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**NEW PRIMARY SCHOOL, THE LIMES PRIMARY ACADEMY,
OULTON, SUFFOLK NR32 3QG**

ARCHAEOLOGICAL TRIAL TRENCH EVALUATION

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NGR: TM 5190 9440	Report No: 5397
District: Waveney	Site Code: OUL037
Approved: Claire Halpin MCIfA	Project No: 5758
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OASIS SUMMARY SHEET

Project details			
Project name	<i>The Limes Primary Academy, Avenue, Oulton, Suffolk</i>		
<p><i>In June 2017 Archaeological Solutions Ltd (AS) carried out an archaeological trial trench evaluation in advance of the construction of a new primary school (The Limes Primary Academy), Oulton, Suffolk (NGR TM 5190 9440; Figs. 1 - 2). The evaluation was required by Waveney Borough Council and based on advice from Suffolk County Council Archaeological Service Conservation Team (SCC AS-CT). Its purpose was to provide further information for the initial requirement of planning conditions which required a programme of archaeological work (Planning Approval Reference SCC/0228/16w).</i></p> <p><i>A geophysical survey (Egan 2014), trial trenching (Orzechowski 2015) and excavation (Mustchin 2016) have all been undertaken in the immediate vicinity of the site.</i></p> <p><i>During the previous archaeological investigations (geophysical survey (Egan 2014) and trial trenching (Orzechowski 2015)) archaeological features were recorded but the principal features were located in the southern sector of the middle field (Figs. 3 and 4), and these features were subject to an archaeological excavation (Mustchin 2016).</i></p> <p><i>Adjacent to the current phase of trenching within the new primary school site the earlier trial trenching revealed sparse archaeological features: Trenches 101, 102, 123 and 125 were all devoid of features. Trench 135 contained a natural hollow and Trench 134 contained an undated pit and an undate ditch.</i></p> <p><i>Within the area of the proposed new primary school Trench 133 was sterile, and Trench 126 contained a modern feature. The most recently cut trenches were sterile, except Trench 91 which contained an undated ditch.</i></p>			
Project dates (fieldwork)	<i>June 2017</i>		
Previous work (Y/N/?)	<i>Y</i>	<i>Future work</i>	<i>TBC</i>
P. number	<i>5758</i>	<i>Site code</i>	<i>OUL037</i>
Type of project	<i>Archaeological Trial Trench Evaluation</i>		
Site status	<i>None</i>		
Current land use	<i>Agriculture</i>		
Planned development	<i>School</i>		
Main features (+dates)	<i>Undated Ditch</i>		
Significant finds (+dates)	<i>None</i>		
<i>Project location</i>			
County/ District/ Parish	<i>Suffolk</i>	<i>Waveney</i>	<i>Oulton</i>
HER/ SMR for area	<i>Suffolk Historic Environment Record</i>		
Post code (if known)	<i>NR32 3QG</i>		
Area of site	<i>c. 2 ha</i>		
NGR	<i>TM 5190 9440</i>		
Height AOD (min/max)	<i>c. 17m</i>		
<i>Project creators</i>			
Brief issued by	<i>Suffolk County Council Archaeological Service Conservation Team</i>		
Project supervisor/s (PO)	<i>Archaeological Solutions Ltd</i>		
Funded by	<i>Suffolk County Council</i>		
Full title	<i>New Primary School, The Limes Primary Academy, Oulton, Suffolk. Archaeological Trial Trench Evaluation</i>		
Authors	<i>Edwards, N.</i>		
Report no.	<i>5397</i>		
Date (of report)	<i>June 2017</i>		

**NEW PRIMARY SCHOOL, THE LIMES PRIMARY ACADEMY,
OULTON, SUFFOLK NR32 3QG**

ARCHAEOLOGICAL TRIAL TRENCH EVALUATION

SUMMARY

In June 2017 Archaeological Solutions Ltd (AS) carried out an archaeological trial trench evaluation in advance of the construction of a new primary school on land at Oulton, Suffolk (NGR TM 5190 9440; Figs. 1 - 2). The evaluation was required by Waveney Borough Council and based on advice from Suffolk County Council Archaeological Service Conservation Team (SCC AS-CT). Its purpose was to provide further information for the initial requirement of planning conditions which required a programme of archaeological work (Planning Approval Reference SCC/0228/16w).

A geophysical survey (Egan 2014), trial trenching (Orzechowski 2015) and excavation (Mustchin 2016) have all been undertaken in the immediate vicinity of the site.

During the previous archaeological investigations (geophysical survey (Egan 2014) and trial trenching (Orzechowski 2015)) archaeological features were recorded but the principal features were located in the southern sector of the middle field (Figs. 3 and 4), and these features were subject to an archaeological excavation (Mustchin 2016).

Adjacent to the current phase of trenching within the new primary school site the earlier trial trenching revealed sparse archaeological features: Trenches 101, 102, 123 and 125 were all devoid of features. Trench 135 contained a natural hollow and Trench 134 contained an undated pit and an undate ditch.

Within the area of the proposed new primary school Trench 133 was sterile, and Trench 126 contained a modern feature. The most recently cut trenches were sterile, except Trench 91 which contained an undated ditch.

1 INTRODUCTION

1.1 In June 2017 Archaeological Solutions Ltd (AS) carried out an archaeological trial trench evaluation in advance of the construction of a new primary school (The Limes Primary Academy) on land at Oulton, Suffolk (NGR TM 5190 9440; Figs. 1 - 2). The evaluation was required by Waveney Borough Council and based on advice from Suffolk County Council Archaeological Service Conservation Team (SCC AS-CT). Its purpose was to provide further information for the initial requirement of planning conditions which require a programme of archaeological work (Planning Approval Reference SCC/0228/16w).

1.2 A geophysical survey (Egan 2014), trial trenching (Orzechowski 2015) and excavation (Mustchin 2016) have all been undertaken in the immediate vicinity of the site.

1.3 The archaeological evaluation was carried out in accordance with a brief by Suffolk County Council Archaeological Service Conservation Team (dated 16th November 2016; Richard Hoggett), and a specification compiled by AS (dated 2nd June 2017). The evaluation adhered to the Chartered Institute of Archaeologists' *Standard and Guidance for Evaluations* (2014) and *Standards for Field Archaeology in the East of England* (Gurney 2003).

1.4 The principal objectives of the evaluation were:

- to establish whether any archaeological deposit exists in the area, with particular regard to any which are of sufficient importance to merit preservation *in situ*;
- to identify the date, approximate form and purpose of any archaeological deposit within the application area, together with its likely extent, localised depth and quality of preservation;
- to evaluate the likely impact of past land uses, and the possible presence of masking colluvial/ alluvial deposits, along with the potential for the survival of environmental evidence; and
- to provide sufficient information to construct an archaeological conservation strategy dealing with preservation, the recording of archaeological deposits, working practices, timetables and orders of cost.

Planning Policy Context

1.5 The National Planning Policy Framework (NPPF 2012) states that those parts of the historic environment that have significance because of their historic, archaeological, architectural or artistic interest are heritage assets. The NPPF aims to deliver sustainable development by ensuring that policies and decisions that concern the historic environment recognise that heritage assets are a non-renewable resource, take account of the wider social, cultural, economic and environmental benefits of heritage conservation, and recognise that intelligently managed change may sometimes be necessary if heritage assets are to be maintained for the long term. The NPPF requires applications to describe the significance of any heritage asset, including its setting that may be affected in proportion to the asset's importance and the potential impact of the proposal.

1.6 The NPPF aims to conserve England's heritage assets in a manner appropriate to their significance, with substantial harm to designated heritage assets (i.e. listed buildings, scheduled monuments) only permitted in exceptional circumstances when the public benefit of a proposal outweighs the conservation of the asset. The effect of proposals on non-designated heritage assets must be balanced against the scale of loss and significance of the asset, but non-designated heritage assets of demonstrably equivalent significance may be considered subject

to the same policies as those that are designated. The NPPF states that opportunities to capture evidence from the historic environment, to record and advance the understanding of heritage assets and to make this publicly available is a requirement of development management. This opportunity should be taken in a manner proportionate to the significance of a heritage asset and to impact of the proposal, particularly where a heritage asset is to be lost.

2 DESCRIPTION OF THE SITE

2.1 It is proposed to erect a new primary school with separate preschool and drop off area on land off Lime Avenue, Oulton. The site currently comprises arable land adjacent to a recent spine road and residential development, and extends to some 2ha. The spine road and Phase 1 development area have been subject to a programme of archaeological work by AS comprising trial trenching and follow-up excavation of areas of identified archaeology.

3 TOPOGRAPHY, GEOLOGY AND SOILS

3.1 The site soils are those of the Wick 3 Association, described as ‘Deep well drained coarse loamy often stoneless soils...with...Some similar sandy soils’ (Soil Survey of England and Wales 1983, 9). These soils are at risk of water erosion and are suitable for the cultivation of cereals and some horticultural crops (*ibid.*).

3.2 The underlying geology comprises the Crag Group - Sand (British Geological Survey 1978). The drift geology comprises the Happisburgh Glacigenic Formation – Sand across the majority of the surveyed area, with an area of Head – Clay, Silt, Sand and Gravel in the east (*ibid.*).

4 ARCHAEOLOGICAL AND HISTORICAL BACKGROUND

4.1 Prehistoric stone tools have been found in the area between 500m and 1km of the site including a Palaeolithic worked implement (OUL Misc), a Neolithic polished axe head, a late Neolithic flint artifact scatter including an adze and barbed-and-tanged arrowhead from Pound Lane to the north-east (LWT 015), and a Bronze Age hornblende granulite battleaxe from Lothingland to the south (SUF Misc). Cropmarks of at least one, and possibly three ring ditches, have been identified in Oulton parish between 500m and 1km south/south-west of the site (OUL 005). The only Roman finds are two bronze coins found during metal detecting (OUL 001).

4.2 An archaeological evaluation was carried out on 1.7ha of arable land off Mobbs Way between approximately 200 and 500m east of the site (OUL 011). A small assemblage of prehistoric material was recovered and two undated ditches and three possible pits were identified. A medieval or post-medieval ditch was also recorded, and the isolated post-medieval finds recovered indicated that the area had probably remained as open arable land since the medieval period.

4.3 St Michael's Church located 1km to the south-west is thought to date back to Norman times although it is not mentioned in the Domesday Survey. It was rebuilt in the 14th and 15th centuries and was restored in the 19th (OUL 004). A market is recorded at Oulton in the year 1307 (Oulton Misc). Oulton Broad is the most southerly of the manmade Norfolk Broads. A 14th century jetton and medieval finger ring were found in a garden at Oulton Broad village (LWT Misc). The cropmark of a sub-oval enclosure or moat is located over 500m west/north-west of the site (FTN 013). Post-medieval tile and other finds were made within the area of the enclosure/moat (FTN 011).

5 PREVIOUS INVESTIGATION

5.2 A geophysical survey recorded linear anomalies of possible archaeological origin (Fig.3) (Egan 2014). In summary:

West Field

The survey of the western field identified four possible archaeological anomalies; however these could equally be related to modern agricultural activity.

Middle Field

The principal recorded anomaly forms a curve or an enclosure which may be of archaeological origin. The enclosure contains four anomalies possibly indicative of in filled discrete pits. In the same southern area of the field five anomalies may be pits of archaeological origin. A linear feature is located in the north east area of site and is oriented east-west. It may represent a former field boundary and may be of archaeological origin.

East Field

A linear ditch runs NE/SW across the north-eastern section of the site and may be of archaeological origin. It is close to a second ditch which may also be of archaeological origin.

The conducive geology and presence of possible archaeological anomalies suggests that the survey has been successful. The remaining anomalies are of modern origin, relating to agricultural activity and ferrous objects.

5.3 The new primary school site is located in the northern sector of the Middle Field. Here an anomaly of modern origin (disturbed ground) was detected.

5.4 Trial trenching of the spine road and area to the south of east has taken place, followed by an open area excavation of the Phase 1 development area (Fig.4) (HER OUL 037), revealing activity of prehistoric to medieval date, with a significant Anglo-Saxon component.

The excavation report (Mustchin 2016) summarised:

As was suggested by the evaluation, the excavation revealed abundant evidence of activity dating to the late Bronze Age/ early Iron Age and early to middle Anglo-Saxon period. Evidence of Romano-British, middle to late Anglo-Saxon and Saxo-Norman/ medieval occupation/activity was also encountered. Other periods were more sparsely represented.

Of particular significance were a late Bronze Age/ early Iron Age enclosure system, a Romano-British enclosure, hearths and a post-built structure, five Anglo-Saxon sunken-featured buildings and five burnt flint pits, also of Anglo-Saxon date. A middle to late Anglo-Saxon enclosure, a post and beam slot structure and a Saxo-Norman/ medieval metal working area were also recorded. Notable small finds comprise eight late Anglo-Saxon/ Viking Age scale weights with embedded silver coins.

6 METHODOLOGY

6.1 SCC AS-CT required a programme of archaeological trial trenching and stipulated that a 5% sample of the site should be subject to trial trenching at 1.8m width should be undertaken. Two trenches had already previously been excavated within the area by AS as part of the previous evaluation works associated with the new spine road (Trenches 126 and 133), so a further 12 trenches of 40m x 1.8m were excavated. Each trench was 40m x 1.80m, and was excavated using a tracked 360° mechanical excavator fitted with a toothless ditching bucket.

6.2 The topsoil and subsoil were removed under close archaeological supervision using a mechanical excavator fitted with a toothless ditching bucket. Thereafter, all further investigation was undertaken by hand. Exposed surfaces were cleaned as appropriate and examined for archaeological features and finds. Deposits were recorded using *pro forma* recording sheets, drawn to scale and photographed. Excavated spoil was checked for finds and the trenches were scanned by metal detector. A metal detector survey was conducted prior to, and on conclusion of, the excavation of the trenches and thereafter during the course of the evaluation

7 DESCRIPTION OF RESULTS

7.1 Individual trench descriptions are presented below. The trench numbering follows that of the previous evaluation (Orzechowski 2015)

Trench 74 (Figs. 2 - 4)

Sample section 74A: 0.00m = 16.36m AOD		
0.00 – 0.33m	L3000	Topsoil. Mid yellowish grey, friable, sandy silt with infrequent chalk and gravel
0.338 – 0.48m	L3001	Subsoil. Mid light grey brown, friable, silty sand.
0.48m +	L3002	Natural. Varying mid – light reddish / yellow grey, friable, sand.

<i>Sample section 74B:</i> <i>0.00m = 16.68m AOD</i>		
0.00 – 0.31m	L3000	Topsoil. As above.
0.31m +	L3002	Natural. As above.

Description: No archaeological features or finds were present in Trench 74.

Trench 75 (Figs. 2 - 4)

<i>Sample section 75A:</i> <i>0.00m = 15.89m AOD</i>		
0.00 – 0.34m	L3000	Topsoil. As above, Trench 74
0.34 – 0.39m	L3001	Subsoil. As above, Trench 74
0.39m +	L3002	Natural. As above, Trench 74

<i>Sample section 75B:</i> <i>0.00m = 16.02m AOD</i>		
0.00 – 0.29m	L3000	Topsoil. As above, Trench 74
0.29 – 0.44m	L3001	Subsoil. As above, Trench 74
0.44m +	L3002	Natural. As above, Trench 74

Description: No archaeological features or finds were present in Trench 75

Trench 76 (Figs. 2 - 4)

<i>Sample section 76A:</i> <i>0.00m = 15.85m AOD</i>		
0.00 – 0.34m	L3000	Topsoil. As above, Trench 74
0.34m +	L3002	Natural. As above, Trench 74

<i>Sample section 76B:</i> <i>0.00m = 16.45m AOD</i>		
0.00 – 0.29m	L3000	Topsoil. As above, Trench 74
0.29m +	L3002	Natural. As above, Trench 74

Description: No archaeological features or finds were present in Trench 76

Trench 91 (Figs. 2 - 5)

<i>Sample section 91A:</i> <i>0.00m = 16.74m AOD</i>		
0.00 – 0.28m	L3000	Topsoil. As above, Trench 74
0.28 – 0.46m	L3001	Subsoil. As above, Trench 74
0.46m +	L3002	Natural. As above, Trench 74

<i>Sample section 91B:</i> <i>0.00m = 16.93m AOD</i>		
0.00 – 0.29m	L3000	Topsoil. As above, Trench 74
0.29m +	L3002	Natural. As above, Trench 74

Description: Undated Ditch F3004 was present in Trench 91

Ditch F3004 was linear in plan (2m+ x 1.04m x 0.32m). It had moderately sloping sides and a flattish base. Its fill, L3005, was a light brown, friable, sandy silt with sparse flint. It contained no finds.

Trench 92 (Figs. 2 - 4)

<i>Sample section 92A:</i> <i>0.00m = 16.90m AOD</i>		
0.00 – 0.27m	L3000	Topsoil. As above, Trench 74
0.27 – 0.36m	L3001	Subsoil. As above, Trench 74
0.36m +	L3002	Natural. As above, Trench 74

<i>Sample section 92B:</i> <i>0.00m = 16.81m AOD</i>		
0.00 – 0.31m	L3000	Topsoil. As above, Trench 74
0.31m +	L3002	Natural. As above, Trench 74

Description: No archaeological features or finds were present in Trench 92

Trench 93 (Figs. 2 - 4)

<i>Sample section 93A:</i> <i>0.00m = 16.70 AOD</i>		
0.00 – 0.31m	L3000	Topsoil. As above, Trench 74
0.31 – 0.48m	L3001	Subsoil. As above, Trench 74
0.48m +	L3002	Natural. As above, Trench 74

<i>Sample section 93B:</i> <i>0.00m = 16.72m AOD</i>		
0.00 – 0.35m	L3000	Topsoil. As above, Trench 74
0.35m +	L3002	Natural. As above, Trench 74

Description: No archaeological features or finds were present in Trench 93

Trench 97 (Figs. 2 - 4)

<i>Sample section 97A:</i> <i>0.00m = 16.73m AOD</i>		
0.00 – 0.36m	L3000	Topsoil. As above, Trench 74
0.36m +	L3002	Natural. As above, Trench 74

<i>Sample section 97B:</i> <i>0.00m = 16.96m AOD</i>		
0.00 – 0.33m	L3000	Topsoil. As above, Trench 74
0.33m +	L3002	Natural. As above, Trench 74

Description: No archaeological features or finds were present in Trench 97

Trench 98 (Figs. 2 - 4)

<i>Sample section 98A:</i> <i>0.00m = 17.09m AOD</i>		
0.00 – 0.31m	L3000	Topsoil. As above, Trench 74
0.31m +	L3002	Natural. As above, Trench 74

<i>Sample section 98B:</i> <i>0.00m = 17.22m AOD</i>		
0.00 – 0.31m	L3000	Topsoil. As above, Trench 74
0.31 – 0.48m	L3001	Subsoil. As above, Trench 74
0.48m +	L3002	Natural. As above, Trench 74

Description: No archaeological features or finds were present in Trench 98

Trench 99 (Figs. 2 - 4)

<i>Sample section 99A:</i> <i>0.00m = 17.05m AOD</i>		
0.00 – 0.22m	L3000	Topsoil. As above, Trench 74
0.22m +	L3002	Natural. As above, Trench 74

<i>Sample section 99B:</i> <i>0.00m = 17.16m AOD</i>		
0.00 – 0.30m	L3000	Topsoil. As above, Trench 74
0.30m +	L3002	Natural. As above, Trench 74

Description: No archaeological features or finds were present in Trench 99

Trench 100 (Figs. 2 - 4)

<i>Sample section 100A:</i> <i>0.00m = 16.80m AOD</i>		
0.00 – 0.35m	L3000	Topsoil. As above, Trench 74
0.35m +	L3002	Natural. As above, Trench 74

<i>Sample section 100B:</i> <i>0.00m = 17.06m AOD</i>		
0.00 – 0.23m	L3000	Topsoil. As above, Trench 74
0.23m +	L3002	Natural. As above, Trench 74

Description: No archaeological features or finds were present in Trench 100

Trench 127 (Figs. 2 - 4)

<i>Sample section 127A:</i> <i>0.00m = 17.28m AOD</i>		
0.00 – 0.23m	L3000	Topsoil. As above, Trench 74
0.23 – 0.34m	L3001	Subsoil. As above, Trench 74
0.34m +	L3002	Natural. As above, Trench 74

<i>Sample section 127B:</i> <i>0.00m = 17.87m AOD</i>		
0.00 – 0.27m	L3000	Topsoil. As above, Trench 74
0.27 – 0.40m	L3001	Subsoil. As above, Trench 74
0.40m +	L3002	Natural. As above, Trench 74

Description: No archaeological features or finds were present in Trench 127

Trench 128 (Figs. 2 - 4)

<i>Sample section 128A:</i> <i>0.00m = 17.72m AOD</i>		
0.00 – 0.23m	L3000	Topsoil. As above, Trench 74
0.23 – 0.60m	L3001	Subsoil. As above, Trench 74
0.60m +	L3002	Natural. As above, Trench 74

<i>Sample section 128B:</i> <i>0.00m = 18.17m AOD</i>		
0.00 – 0.28m	L3000	Topsoil. As above, Trench 74
0.28 – 0.57m	L3001	Subsoil. As above, Trench 74
0.57m +	L3002	Natural. As above, Trench 74

Description: No archaeological features or finds were present in Trench 128

8 CONFIDENCE RATING

8.1 It is not felt that any factors inhibited the recognition of archaeological features or finds within the site.

9 DEPOSIT MODEL

9.1 Uppermost was Topsoil L3000, a Mid yellowish grey, friable, sandy silt with infrequent chalk and gravel (0.22 - 0.33m thick). Below L1000 was Subsoil L3001, a Mid light grey brown, friable, silty sand. Below the subsoil was the natural, L3002, a varying mid – light reddish / yellow grey, friable, sand (0.22 – 0.48m below the present day ground surface).

10 DISCUSSION

10.1 During the previous archaeological investigations (geophysical survey (Egan 2014) and trial trenching (Orzechowski 2015)) archaeological features have been recorded but the principal features were located in the southern sector of the middle field (Figs. 3 and 4), and these features were subject to an archaeological excavation (Mustchin 2016).

10.2 Adjacent to the current phase of trenching within the new primary school site, the earlier trial trenching revealed sparse archaeological features. Trenches 101, 102, 123 and 125 were all devoid of features. Trench 135 contained a natural hollow and Trench 134 contained an undated pit and an undate ditch.

10.3 Within the area of the proposed new primary school Trench 133 was sterile, and Trench 126 contained a modern feature. The most recently cut trenches were sterile, except Trench 91 which contained an undated ditch.

11 DEPOSITION OF THE ARCHIVE

11.1 Archive records, with an inventory, will be deposited at Suffolk County Store. 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.

ACKNOWLEDGEMENTS

Archaeological Solutions Ltd (AS) is grateful to Suffolk County Council for funding the archaeological works, and Concertus Design & Property Consultants for their assistance (in particular Ms Linda Wilson). AS would also like to acknowledge the assistance of Persimmon Homes Ltd.

AS is also pleased to acknowledge the input and advice of Ms Rachael Abraham (Suffolk County Council Archaeological Service Conservation Team).

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APPENDIX 1 SPECIFICATION

LOWESTOFT WOODS MEADOW, NEW PRIMARY SCHOOL, OULTON, SUFFOLK NR32 3QG

**WRITTEN SCHEME OF INVESTIGATION FOR
ARCHAEOLOGICAL EVALUATION**

**21st February 2017
Rev 2nd June 2017**

Archaeological Solutions is an independent archaeological contractor providing the services which satisfy all archaeological requirements of planning applications, including:

Desk-based assessments and environmental impact assessments
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**LOWESTOFT WOODS MEADOW, NEW PRIMARY SCHOOL, OULTON,
SUFFOLK NR32 3QG
ARCHAEOLOGICAL TRIAL TRENCH EVALUATION**

1 INTRODUCTION

1.1 This specification has been prepared in response to a brief issued by Suffolk County Council Archaeological Service Conservation Team (SCC AS-CT) (Richard Hoggett, dated 16th November 2017). It provides for an archaeological trial trench evaluation to be carried out in advance of the proposed construction of a new primary school and associated works on land at Lowestoft Woods Meadow, Oulton, Suffolk NR32 3QG (NGR TM 5190 9440), in order to provide further information for the initial requirement of planning conditions 3 & 4 on Suffolk County Council Planning Approval requiring a programme of archaeological work (Planning Approval Ref. SCC/0228/16w). The evaluation is required by the LPA, based on advice from SCC AS-CT.

1.2 It is understood that the programme of archaeological investigation should comprise an archaeological field evaluation, to comply with the planning requirement of the local planning authority (on advice from SCC AS-CT). This WSI for initial archaeological evaluation has been prepared for the approval of SCC AS-CT and represents the first stage of work. If remains are present then SCC AS-CT may require further mitigation for archaeology as part of the proposed development. Such requirement/s will be confirmed in a subsequent brief/s as necessary.

2 COMPLIANCE

2.1 If AS carried out the evaluation, AS would comply with SCC AS-CT's requirements.

**3 SITE & DEVELOPMENT DESCRIPTION
ARCHAEOLOGICAL BACKGROUND**

3.1 It is proposed to erect a new primary school with separate preschool and drop off area at Lowestoft Woods Meadow. The site currently comprises arable land adjacent to a recent spine road and residential development, and extends to some 2ha. The spine road and Phase 1 development area have been subject to a programme of archaeological work by AS comprising trial trenching and follow-up excavation of areas of identified archaeology.

3.2 The Suffolk Historic Environment Record (HER) confirms that the site is in an area of archaeological potential. Trial trenching of the spine road and area to the south of east has taken place, followed by an open area excavation of the Phase 1 development area (HER OUL 037), revealing activity of prehistoric to medieval date, with a significant Anglo-Saxon component.

The excavation report (Mustchin 2016) summarised:

As was suggested by the evaluation, the excavation revealed abundant evidence of activity dating to the late Bronze Age/ early Iron Age and early to middle Anglo-Saxon period. Evidence of Romano-British, middle to late Anglo-Saxon and Saxo-Norman/ medieval occupation/activity was also encountered. Other periods were more sparsely represented.

Of particular significance were a late Bronze Age/ early Iron Age enclosure system, a Romano-British enclosure, hearths and a post-built structure, five Anglo-Saxon sunken-featured buildings and five burnt flint pits, also of Anglo-Saxon date. A middle to late Anglo-Saxon enclosure, a post and beam slot structure and a Saxo-Norman/ medieval metal working area were also recorded. Notable small finds comprise eight late Anglo-Saxon/ Viking Age scale weights with embedded silver coins.

3.3 The site thus has a further potential for multi-period remains such as have been excavated immediately adjacent to the site.

3.4 The proposed works will cause significant ground disturbance that has the potential to damage any archaeological deposits that exist. The archaeological and historical background of the site will be discussed in the project report and the HER will be consulted.

4 BRIEF FOR THE ARCHAEOLOGICAL EVALUATION SPECIFICATION FOR TRIAL TRENCH EVALUATION GENERAL MANAGEMENT

4.1 The principal objectives for the evaluation include:

- To establish whether any archaeological deposit exists in the area, with particular regard to any which are of sufficient importance to merit preservation *in situ*
- To identify the date, approximate form and purpose of any archaeological deposit within the application area, together with its likely extent, localised depth and quality of preservation.
- To evaluate the likely impact of past land uses, and the possible presence of masking colluvial/alluvial deposits, along with the potential for the survival of environmental evidence
- To provide sufficient information to construct an archaeological conservation strategy dealing with preservation, the recording of archaeological deposits, working practices, timetables and orders of cost.

4.2 Research Design

4.2.1 The regional research frameworks are set out in Glazebrook (1997 and Brown & Glazebrook (2000) and updated by Medlycott and Brown (2008) and Medlycott

(2011). The key issues for the Neolithic and Bronze Age (as set out by Brown & Murphy in Brown & Glazebrook 2000, 9-13) centre on the theme of the development of farming and the attendant development and integration of monuments, fields and settlements. Medlycott & Brown (2008) and Medlycott (2011, 13) suggest that future research on the Neolithic should include synthetic and regional studies for the region; an examination of the Mesolithic/Neolithic transition through radiocarbon dates; the establishment of a chronology for Neolithic ring-ditches; improved understanding of the chronological development of pottery; the excavation and study of cropmark complexes; greater understanding of burial practices; a study of the inter-relationships of settlements; greater use of scientific methods of dating and modelling of the environmental conditions during this period; targeted programmes of sedimentological, palynological and macrofossil analyses of sediment sequences in valley bottoms, lakes or the intertidal zone; and the human impact on the natural landscape during this period. The nature of Neolithic burial in the region and the pattern of burial practice, including the relationship between settlement sites and burial, require further research. Settlement sites themselves also form part of an important research subject as there is a requirement to identify if a consensus exists on the subject of non-permanent settlement in the Neolithic (Medlycott 2011, 13). Further work on understanding the effects of plough damage on Neolithic sites is considered to be an important research subject for the region (Medlycott 2011, 13).

4.2.2 Inter-relationships between settlements and greater understanding of patterns of burial practice are important areas of research for the Bronze Age (Medlycott & Brown 2008). Medlycott (2011, 21) identifies artefact studies as of particular importance for the study of the Bronze Age in the region; the typological identification of later Bronze Age pottery linked to close radiocarbon dating, the further study of Bronze Age flintworking and the significance of hoarding and other depositional practices are all identified as being key research subjects. Artefact studies can contribute to the refinement of chronologies for the period and to an assessment of the reasons behind the marked divide in research results between the northern and southern parts of the region, which are identified by Medlycott (2011, 21) as important research areas. Like the Neolithic, sedimentological, palynological and macrofossil analyses of sediment sequences are considered to be important areas of research as are the effects of colluviation and the possibility that colluvial deposits mask some significant sites (Medlycott 2011, 21).

4.2.3 Research topics for the Iron Age set out by Bryant (in Brown & Glazebrook 2000, 14-18) include further research into chronologies, precise dating and ceramic assemblages, further research into the development of the agrarian economy (particularly with regard to field systems), research into settlement chronology and dynamics, research into processes of economic and social change during the late Iron Age and Romano-British transition (particularly with regard to the development of Aylesford/Swarling and Roman culture, and also regional differences and tribal polities in the late Iron Age and further research into *oppida* and ritual sites), further analysis of development of social organisation and settlement form/function in the early and middle Iron Age, further research into artefact production and distribution and the Bronze Age/Iron Age transition. Medlycott & Brown (2008) and Medlycott (2011, 29-32) build on these themes, paying particular attention to chronological and spatial development and variation and adding subjects as the Bronze Age/Iron Age transition and manufacturing and industry.

4.2.4 Medlycott (2011, 47) identifies regional variation and tribal distinctions as underlying themes for research in the Roman period. Research topics for the Roman period previously set out by Going & Plouviez (in Brown & Glazebrook 2000, 19-22) 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. Medlycott (2011, 47-48) states that these research areas remain valid and presents updated consideration of them. To these themes Medlycott & Brown (2008) and Medlycott (2011, 47-48) add rural settlements and landscapes, the process of Romanisation in the region, the evidence for the Imperial Fen Estate, and the Roman/Saxon transition.

4.2.5 Wade (in Brown & Glazebrook 2000, 23-26) identifies research topics for the rural landscape in the Saxon and medieval periods. These include examination of population during this period (distribution and density, as well as physical structure), settlement (characterisation of form and function, creation and testing of settlement diversity models), specialisation and surplus agricultural production, assessment of craft production, detailed study of changes in land use and the impact of colonists (such as Saxons, Danes and Normans) as well as the impact of the major institutions such as the Church.

4.2.6 Medlycott (2011, 57) states that the study of the Anglo-Saxon period still requires further cooperation between historians and archaeologists. Important research issues for this period comprise: the Roman/Anglo-Saxon transitional period; settlement distribution, which suffers from problems associated with the identification of Saxon settlement sites; population modelling and demographics, which has the potential to be advanced by modern scientific methods; differences within the region in terms of settlement type and economic practice and subjects related to this such as links with the continent, trading practices and cultural influences; rural landscapes and settlements, including detailed study of the changes and developments in such settlements over time and the influence of Saxon landscape organisation and settlements on these issues in the medieval period; towns and their relationships with their hinterland; infrastructure, including river management, the identification of ports and harbours and the role of existing infrastructure in shaping the Saxon period landscape; the economy, based on palaeoenvironmental studies; ritual and religion; the effect of the Danish occupation; and artefact studies (Medlycott 2011, 57-59).

4.2.7 The issues identified by Ayers (in Brown & Glazebrook, 2000) and Wade (in Brown & Glazebrook, 2000) remain valid research subjects (Medlycott 2011, 70) for the medieval period. The study of landscapes is dominated by issues such as water management and land reclamation for large parts of the region, the economic development of the landscape and the region's potential to reveal information regarding field systems, enclosures, roads and trackways. Linked to the study of the landscape are research issues such as the built environment and infrastructure; the main communication routes through the region need to be identified and synthesis needs to be carried out regarding the significance, economic and social importance of historic buildings in the region (Medlycott 2011, 70-71). Also considered to be important research subjects for the medieval period are rural settlements, towns,

industry and the production and processing of food and demographic studies (Medlycott 2011, 70-71).

4.2.8 The research subjects identified as important for the post-medieval and modern periods (see Medlycott 2011, 72-80) expand on those set out by Gilman *et al* (in Brown & Glazebrook, 2000) which focussed on the subjects of fortifications, parks and gardens and industrialisation and manufacture. Medlycott (2011) stresses the importance of the built and environment and the use of the Listed Buildings databases and thematic surveys in understanding this. The subject of industry and infrastructure, which is clearly of great importance for this period, remains a key research subject for the region with particular attention being paid to rural industries, the processing of food for urban markets and the development and character of the region's primary communication routes. Landscapes, and the effect of social changes, such as the Dissolution and the enclosure of greens and commons, on them are considered to be an area of research. The region's military sites and their impact on the development of eastern England, on its landscapes and on its appearance are also considered to be of importance. Towns, their development and their impact on the landscape, require further study. Issues such as economic and social influences of towns on their hinterlands and neighbours are identified as being of importance, as are the development of specific urban forms.

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5 SPECIFICATION TRENCHED EVALUATION

5.1 Details of Senior Project Staff

5.1.1 AS has developed a professional and well-qualified team who have undertaken numerous archaeological projects (both desk-based and field evaluations) on all types of developments, including commercial, residential, road schemes and golf courses. AS is a Registered Organisation of the ClfA.

5.1.2 Profiles of key project staff are provided (Appendix 3).

A Method Statement is presented
Trial Trench Evaluation Appendix 1

5.1.3 The evaluation will conform with the guidelines set down in the brief and the Chartered Institute for Archaeologists *Standard and Guidance for Archaeological Evaluations (revised 2014)* and *Standard and Guidelines for Historic Environment Desk-based Assessment (revised 2014)*. It will also adhere to the document *Standards for Field Archaeology in the East of England* (Gurney 2003) and the requirements of the SCC document *Requirements for a Trenched Evaluation* (March 2017).

5.1.4 SCC AS-CT require a programme of archaeological trial trenching and stipulate that a 5% sample of the site should be subject to trial trenching at 1.8m width should be undertaken. Two trenches have already previously been excavated within the area by AS, so a further 12 trenches of 40m x 1.8m are proposed. A trench plan is appended. AS is happy to review the scale/location of the trenches following comment from the client and/or SCC AS-CT.

5.1.5 The environmental strategy will adhere to the guidelines issued by English Heritage (now Historic England) (*Environmental Archaeology; A guide to the theory and practice of methods, from sampling and recovery to post-excavation*, Centre for Archaeology Guidelines, rev 2011). An environmentalist will be invited to visit the site if remains of interest are found. Dr Rob Scaife/Dr John Summers will be the Environmental Coordinator for the project. The specialist will make his/her results known to the regional science advisor who co-ordinates environmental archaeology in the region on behalf of Historic England.

5.1.6 Estimate of time and resources required for each phase, to complete the trial trenching, project archive and the production of an evaluation report.

Trial Excavation
Processing, Cataloguing and Conservation of Finds
Preparation of Report and Archive c.10-15 Days

Staff on site: a Project Officer and Site Assistant/s (as necessary)

5.1.7 In advance of the field work AS will liaise with the Suffolk Archaeological Archive to fulfil their requirements for the long term deposition of the project archive. These will encompass: their collection policy, and their financial and technical requirements for long term storage. The resources include provision for the long term-deposition of the project archive.

5.1.8 Details of staff and specialist contractors are provided (Appendix 2). The project will be managed by Claire Halpin MCIFA /Jon Murray MCIFA.

5.1.9 AS is a member of FAME formerly the Standing Conference of Archaeological Unit Managers (SCAUM) and operates under the 'Health & Safety in Field Archaeology Manual'. A risk assessment and management strategy will be completed prior to the start of works on site.

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

6 SERVICES

6.1 The client is to advise AS of the position of any services which traverse the site.

7 SECURITY

7.1 Throughout all site works care will be taken to maintain all existing security arrangements, and to minimise disruption.

8 REINSTATEMENT

8.1 No provision has been made for reinstatement, excepting simple backfilling. Backfilling will only take place once SCC AS-CT have signed off the trenches.

9 REPORT REQUIREMENTS

9.1 The report will include (as a minimum):

- a) the archaeological background
- b) a consideration of the aims and methods adopted in the course of the recording
- c) a detailed account of the nature, location, extent, date, significance and quality of any archaeological evidence recorded.
- d) Excavation methodology and detailed results including a suitable conclusion and discussion
- e) plans and sections of any recorded features and deposits
- f) discussion and interpretation of the evidence. An assessment of the projects significance in a regional and local context and appendices.

- g) All specialist reports or assessments
- h) A concise non-technical summary of the project results
- i) A HER summary sheet
- j) An OASIS summary sheet

9.2 Draft hard and digital PDF copies of the report will be submitted to SCC AS-CT for approval. If any revisions are required, final hard and digital PDF copies will be supplied to SCC AS-CT for deposition with the HER.

9.3 The project details will be submitted to the OASIS database, and the online summary form will be appended to the project report.

9.4 A summary report will be submitted suitable for inclusion in the annual roundups of *Proceedings of the Suffolk Institute of Archaeology and History*, dependent on the results of the project.

10 ARCHIVE

10.1 The requirements for archive storage will be agreed with the Suffolk Archaeological Archives.

10.2 The archive will be deposited within six months of the conclusion of the fieldwork. It will be prepared in accordance with the UK Institute for Conservation's *Conservation Guideline No.2* and according to the document *Deposition of Archaeological Archives in Suffolk* (SCC AS Conservation Team, 2017). A unique event number and HER site code will be obtained from the County HER Officer before the project commences.

10.3 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 Suffolk Archaeological Archives; 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 Suffolk Archaeological Archives. The archive will be adequately catalogued, labelled and packaged for transfer and storage in accordance with the guidelines set out in the United Kingdom Institute for Conservation's *Conservation Guidelines No.2* and the other relevant reference documents.

10.4 Archive records, with inventory, are to be deposited, as well as any donated finds from the site, at the Suffolk Archaeological Archives 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. A unique event number for the report and monument number for any finds will be obtained from the HER.

11 MONITORING

11.1 It is understood that SCCAS-CT will monitor the project on behalf of the local planning authority.

11.2 **Notification** Archaeological Solutions will give SCCAS-CT notification prior to the commencement of the project on site

11.3 **Monitoring** SCCAS-CT will be responsible for monitoring progress and standards throughout the project, both on site and during the post-survey/report stages, to ensure compliance with the planning requirement, the approved WSI and any subsequent Brief and approved WSI for further fieldwork, analyses and publication.

11.4 Any variations to the WSI will be agreed in advance with SCCAS-CT prior to them being carried out.

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 Chartered Institute for Archaeologists.

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 Full Excavation

If deep, 'urban' type deposits are encountered, or significant deposits of made ground are encountered (which is unlikely on this site) the upper levels of the test pits will be stepped as necessary, within layers of later post-medieval/modern date only, in order to ensure safe working practices. The trenches will be no less than 1.6m wide at base.

Excavation of Stratified Sequences

The trenches will be excavated according to phase, from the most recent to the earliest, and the phasing of features will be distinguished by their stratigraphic relationships, fills and finds.

Deep features e.g. quarry holes, may incorporate stratified deposits which will be excavated by hand-dug sections and recorded.

Excavation of Buildings

Building remains are likely to comprise stake holes, post holes and slots/gullies, masonry foundations and low masonry walls. Associated features may be present e.g. hearths.

The features comprising buildings will be excavated fully and in plan/phase, to a level sufficient for the requirements of an evaluation.

Full Excavation

Industrial remains and intrinsically interesting features e.g hearths, burials will clearly merit full excavation, though will be excavated sufficient to characterise such deposits within the context of an evaluation. Discrete features associated with possible structures and/or settlement will be fully excavated, again sufficient to characterise them for the purposes of an evaluation. Otherwise discrete features (eg pits) will be half-sectioned.

Ditches

The ditches will be excavated in segments up to 2m long, and the segments will be placed to provide adequate coverage of the ditches, establish their relationships and obtain samples and finds.

Buried Soils

If buried soils are encountered, the surfaces will be cleaned and examined for features/finds, which will be investigated/recorded before any further excavation takes place.

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. Digital images will also be taken (Nikon Coolpix L29 16.1 megapixel cameras). 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 prior to and on conclusion of the topsoil stripping, and thereafter during the course of the excavation. Gareth Barlow of AS is our experienced metal detectorist. The spoil tips will also be surveyed. Metal detectors will not be set to discriminate against iron. Any small finds will be located by GPS. 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.

In the event of items considered as being defined as treasure being found, then the requirements of the Treasure Act 1996 (with subsequent amendments) will be followed. Any such finds encountered during the investigation will be reported immediately to the Suffolk Portable Antiquities Scheme Finds Liaison Officer who will in turn inform the Coroner within 14 days

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 SCC AS-CT. 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 SCC AS-CT. 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. All animal bone will be collected.

ENVIRONMENTAL SAMPLING

The sampling will adhere to the guidelines prepared by English Heritage (now Historic England), and the specialist will make his/her results known to the regional science advisor who co-ordinates environmental archaeology in the region on behalf of Historic England. The project will also accord with the guidelines of the English Heritage (now Historic England) document *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 Rob Scaife/Dr Summers and AS will seek advice from the HE 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 Historic England 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 HE 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 on 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 John Summers. Dr Rob Scaife and AS will seek advice from the HE Regional Scientific Advisor if significant environmental remains are found.

FINDS PROCESSING

The project director 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's Finds 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 Finds 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 STAFF & SPECIALISTS

DIRECTOR

Claire Halpin BA MCIfA

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 MCIfA

Qualifications: Member of the CfA

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.

OFFICE ADMINISTRATOR

Jennifer O'Toole

Experience: Jennifer's professional career has included a variety of roles such as Operations Director with The Logistics Network Ltd, Tutor/Trainer & Deputy Manager with Avanta TNG and Training and Assessment Consultant with PDM Training and Consultancy Ltd. Jennifer's career history emphasises her organisational and interpersonal skills, especially her ability to efficiently liaise with and manage individuals on various levels, and provide a range of supportive/ administrative services. Jennifer holds professional qualifications in a number of subjects including recruitment practice, customer service, workplace competence and health and safety. In her role with Archaeological Solutions Ltd, Jennifer has assisted in the delivery of the company's services on a variety of projects as well as co-ordinating recruitment and providing a range of complex administrative support.

SENIOR PROJECTS MANAGER

Jon Murray BA MCIfA

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 project manages) 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 and managing the field teams. He also has extensive experience in preparing and supporting applications for Scheduled Monument Consent/Listed Building Consent

PROJECT OFFICER

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).

PROJECT OFFICER
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.

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 Lydinge 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 Chartered 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
Mark Blagg-Newsome

Qualifications: University of Reading (2007-2010) BSc Archaeology

University of Reading (2010-2011) MA Res Archaeology

Experience: Mark has an excellent academic record in archaeology having received an award for best undergraduate dissertation (Department of Archaeology, University of Reading; 2010) and the prize for the best Roman archaeology dissertation (2014) from the Society for the Promotion of Roman Studies. Mark also chaired and presented in sessions at the 2014 Roman Archaeology Conference and is a contributor on forthcoming archaeozoological publications. Before becoming a supervisor with Archaeological Solutions

Ltd, Mark held the position of Site Assistant and has worked on numerous commercial projects. He has also undertaken geophysical and GPS survey.

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 PCIFA

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 Environmental Impact 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 MCIfA

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, Cambridgeshire. 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.

GRAPHICS OFFICER

Thomas Light

Qualifications: University of Kent (2009-2012) BA Classical and Archaeological Studies

University of Kent (2012-2013) MA Roman History and Archaeology

Experience: Since completing his higher education, Thomas has gained good practical experience in the archaeological and heritage sector, working in a voluntary capacity for Guilford Institute Library and Archive, and Surrey County Archaeological Unit. Before becoming a graphics officer, Thomas held the position of Site Assistant and has excavated on a variety of commercial projects. In his current capacity Thomas has produced extensive illustrative material, including figures and plates for nationally and internationally distributed journal publications.

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.

HISTORIC BUILDING RECORDING

Lauren Wilson

Qualifications: University of Chester (2010-2013) BA (Hons) Archaeology

University of York (2013-2014) MA Archaeology of Buildings

Experience: Throughout her higher education, Lauren has gained extensive practical archaeological experience, including small finds processing and cataloguing at Norton Priory, Runcorn and assisting in the excavation of a Roman villa as part of the *Santa Marta Project*, Tuscany. Lauren also participated in a training excavation at Grovesnor Park, Chester, centred on a Roman road and 16th century chapel. As part of her Masters dissertation, Lauren worked with the Historic Property Manager of Middleham Castle, North Yorkshire, gaining a good practical knowledge of public outreach and events planning. Since joining Archaeological Solutions Ltd, Lauren has contributed to complex historic buildings recording projects at Landens Farm, Horley (Surrey) and the Ostrich Inn, Colnbrook (Berkshire). She also conducts background research and contributes to archaeological report writing.

ARCHIVES ADMINISTRATOR

Claire Wootton

Experience: Throughout her professional career, Claire has gained extensive administrative experience. Her past roles include Administrative Officer with the Court Service (Royal Courts of Justice; 1988-1997) and Discovery Centre Administrator at St Edmundsbury Cathedral (2012-2015). Claire's Advanced Level qualifications include History, English and Law. Since joining Archaeological Solutions Ltd, Claire has gained a thorough experience of archives administration through a programme of work-based training on numerous projects.

ARCHIVES ADMINISTRATOR

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 in charge 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 Photo Services

AIR PHOTOGRAPHIC ASSESSMENTS

PHOTOGRAPHIC SURVEYS PREHISTORIC POTTERY

Ms K Henry
Mr A Peachey

ROMAN POTTERY SAXON & MEDIEVAL POTTERY

Mr A Peachey
Mr P Thompson

POST-MEDIEVAL POTTERY FLINT

Mr P Thompson
Mr A Peachey

GLASS COINS

H Cool
British Museum, Dept of Coins & Medals

METALWORK & LEATHER SLAG

Ms Q Mould, Ms N Crummy
Mr A Newton

ANIMAL BONE

Dr J Cussans

HUMAN BONE:

Ms S Anderson

ENVIRONMENTAL CO-ORDINATOR

Dr J Summers

POLLEN AND SEEDS:

Dr R Scaife

CHARCOAL/WOOD

Dr J Summers

SOIL MICROMORPHOLOGY

Dr R MacPhail, Dr C French

CARBON-14 DATING:

Historic England Ancient Monuments Laboratory (for advice).

CONSERVATION

University of Leicester

OASIS DATA COLLECTION FORM: England

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OASIS ID: archaeol7-289301

Project details

Project name	The Limes Primary Academy, Avenue, Oulton, Suffolk
Short description of the project	In June 2017 Archaeological Solutions Ltd (AS) carried out an archaeological trial trench evaluation in advance of the construction of a new primary school (The Limes Primary Academy), Oulton, Suffolk (NGR TM 5190 9440; Figs. 1 - 2). The evaluation was required by Waveney Borough Council and based on advice from Suffolk County Council Archaeological Service Conservation Team (SCC AS-CT). Its purpose was to provide further information for the initial requirement of planning conditions which required a programme of archaeological work (Planning Approval Reference SCC/0228/16w). A geophysical survey (Egan 2014), trial trenching (Orzechowski 2015) and excavation (Mustchin 2016) have all been undertaken in the immediate vicinity of the site. During the previous archaeological investigations (geophysical survey (Egan 2014) and trial trenching (Orzechowski 2015)) archaeological features were recorded but the principal features were located in the southern sector of the middle field (Figs. 3 and 4), and these features were subject to an archaeological excavation (Mustchin 2016). Adjacent to the current phase of trenching within the new primary school site the earlier trial trenching revealed sparse archaeological features: Trenches 101, 102, 123 and 125 were all devoid of features. Trench 135 contained a natural hollow and Trench 134 contained an undated pit and an undate ditch. Within the area of the proposed new primary school Trench 133 was sterile, and Trench 126 contained a modern feature. The most recently cut trenches were sterile, except Trench 91 which contained an undated ditch.
Project dates	Start: 01-06-2017 End: 30-06-2017
Previous/future work	Yes / Not known
Any associated project reference codes	P5758 - Contracting Unit No.
Any associated project reference codes	OUL037 - Sitecode
Type of project	Field evaluation
Site status	None
Monument type	DITCH Uncertain
Significant Finds	NONE None
Methods & techniques	"Sample Trenches","Targeted Trenches"
Development type	Public building (e.g. school, church, hospital, medical centre, law courts etc.)
Prompt	Planning condition

Position in the planning process Pre-application

Project location

Country England
 Site location SUFFOLK WAVENEY OULTON The Limes Primary Academy, Avenue, Oulton, Suffolk
 Postcode NR32 3QG
 Study area 2 Hectares
 Site coordinates TM 5190 9440 52.488643445167 1.7108871168 52 29 19 N 001 42 39 E Point
 Height OD / Depth Min: 17m Max: 17m

Project creators

Name of Organisation Archaeological Solutions Ltd
 Project brief originator Suffolk County Council Archaeological Service Conservation Team
 Project design originator Jon Murray
 Project director/manager Jon Murray
 Project supervisor Niomi Edwards

Project archives

Physical Archive Exists? No
 Digital Archive recipient Suffolk County Archaeological Store
 Digital Contents "Survey"
 Digital Media available "Images raster / digital photography","Survey","Text"
 Paper Archive recipient Suffolk County Archaeological Store
 Paper Contents "Survey"
 Paper Media available "Drawing","Photograph","Plan","Report","Survey "

Project bibliography 1

Publication type Grey literature (unpublished document/manuscript)
 Title The Limes Primary Academy, Avenue, Oulton, Suffolk
 Author(s)/Editor(s) Edawrds, N
 Other bibliographic details Archaeological Solutions Report no. 5397
 Date 2017
 Issuer or publisher Archaeological Solutions Ltd

Place of issue or
publication Bury St Edmunds

Entered by Sarah Powell (info@ascontracts.co.uk)

Entered on 5 July 2017

OASIS:

Please e-mail [Historic England](#) for OASIS help and advice

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PHOTOGRAPHIC INDEX



1
Trench 76 looking west



2
Trench 91 looking west



3
Ditch 3004 in Trench 91 looking south



4
Trench 92 looking south



5
Trench 93 looking south



6
Trench 98 looking north



7
Trench 127 looking east

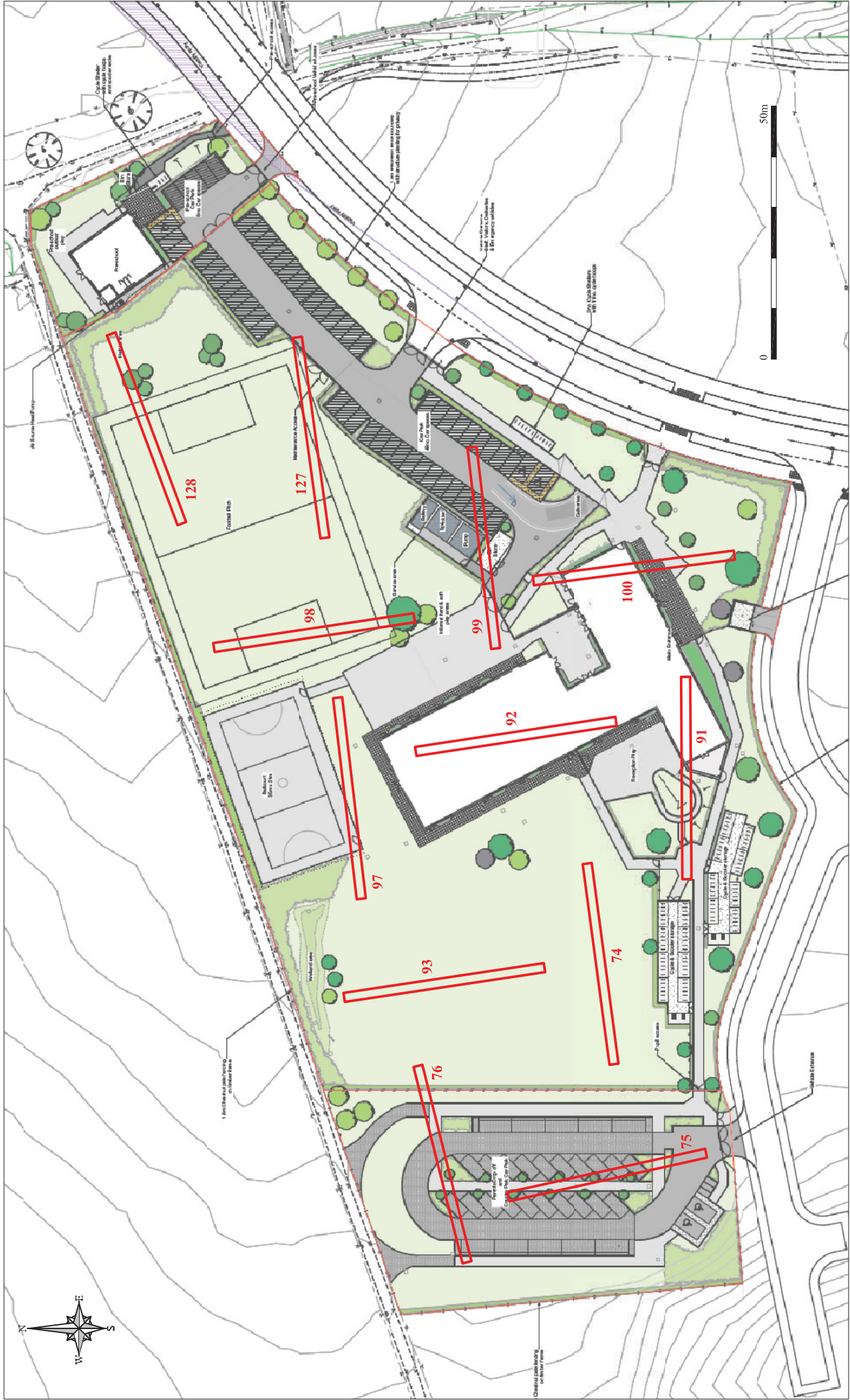


8
Trench 128 looking west



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Fig. 1 Site location plan
 Scale 1:25,000 at A4
 Oulton, Lowestoft, Suffolk (P5758)



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Fig. 2 Proposed development plan

Scale 1:1000 at A4

Oulton, Lowestoft, Suffolk (P5758)

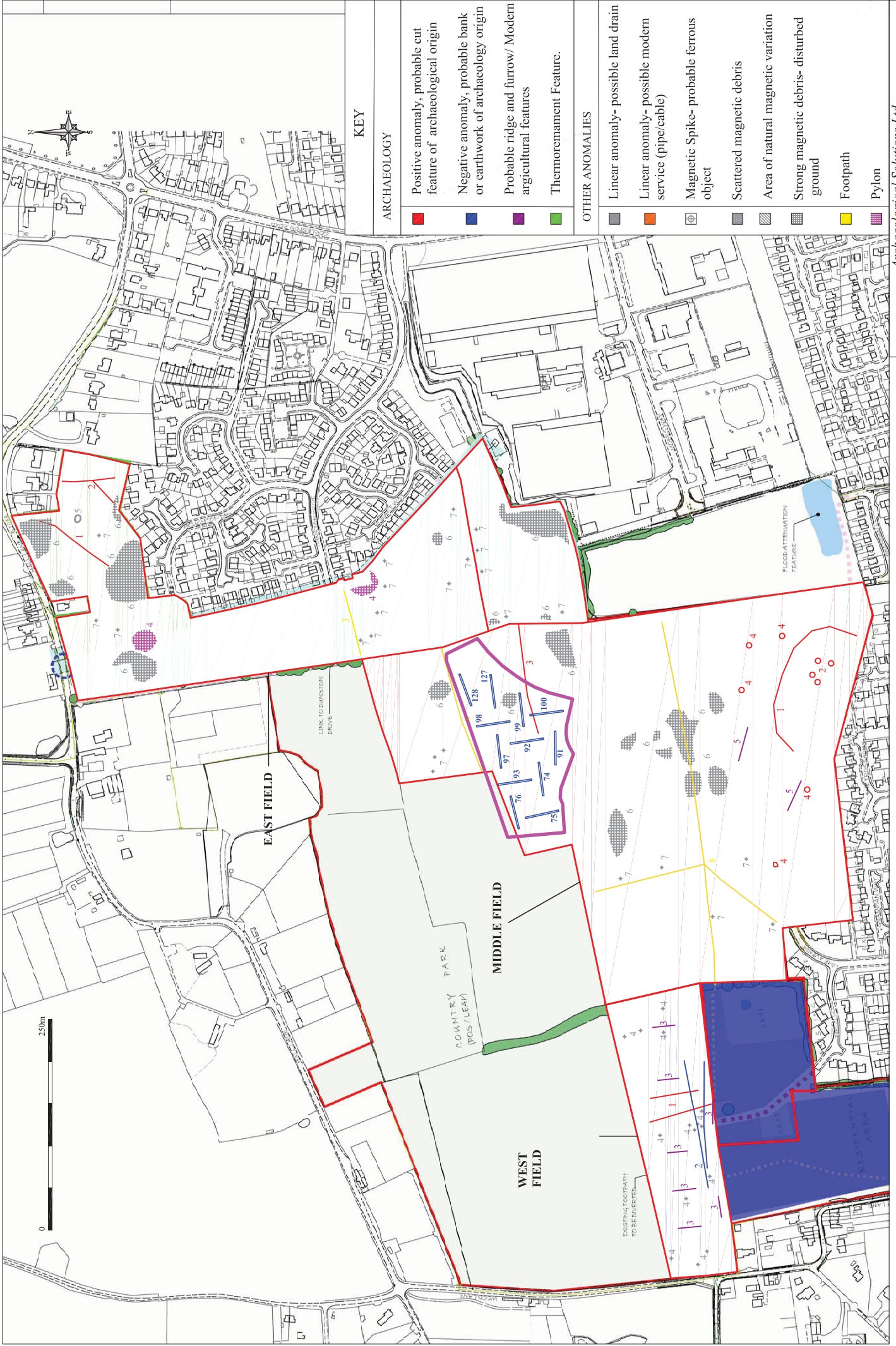
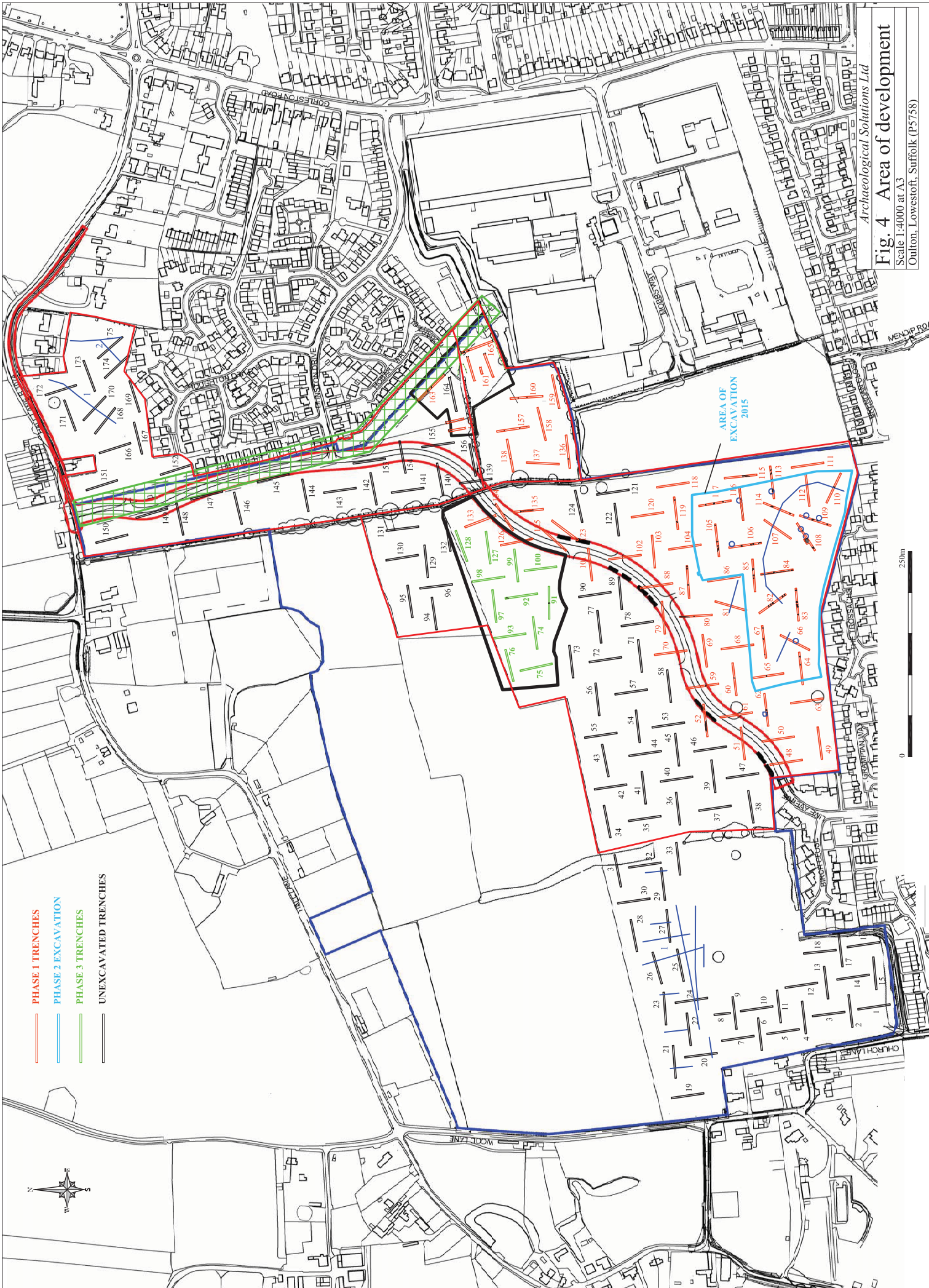
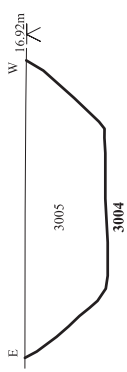
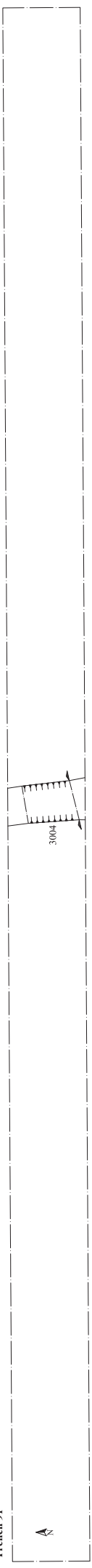


Fig. 3 Trenches on geophysical data
 Scale 1:4000 at A3
 Oulton, Lowestoft, Suffolk (P5758)



Trench 91

0 5m
Plan only



0 1m
Section only

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Fig. 5 Trench plan and section
Scale Plans 1:100, sections 1:20 at A3
Oulton, Lowestoft, Suffolk (P5758)