential of the site for both biological remains (plants, small vertebrates) and small sized artefacts which would otherwise not be collected by hand. The number/range of samples taken will represent the range of feature types encountered, but with an aim of at least three samples from each feature type.

For plant remains, the samples taken at evaluation stage would aim to characterise:

- The range of preservation types (charred, mineral-replaced, waterlogged) and their quality
- Any differences in remains from dated/undated features
- Variation between different feature types/areas

To realise the potential of the environmental material encountered, a range of specialists from different disciplines is likely to be required. The ultimate goal will be the production of an interdisciplinary environmental study which can be of value to an understanding of, and integrated with, the archaeology.

Organic remains may allow study of the contemporary landscape (occupation/industrial/agricultural impact and land use) and also changes after the abandonment of the site.

The nature of the environmental evidence

Aspects of sampling and analysis may be divided into four broad categories; faunal remains, botanical remains, soils/sediments and radiocarbon dating measurements.

a) Faunal remains: These comprise bones of macro and microfauna, birds, molluscs and insects.

a.i) Bones: The study of the animal bone remains, in particular domestic mammals, domestic birds and marine fish will enhance understanding of the development of the settlement in terms of the local economy and also its wider influence through trade. The study of the small animal bones will provide insight into the immediate habitat of any settlement.

The areas of study covered may include all of the domestic mammal and bird species, wild and harvested mammal, birds, marine and fresh water fish in addition to the small mammals, non-harvest birds, reptiles and amphibia.

Domestic mammalian stock, domestic birds and harvest fish

The domestic animal bone will provide insight into the different phases of development of any occupation and how the population dealt with the everyday aspect of managing and utilising all aspects of the animal resource.

Small animal bones

Archaeological excavation has a wide role in understanding humans' effect on the countryside, the modifications to which have in turn

affected and continue to affect their own existence. Small animals provide information about changing habitats and thereby about human impact on the local environment.

a.ii) Molluscs: Freshwater and terrestrial molluscs may be present in ditch and pit contexts which are encountered. Sampling and examination of molluscan assemblages if found will provide information on the local site environment including environment of deposition.

a.iii) Insects: If suitable waterlogged contexts (pit, pond and ditch fills) are encountered (which can potentially be expected to be encountered on the project), sampling and assessment will be carried out in conjunction with the analysis of waterlogged plant remains (primarily seeds) and molluscs. Insect data may provide information on local site environment (cleanliness etc.) as well as proxies for climate and vegetation communities.

b) Botanical remains: Sampling for seeds, wood, pollen and seeds are the essential elements which will be considered. The former are most likely to be charred but possibly also waterlogged should any wells/ponds be encountered.

b.i) Pollen analysis: Sampling and analysis of the primary fills and any stabilisation horizons in ditch and pit contexts which may provide information on the immediate vegetation environment including aspects of agriculture, food and subsistence. These data will be integrated with seed analysis.

b.ii) Seeds: It is anticipated that evidence of cultivated crops, crop processing debris and associated weed floras will be present in ditches and pits. If waterlogged features/sediments are encountered (for example, wells/ponds) these will be sampled in relation to other environmental elements where appropriate (particularly pollen, molluscs and possibly insects).

c) Soils and Sediments: Characterisation of the range of sediments, soils and the archaeological deposits are regarded as crucial to and an integral part of all other aspects of environmental sampling. This is to afford primary information on the nature and possible origins of the material sampled. It is anticipated that a range of 'on-site' descriptions will be made and subsequent detailed description and analysis of the principal monolith and bulk samples obtained for other aspects of the environmental investigation. Where considered necessary, laboratory analyses such as loss on ignition and particle size may also be undertaken. A geoarchaeologist will be invited to visit the site as necessary to advise on sampling.

d) Radiocarbon dating: Archaeological/artifactual dating may be possible for most of the contexts examined, but radiocarbon dating should not be ruled out

Sampling strategies

Provision will be made by the environmental co-ordinator that suitable material for analysis will be obtained. Samples will be obtained which as far as possible will meet the requirements of the assessment and any subsequent analysis.

a) Soil and Sediments: Samples taken will be examined in detail in the laboratory. An overall assessment of potential will be carried out. Analysis of particle size and loss on ignition, if required would be undertaken as part of full analysis if assessment demonstrates that such studies would be of value.

b) Pollen Analysis: Contexts which require sampling may include stabilisation horizons and the primary fills of the pits and ditches, and possibly organic well/pond fills. It is anticipated that in some cases this will be carried out in conjunction with sampling for other environmental elements, such as plant macrofossils, where these are also felt to be of potential.

c) Plant Macrofossils: Principal contexts will be sampled directly from the excavation for seeds and associated plant remains. It is anticipated that primarily charred remains will be recovered, although provision for any waterlogged sequences will also be made (see below). Sampling for the former will, where possible (that is, avoiding contamination) comprise samples of an average of 40-60 litres which will be floated in the AS facilities for extraction of charred plant remains. Both the flot and residues will be kept for assessment of potential and stored for any subsequent detailed analysis. The residues will also be examined for artifactual remains and also for any faunal remains present (cf. molluscs). Where pit, ditch, well or pond sediments are found to contain waterlogged sediments, principal contexts will be sampled for seeds and insect remains. Standard 5 litre+ samples will be taken which may be sub-sampled in the laboratory for seed remains if the material is found to be especially rich. The full sample will provide sufficient material for insect assessment and analysis.

d) Bones: Predicting exactly how much of what will be yielded by the excavation is clearly very difficult prior to excavation and it is proposed that in order to efficiently target animal bone recovery there should be a system of direct feedback from the archaeozoologist to the site staff during the excavation, allowing fine tuning of the excavation strategy to concentrate on the recovery of animal bones from features which have the highest potential. This will also allow the faunal remains to materially add to the interpretation as the excavation proceeds. Liaison with other environmental specialists will need to take place in order to produce a complete interdisciplinary study during this phase of

activity. In addition, this feedback will aid effective targeting of the post-excavation analysis.

e) Insects: If contexts having potential for insect preservation are found, samples will be taken in conjunction with waterlogged plant macrofossils. Samples of 5 litres will suffice for analysis and will be sampled adjacent to waterlogged seed samples and pollen; or where insufficient context material is available provision will be made for exchange of material between specialists.

f) Molluscs: Terrestrial and freshwater molluscs. Samples will be taken from a column from suitable ditches. Pits may be sampled, based on the advice of the Environmental Consultant and / or English Heritage Regional Advisor. Provision will also be made for molluscs obtained from other sampling aspects (seeds) to be examined and/or kept for future requirements.

g) Archiving: Environmental remains obtained should be stored in conditions appropriate for analysis in the short to medium term, that is giving the ability for full analysis at a later date without any degradation of samples being analysed. The results will be maintained as an archive at AS and supplied to the EH regional co-ordinator as requested.

Waterlogged Deposits/Remains

Should waterlogged deposits (such as wells/deep ditches) be encountered, provision has been made for controlled hand excavation and sampling. Dr Rob Scaife/Dr John Summers will visit to advise of sampling as required, and AS will take monolith samples as necessary for the recovery of palaeoenvironmental information and dating evidence.

Scientific/Absolute Dating

- Samples will be obtained for potential scientific/absolute dating as appropriate (eg Carbon-14).

Provision will be made for the sampling of appropriate materials for specialist and/or scientific analysis (e.g. radiocarbon dating, environmental analysis). The location of samples will be 3-dimensionally recorded and they will also be shown on an appropriate plan. AS has its own environmental sampling equipment (including a pump and transformer) and, if practical, provision will be made to process the soil samples during the fieldwork stage of the project.

If waterlogged remains are found they will be sampled by Dr Rob Scaife. Dr Rob Scaife/Dr John Summers and AS will seek advice from

the EH Regional Scientific Advisor (Jim Williams) if significant environmental remains are found.

FINDS PROCESSING

The project officer will have overall responsibility for the finds and will liaise with AS's own finds personnel and the relevant specialists. A person with particular responsibility for finds on site will be appointed for the excavation. The person will ensure that the finds are properly labelled and packaged on site for transportation to AS's field base. The finds processing will take place in tandem with the excavations and will be under the supervision of AS' Archives Officer. The finds processing will entail first aid conservation, cleaning (if appropriate), marking (if appropriate), categorising, bagging, labelling, boxing and basic cataloguing (the compilation of a Small Finds Catalogue and quantification of bulk finds) i.e. such that the finds are ready to be made available to the specialists. The Archives Officer, having been advised by the Project Officer and relevant specialists, will select material for conservation. AS's Finds Officer, in conjunction with the Project Officer, will arrange for the specialists to view the finds for the purpose of report writing.

APPENDIX 2

ARCHAEOLOGICAL SOLUTIONS LIMITED
PROFILES OF KEY STAFF & SPECIALISTS

DIRECTOR
Claire Halpin BA MIfA

Qualifications: Archaeology & History BA Hons (1974-77). Oxford University Dept for External Studies In-Service Course (1979-1980). Member of Institute of Archaeologists since 1985: IFA Council member (1989-1993)
Experience: Claire has 25 years' experience in field archaeology, working with the Oxford Archaeological Unit and English Heritage's Central Excavation Unit (now the Centre for Archaeology). She has directed several major excavations (e.g. Barrow Hills, Oxfordshire, and Irthlingborough Barrow Cemetery, Northants), and is the author of many excavation reports e.g. St Ebbe's, Oxford: *Oxoniensia* 49 (1984) and 54 (1989). Claire moved into the senior management of field archaeological projects with Hertfordshire Archaeological Trust (HAT) in 1990, and she was appointed Manager of HAT in 1996. From the mid 90s HAT has enlarged its staff complement and extended its range of skills. In July 2003 HAT was wound up and Archaeological Solutions was formed. The latter maintains the same staff complement and services as before. AS undertakes the full range of archaeological services nationwide.

DIRECTOR
Tom McDonald MIfA

Qualifications: Member of the IfA
Experience: Tom has twenty years' experience in field archaeology, working for the North-Eastern Archaeological Unit (1984-1985), Buckinghamshire County Museum (1985), English Heritage (Stanwick Roman villa (1985-87) and Irthlingborough barrow excavations, Northamptonshire (1987)), and the Museum of London on the Royal Mint excavations (1986-7)., and as a Senior Archaeologist with the latter (1987-Dec 1990). Tom joined HAT at the start of 1991, directing several major multi-period excavations, including excavations in advance of the A41 Kings Langley and Berkhamsted bypasses, the A414 Cole Green bypass, and a substantial residential development at Thorley, Bishop's Stortford. He is the author of many excavation reports, exhibitions etc. Tom is AS's Health and Safety Officer and is responsible for site management, IT and CAD. He specialises in prehistoric and urban archaeology, and is a Lithics Specialist.

OFFICE MANAGER
Rose Flowers

Experience: Rose has a very wide range of book-keeping skills developed over many years of employment with a range of companies, principally Rosier Distribution Ltd, Harlow (now part of Securicor) where she managed eight accounts staff. She has a good working knowledge of both accounting software and Microsoft Office.

OFFICE ADMINISTRATOR
Sarah Powell

Experience: Sarah is an experienced and efficient administrative assistant with more than ten years' experience of working in a variety of office environments. She is IT literate and proficient in the use of Microsoft Word, particularly Microsoft Excel. She has completed NVQ 2 & 3 in Administration and Office Skills. She recently attended and completed a course in Microsoft Excel – Advanced Level.

SENIOR PROJECTS MANAGER
Jon Murray BA MIfA

Qualifications: History with Landscape Archaeology BA Hons (1985-1988).
Experience: Jon has been employed by HAT (now AS) continually since 1989, attaining the position of Senior Projects Manager. Jon has conducted numerous archaeological investigations in a variety of situations, dealing with remains from all periods, throughout London and the South East, East Anglia, the South and Midlands. He is fluent in the execution of (and now projectmanages) desk-based assessments/EIAs, historic building surveys (for instance the recording of the Royal Gunpowder Mills at Waltham Abbey prior to its rebirth as a visitor facility), earthwork and landscape surveys, all types of evaluations/excavations (urban and rural) and environmental archaeological investigation (working closely with Dr Rob Scaife), preparing many hundreds of archaeological reports dating back to 1992. Jon has also prepared numerous publications; in particular the nationally-important Saxon site at Gamlingay, Cambridgeshire (*Anglo-Saxon Studies in Archaeology & History*). Other projects published include Dean's Yard, Westminster (*Medieval Archaeology*), Brackley (*Northamptonshire Archaeology*), and a medieval cemetery in Haverhill he excavated in 1997 (*Proceedings of the Suffolk Institute of Archaeology).* Jon is a member of the senior management team, principally preparing specifications/tenders, co-ordinating andmanaging the field teams. He also has extensive experience in preparing and supporting applications for Scheduled Monument Consent/Listed Building Consent

PROJECT OFFICER
Zbigniew Pozorski MA

Qualifications: University of Wroclaw, Poland, Archaeology (1995-2000, MA 2003)
Experience: Zbigniew has archaeological experience dating from 1995 when as a student he joined an academic group of excavators. He was involved in numerous archaeological projects throughout the Lower Silesia region in southwest Poland and a number of projects in old town of Wroclaw. During his university years he specialized in medieval urban archaeology. He had his own research project working on an early/high medieval stronghold in Pietrzykow. He was a member of a University team which located and Excavated an unknown high medieval castle in Wierzbna, Poland. Zbigniew has worked for archaeological contractors in Poland on several projects as a supervisor where he gained experience in all types of evaluations and excavations in urban and rural areas. Recently he worked in Ireland where he completed two large long-term projects for Headland Archaeology Ltd. He joined AS in January 2008 as a Project Officer. Zbigniew is qualified in the

Construction Skills Certification Scheme (CSCS) and is a qualified in First Aid at Work (St Johns Ambulance).

SUPERVISOR
Gareth Barlow MSc

Qualifications: University of Sheffield, MSc Environmental Archaeology & Palaeoeconomy (2002-2003)
King Alfred's College, Winchester, Archaeology BA (Hons) (1999-2002)
Experience: Gareth worked on a number of excavations in Cambridgeshire before pursuing his degree studies, and worked on many archaeological projects across the UK during his university days. Gareth joined AS in 2003 and has worked on numerous archaeological projects throughout the South East and East Anglia with AS. Gareth was promoted to Supervisor in the Summer 2007. Gareth is qualified in the Construction Skills Certification Scheme (CSCS) and is a qualified in First Aid at Work (St Johns Ambulance).

SUPERVISOR
Kamil Orzechowski BA, MA

Experience: Kamil Orzechowski joined AS in 2012, as an experienced field archaeologist after spending five years in various commercial archaeology units working on large-scale construction projects including railways and pipelines. Before becoming a field archaeologist, Kamil graduated from the Institute of Ethnology and Cultural Anthropology, Adam Mickiewicz University, Poznan, Poland. Kamil is qualified in the Construction Skills Certification Scheme (CSCS).

SUPERVISOR
Julie Walker BSc MA PIfA

Qualifications: Queens University Belfast: BSc Archaeology (2007-2010)
University of Southampton: MA Osteoarchaeology (2010-2011)
Experience: Julie is a member of the Institute for Archaeologists (PIfA grade) and the British Association for Biological Anthropology and Osteoarchaeology. Professionally, Julie has worked for organisations including Albion Archaeology (2014) and Oxford Archaeology East (2014). Julie has a thorough knowledge and experience of archaeological fieldwork and post-excavation practice. Julie's personal research interests include congenital and developmental defects in the Romano-British and Anglo-Saxon periods and she has made several conference presentations on this subject.

SUPERVISOR
Matthew Baker BA MA

Qualifications: Cardiff University: BA Archaeology (2008-2011)
Cardiff University: MA Archaeology (2012-2013)
Experience: Since concluding his higher education, Matthew has worked for a number of archaeological projects and organisations including GeoArch (Cardiff), the Damerham Archaeology Project and Cambridge University. He has a gained a varied experience of archaeological fieldwork and post-excavation practice including geophysical survey/ interpretation and isotopic analysis.

SUPERVISOR
Kerrie Bull BSc

Qualifications: University of Reading: BSc Archaeology (2008-2011)
Experience: During her undergraduate degree at the University of Reading Kerrie worked on the Lyminge Archaeological Project (2008), the Silchester 'Town Life' Project (2009) and the Ecology of Crusading Research Programme (2011). Through her academic and professional career, Kerrie has gained good experience of archaeological fieldwork and post-excavation techniques.

SUPERVISOR
Thomas Muir BA MSc
Qualifications: University of Edinburgh: BA Archaeology (2007-2011)
University of Edinburgh: MSc Mediterranean Archaeology (2011-2012)
Experience: Thomas is an affiliate member of the Institute for Archaeologists. Throughout his higher education, Thomas volunteered on research excavations at sites including Port Sec Sud, Bourges (France; 2008), the Hill of Barra (the Hillforts of Strathdon Project; 2010) and Prastio Mesorotsos, Cyprus (2010-2012). In 2013 Thomas returned to Prastio Mesorotsos – a research project run by the Cyprus American Archaeological Institute – in a supervisory capacity. Professionally, Thomas has worked for CFA Archaeology (2013) and thereafter AS Ltd. Through his academic and professional career, Thomas has gained a broad working knowledge of archaeological fieldwork and post-excavation techniques including environmental sampling, on-site recording and digital archiving.

SUPERVISOR
Vincent Monahan BA

Qualifications: University College Dublin: BA Archaeology (2007-2012)
Experience: Professionally, Vincent has worked for various archaeological groups and projects including the Stonehenge Riverside Project (Site Assistant/ Supervisor; 2008), University College Dublin Archaeological Society (Auditor; 2009-2010) and the Castanheiro do Vento Research Project (Site Assistant/ Supervisor; 2009-2010 (seasonal)). Vincent has gained good experience of archaeological fieldwork including excavation, various sampling techniques and on-site recording. He also gained experience of museum-grade curatorial practice during his undergraduate degree.

PROJECT OFFICER
(DESK-BASED ASSESSMENTS) Kate Higgs MA (Oxon)

Qualifications: University of Oxford, St Hilda's College Archaeology & Anthropology MA (Oxon) (2001-2004)
Experience: Kate has archaeological experience dating from 1999, having taken part in clearance, surveying and recording of stone circles in the Penwith area of Cornwall. During the same period, she also assisted in compiling a database of archaeological and anthropological artefacts from Papua New Guinea, which were held in Scottish museums. Kate has varied archaeological experience from her years at Oxford University, including participating in excavations at a Roman amphitheatre and an early church at Marcham/ Frilford in Oxfordshire, with the Bamburgh Castle Research Project

in Northumberland, which also entailed the excavation of human remains at a Saxon cemetery, and also excavating, recording and drawing a Neolithic chambered tomb at Prissé, France. Kate has also worked in the environmental laboratory at the Museum of Natural History in Oxford, and as a finds processor for Oxford's Institute of Archaeology. Since joining AS in November 2004, Kate has researched and authored a variety of reports, concentrating on desk-based assessments in advance of archaeological work and historic building recording.

ASSISTANT PROJECTS MANAGER (POST-EXCAVATION)
Andrew Newton MPhil PIFA

Qualifications: University of Bradford, MPhil (2002-04)
University of Bradford, BSc (Hons) Archaeology (1998-2002)
University of Bradford, Dip Professional Archaeological Studies (2002)

Experience: Andrew has carried out geophysical surveys for GeoQuest Associates on sites throughout the UK and has worked as a site assistant with BUFAU. During 2001 he worked as a researcher for the Yorkshire Dales Hunter-Gatherer Research Project, a University of Bradford and Michigan State University joint research programme, and has carried out voluntary work with the curatorial staff at Beamish Museum in County Durham. Andrew is a member of the Society of Antiquaries of Newcastle-upon-Tyne and a Practitioner Member of the Institute for Archaeologists. Since joining AS in early Summer 2005, as a Project Officer writing desk-based assessments, Andrew has gained considerable experience in post-excavation work. His principal role with AS is conducting post-excavation research and authoring site reports for publication. Significant post-excavation projects Andrew has been responsible for include the Ingham Quarry Extension, Fornham St. Genevieve, Suffolk – a site with large Iron Age pit clusters arranged around a possible wetland area; the late Bronze Age to early Iron Age enclosure and early Saxon cremation cemetery at the Chalet Site, Heybridge, Essex; and, Church Street, St Neots, Cambridgeshire, an excavation which identified the continuation of the Saxon settlement previously investigated by Peter Addyman in the 1960s. Andrew also writes and co-ordinates EnvironmentalImpact Assessments and has worked on a variety of such projects across southern and eastern England. In addition to his research responsibilities Andrew undertakes outreach and publicity work and carries out some fieldwork.

PROJECT OFFICER (POST-EXCAVATION)
Antony Mustchin BSc MSc DipPAS

Qualifications: University of Bradford BSc (Hons) Bioarchaeology (1999-2003)
University of Bradford MSc Biological Archaeology (2004-2005)
University of Bradford Diploma in Professional Archaeological Studies (2003)

Experience: Antony has over 14 years' experience in field archaeology, gained during his higher education and in the professional sector. Commercially in the UK, Antony has worked for Archaeology South East (2003), York Archaeological Trust (2004) and Special Archaeological Services (2003). He has also undertaken a six-month professional placement as Assistant SMR Officer/ Development Control Officer with Kent County

Council (2001-2002). Antony's academic interests have led to his gaining considerable research excavation experience across the North Atlantic region. He has worked for projects and organisations including the Old Scatness & Jarlshof Environs Project, Shetland (2000-2003), the Viking Unst Project, Shetland (2006-2007), the Heart of the Atlantic Project Føroys Fornminnissavn, Faroe Islands (2006-2008) and City University New York/ National Museum of Denmark/ Greenland National Museum and Archives, Greenland (2006 & 2010). Shortly before Joining Archaeological Solutions in November 2011, Antony spent three years working for the Independent Commission for the Location of Victims Remains, assisting in the search for and forensic recovery of 'the remains of victims of paramilitary violence ("The Disappeared") who were murdered and buried in secret arising from the conflict in Northern Ireland'. Antony has a broad experience of fieldwork and post-excavation practice including specialist (archaeofauna), teaching, supervisory and directing-level posts.

POTTERY, LITHICS AND CBM RESEARCHER
Andrew Peachey BA MIfA

Qualifications: University of Reading BA Hons, Archaeology and History (1998-2001)
Experience: Andrew joined AS (formerly HAT) in 2002 as a pottery researcher, and rapidly expanded into researching CBM and lithics. Andrew specialises in prehistoric and Roman pottery and has worked on numerous substantial assemblages, principally from across East Anglia but also from southern England. Recent projects have included a Neolithic site at Coxford, Norfolk, an early Bronze Age domestic site at Shropham, Norfolk, late Bronze Age material from Panshanger, Hertfordshire, middle Iron Age pit clusters at Ingham, Suffolk and an Iron Age and early Roman riverside site at Dernford, Cambridgshire. Andrew has worked on important Roman kiln assemblages, including a Nar Valley ware production site at East Winch Norfolk, a face-pot producing kiln at Hadham, Hertfordshire and is currently researching early Roman Horningsea ware kilns at Waterbeach, Cambridgeshire. Andrew is an enthusiastic member of the Study Group for Roman Pottery, and also undertakes pottery and lithics analysis as an 'external' specialist for a range of archaeological units and local societies in the south of England.

POTTERY RESEARCHER
Peter Thompson MA

Qualifications: University of Bristol BA (Hons), Archaeology (1995-1998)
University of Bristol MA; Landscape Archaeology (1998-1999)
Experience: As a student, Peter participated in a number of projects, including the excavation of a Cistercian monastery cemetery in Gascony and surveying an Iron Age promontory hillfort in Somerset. Peter has two years excavation experience with the Bath Archaeological Trust and Bristol and Region Archaeological Services which includes working on a medieval manor house and a post-medieval glass furnace site of national importance. Peter joined HAT (now AS) in 2002 to specialise in Iron Age, Saxon and medieval pottery research and has also produced desk-based assessments. Pottery reports include an early Iron pit assemblage and three complete Early Anglo-Saxon accessory vessels from a cemetery in Dartford, Kent.

PROJECT OFFICER (OSTEOARCHAEOLOGY)
Dr Julia Cussans

Qualifications: University of Bradford, PhD (2002-2010)
University of Bradford, BSc (Hons) Bioarchaeology (1997-2001)
University of Bradford, Dip. Professional Archaeological Studies (2001)

Experience: Julia has over 14 years of archaeozoological experience. Whilst undertaking her part time PhD she also worked as a specialist on a variety of projects in northern Britain including Old Scatness (Shetland), Broxmouth Iron Age Hillfort and Binchester Roman Fort. Additionally Julia has extensive field experience and has held lead roles in excavations in Shetland and the Faroe Islands including, Old Scatness, a large multi-period settlement centred on an Iron Age Broch; the Viking Unst Project, an examination of Viking and Norse houses on Britain's most northerly isle; the Laggan Tormore Pipeline (Firths Voe), a Neolithic house site in Shetland; the Heart of the Atlantic Project, an examination of Viking settlement in the Faroes and Við Kirkjugarð, an early Viking site on Sanday, Faroe Islands. Early on in her career Julia also excavated at Sedgeford, Norfolk as part of SHARP and in Pompeii, Italy as part of the Anglo-American Project in Pompeii. Since joining AS in October 2011 Julia has worked on animal bone assemblages from Beck Row, a Roman agricultural site at Mildenhall, Suffolk and Sawtry, an Iron Age, fen edge site in Cambridgeshire. Julia is a full and active member of the International Council for Archaeozoology, the Professional Zooarchaeology Group and the Association for Environmental Archaeology.

ENVIRONMENTAL ARCHAEOLOGIST
Dr John Summers

Qualifications: 2006-2010: PhD "The Architecture of Food" (University of Bradford)
2005-2006: MSc Biological Archaeology (University of Bradford)
2001-2005: BSc Hons. Bioarchaeology (University of Bradford)

Experience: John is an archaeobotanist with a primary specialism in the analysis of carbonised plant macrofossils and charcoal. Prior to joining Archaeological Solutions, John worked primarily in Atlantic Scotland. His research interests involve using archaeobotanical data in combination with other archaeological and palaeoeconomic information to address cultural and economic research questions. John has made contributions to a number of large research projects in Atlantic Scotland, including the Old Scatness and Jarlshof Environs Project (University of Bradford), the Viking Unst Project (University of Bradford) and publication work for Bornais Mound 1 and Mound 2 (Cardiff University). He has also worked with plant remains from Thruxton Roman Villa, Hampshire, as part of the Danebury Roman Environs Project (Oxford University/ English Heritage). John's role at AS is to analyse and report on assemblages of plant macro-remains from environmental samples and provide support and advice regarding environmental sampling regimes and sample processing. John is a member of the Association for Environmental Archaeology.

SENIOR GRAPHICS OFFICER
Kathren Henry

Experience: Kathren has over twenty-five years' experience in archaeology, working as a planning supervisor on sites from prehistoric to late medieval date, including urban sites in London and rural sites in France/ Italy, working for the Greater Manchester Archaeological Unit, Passmore Edwards Museum, DGLA and Central Excavation Unit of English Heritage (at Stanwick and Irthlingborough, Northamptonshire). She has worked with AS (formerly HAT) since 1992, becoming Senior Graphics Officer. Kathren is AS's principal photographer, specializing in historic building survey, and she manages AS's photographic equipment and dark room. She is in charge of AS's Graphics Department, managing computerised artwork and report production. Kathren is also the principal historic building surveyor/illustrator, producing on-site and off-site plans, elevations and sections.

HISTORIC BUILDING RECORDING
Tansy Collins BSc

Qualifications: University of Sheffield, Archaeological Sciences BSc (Hons) (1999-2002)

Experience: Tansy's archaeological experience has been gained on diverse sites throughout England, Ireland, Scotland and Wales. Tansy joined AS in 2004 where she developed skills in graphics, backed by her grasp of archaeological interpretation and on-site experience, to produce hand drawn illustrations of pottery, and digital illustrations using a variety of packages such as AutoCAD, Corel Draw and Adobe Illustrator. She joined the historic buildings team in 2005 in order to carry out both drawn and photographic surveys of historic buildings before combining these skills with authoring historic building reports in 2006. Since then Tansy has authored numerous such reports for a wide range of building types; from vernacular to domestic architecture, both timber-framed and brick built with date ranges varying from the medieval period to the 20th century. These projects include a number of regionally and nationally significant buildings, for example a previously unrecognised medieval aisled barn belonging to a small group of nationally important agricultural buildings, one of the earliest surviving domestic timber framed houses in Hertfordshire, and a Cambridgeshire house retaining formerly hidden 17th century decorative paint schemes. Larger projects include The King Edward VII Sanatorium in Sussex, RAF Bentley Priory in London as well as the Grade I Listed Balls Park mansion in Hertfordshire.

FINDS AND ARCHIVE ASSISTANT
Adam Leigh

Experience: Adam joined AS in January 2012. In his time with the company he has helped process hundreds of finds from a variety of sites going on to concord them. Adam has helped prepare a large number of sites for deposition with museums making sure that the finds are prepared in strict accordance with the guidelines and requirements laid out by the receiving museum.

ASSISTANT ARCHIVES OFFICER
Karen Cleary

Experience: Karen started her administrative career as Youth Training Administrator for a training company (TSMA Ltd) in 1993, where she provided administrative support for NVQ Assessors' of trainees and apprentices on the youth training scheme and in work placements they'd helped set up. Amongst her administrative duties she was principally incharge of preparing the Training Credits Claims and sending off for government funding. She gained NVQ's Level's 2 and 3 in Administration whilst working in this role. Karen started out with AS as Office Assistant in February 2009 and within a few months was promoted to Archives Assistant. Principally her role involves the preparation of Archaeological archives for long term deposition with museums. She has developed a good understanding of the preparation process and follows each individual museum's guidelines closely. She has a good working knowledge of Microsoft Office and is competent with *FileZilla*-Digital File Transfer software and *Fastsum*-Checksum Creation software.

ARCHAEOLOGICAL SOLUTIONS: PRINCIPAL SPECIALISTS

GEOPHYSICAL SURVEYS	David Bescoby Dr John Summers
AIR PHOTOGRAPHIC ASSESSMENTS	Air Photo Services
PHOTOGRAPHIC SURVEYS	Ms K Henry
PREHISTORIC POTTERY	Mr A Peachey
ROMAN POTTERY	Mr A Peachey
SAXON & MEDIEVAL POTTERY	Mr P Thompson
POST-MEDIEVAL POTTERY	Mr P Thompson
FLINT	Mr A Peachey
GLASS	H Cool
COINS	British Museum, Dept of Coins & Medals
METALWORK & LEATHER	Ms Q Mould, Ms N Crummy
SLAG	Ms J Cowgill
ANIMAL BONE	Dr J Cussans
HUMAN BONE:	Ms S Anderson
ENVIRONMENTAL CO-ORDINATOR	Dr R Scaife
POLLEN AND SEEDS:	Dr R Scaife
CHARCOAL/WOOD	Dr J Summers
SOIL MICROMORPHOLOGY	Dr R MacPhail, Dr C French
CARBON-14 DATING:	English Heritage Ancient Monuments Laboratory (for advice).
CONSERVATION	University of Leicester