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LAND OFF LUFF MEADOW, NEEDHAM, MARKET, SUFFOLK

AN ARCHAEOLOGICAL EVALUATION

Authors: Kerrie Bull (Fieldwork and report) Peter Thompson (background)	
NGR: TM 086 554	Report No: 5630
District: Mid Suffolk	Site Code: NDM 045
Approved: Claire Halpin MCIfA	Project No: P7696
	Date: 9 August 2018

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ARCHAEOLOGICAL SOLUTIONS LTD

PI House, 23 Clifton Road, Shefford,
Bedfordshire SG17 5AF
01462 850483

Unit 6, Brunel Business Court, Eastern Way,
Bury St Edmunds IP32 7AJ
01284 765210

e-mail info@ascontracts.co.uk
www.archaeologicalsolutions.co.uk

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In July 2018 Archaeological Solutions (AS) carried out an archaeological evaluation on land off Luff Meadow, Needham Market, Suffolk (NGR TM 086 554; Figs. 1 - 2). The evaluation was undertaken in compliance with the initial requirements of a planning condition attached to planning approval for the proposed construction of a new residential development (Mid Suffolk Planning Ref. 0012/15). It was required based on the advice of Suffolk County Council Archaeological Service Conservation Team (SCC AS-CT). *The site occupies a favourable location for early occupation/activity reflected in the findings of Bronze Age ring ditches and Saxon activity within approximately 500m of the site (NDM 033, CRM 012, NDM 008). The known limit of the medieval town of Needham Market reaches 70m south of the site (NDM 026). A post-medieval windmill was located 140m to the north-west of the site (NDM 016), and two post-medieval yard surfaces were identified 170m to the south (NDM Misc).* *The recorded features identified during the evaluation were present in central and southern sectors of the site (Trenches 4 - 5, 7 - 9, and 12 - 14. The densest concentrations of features were found in Trench 9 (15 features), Trench 7 (9 features), 13 (5 features) and 14 (6 features). The majority of features were pits (29), quarry pits (2), ditches (5), dog burials (2), post hole (1) and a concrete floor.* *The features were of early modern and modern (19th – 20th century) date. The earliest pottery was from Ditch F1025 (mid 18th – 19th century), and Pit F1073 (late 18th – 19th century). A residual medieval (12th – 14th century) sherd was present with Pit F1089 (Trench 13).*		
Project dates (fieldwork)	*July 2018*		
Previous work (Y/N/?)	*N*	*Future work*	*TBC*
P. number	*P7696*	*Site code*	*NDM 045*
Type of project	*Archaeological evaluation*		
Site status	*-*		
Current land use			
Planned development	*Residential*		
Main features (+dates)	*Pits, ditches*		
Significant finds (+dates)	*Residual medieval (12th – 14th century) sherd*		
Project location			
County/ District/ Parish	*Suffolk*	*Mid Suffolk*	*Needham Market*
HER/ SMR for area	*Suffolk County Council Historic Environment Record (SCC CHER)*		
Post code (if known)	*-*		
Area of site	*c.1ha*		
NGR	*TM 086 554*		
Height AOD (min/max)	*c.24m AOD*		
Project creators			
Brief issued by	*Suffolk County Council*		
Project supervisor/s (PO)	*Archaeological Solutions Ltd*		
Funded by	*M and S Contractors*		
Full title	*Land at Luff Meadow, Needham Market, Suffolk. An Archaeological Evaluation*		
Authors	*Bull, K. (field work), Thompson, P. (background)*		
Report no.	*5630*		
Date (of report)	*August 2018*		

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AN ARCHAEOLOGICAL EVALUATION

SUMMARY

In July 2018 Archaeological Solutions (AS) carried out an archaeological evaluation on land off Luff Meadow, Needham Market, Suffolk (NGR TM 086 554; Figs. 1 - 2). The evaluation was undertaken in compliance with the initial requirements of a planning condition attached to planning approval for the proposed construction of a new residential development (Mid Suffolk Planning Ref. 0012/15). It was required based on the advice of Suffolk County Council Archaeological Service Conservation Team (SCC AS-CT)

The site occupies a favourable location for early occupation/activity reflected in the findings of Bronze Age ring ditches and Saxon activity within approximately 500m of the site (NDM 033, CRM 012, NDM 008). The known limit of the medieval town of Needham Market reaches 70m south of the site (NDM 026). A post-medieval windmill was located 140m to the north-west of the site (NDM 016), and two post-medieval yard surfaces were identified 170m to the south (NDM Misc).

The recorded features identified during the evaluation were present in central and southern sectors of the site (Trenches 4 - 5, 7 - 9, and 12 - 14. The densest concentrations of features were found in Trench 9 (15 features), Trench 7 (9 features), 13 (5 features) and 14 (6 features). The majority of features were pits (29), quarry pits (2), ditches (5), dog burials (2), post hole (1) and a concrete floor.

The features were of early modern and modern (19th – 20th century) date. The earliest pottery was from Ditch F1025 (mid 18th – 19th century), and Pit F1073 (late 18th – 19th century). A residual medieval (12th – 14th century) sherd was present with Pit F1089 (Trench 13).

1 INTRODUCTION

1.1 In July 2018 Archaeological Solutions (AS) carried out an archaeological evaluation on land off Luff Meadow, Needham Market, Suffolk (NGR TM 086 554; Figs. 1 - 2). The evaluation was undertaken in compliance with the initial requirements of a planning condition attached to planning approval for the proposed construction of a new residential development (Mid Suffolk Planning Ref. 0012/15). It was required based on the advice of Suffolk County Council Archaeological Service Conservation Team (SCC AS-CT)

1.2 The evaluation was undertaken in accordance with a brief issued by Suffolk County Council Archaeological Service Conservation Team (SCC AS-CT) (Rachael Abraham, dated 25th May 2018), and a

Written Scheme of Investigation prepared by AS (dated 2nd July 2018) and approved by SCC AS-CT. It followed the procedures outlined in the Chartered Institute for Archaeologists' *Standard and Guidance for Archaeological Evaluation* (2014). It also adhered to the relevant sections of *Standards for Field Archaeology in the East of England* (Gurney 2003).

1.3 The principal objectives for the evaluation included:

- 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.

Planning Policy Context

1.4 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.

1.5 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 The site lies on the southern side of Luff Meadow, north of the High Street in Needham Market. The north eastern edge of the site is bounded by the main railway line. The site comprises a vacant rear plot extending to c.1ha. It is proposed to erect 8 new dwellings on the site.

3 TOPOGRAPHY, GEOLOGY AND SOILS

3.1 The site is located at 24m AOD in the Gipping valley with the river 250m to the east. The local soils are mainly characterised as slowly permeable calcareous clayey soils over superficial geology of Lowestoft Formation sand and gravel. The solid bedrock comprises the Newhaven Chalk Formation.

4 ARCHAEOLOGICAL AND HISTORICAL BACKGROUND

4.1 There are quite a large number of cropmarks of possible prehistoric or Romano-British features in the surrounding countryside, including potential ring ditches, enclosures and field systems. Bronze Age cremations and a ring ditch have been identified at a former Unilever site 580m south of the site (NMD 033i). The cropmark of another possible Bronze Age ring ditch 33m in diameter is centred on 500m north of the site at Raven's Farm. There is also an undated linear field system there which appears to respect the barrow (CRM 012). The cropmarks of an undated possible sub-rectangular enclosure approximately 70m^2 are located 280m to the north of the site within a field system (CRM 037). Cropmarks of other overlapping field boundaries and ditches of unknown date are also evident having a central grid reference 490m east of the site (CRM 075). None of the latter cropmarks are marked on the 1st edition OS mapping and do not reflect the modern field system. Roman pottery was found at 95 High Street 370m to the south of the site (NDM 012i). A Romano-British pit or ditch terminus was excavated 490m to the south-east of the site at the Unilever site (NMN 033ii). A Roman artefact scatter was found 640m to the north (CRM 028i).

4.2 Excavations at The Pightle approximately 230m south-east of the site identified identified multi-period remains including two Anglo-Saxon enclosure ditches, two pits and a sunken featured building containing domestic debris; a Roman pot sherd and Mesolithic flints were also recovered from here (NDM 008). Two more Anglo-Saxon sunken-featured buildings were identified at the former Unilever site 580m to the south-east (NDM 033). (NDM 033iii). At Gate Ford, approximately 670m to the north-west a copper alloy Byzantine bowl and an enamelled bowl associated with Roman coins was found (BAD 04).

4.3 Needham was not specifically listed in the Domesday survey of 1086, as at that time it formed part of the parish of Barking. It only achieved civil parish status in 1901. The known limit of the historic medieval town of Needham Market extends northwards to approximately 70m south of the site (NDM 026). It was after 1200 that Needham Market was begun speculatively by the Bishop of Ely, and by the middle of the century its chapel-of-ease had been built within a rectangular market place. The first market was recorded in 1226 while the new market grew up in a corner of the Bishop's large manor of Barking.

4.4 The existing Grade I listed church of John the Baptist, which was the chapel of ease and therefore has no grave yard, is located 290m to the south of the site, and includes a medieval hammerbeam roof (NDM 007). The excavation at The Pightle identified medieval pottery, tile and animal bone, and a possible corn drying area with finds particularly dense to the west, towards the road (NDM 008). Some medieval coarse greyware pottery sherds were found at a house along the High Street 300m south of the site (NDM 002). Roman and medieval pottery was also recovered during development of a small extension to 95 High Street some 370m to the south (NDM 012). A medieval penny of Edward III was found 270m to the north-west along Stowmarket Road (NDM Misci). Medieval pottery was also found at 95 High Street (NDM 012ii). A scatter of pottery and a gilded decorative belt mount were recovered from 640m to the north in the same location as Roman pottery (CRM 028).

4.5 The site of a post-medieval windmill is located 140m to the north-west (NDM 016). The monitoring of footing trenches 170m to the south of the site along High Street, revealed two yard surfaces of probable post-medieval date, overlying undisturbed natural subsoil (NDM Misc). Hawks (water) mill on the river Gipping 210m to the east of the site, was constructed at an unknown date and mapped by Hodskinson (1783) and Bowen (1755) (NDM 022). The adjacent bridge on the former course of the Gipping is also shown on these maps and on Saxton’s map of 1575 (NDM 015). One hundred metres east of this bridge is St Mary’s Bridge which has stood since 1922, but beneath it timbers and the brick abutments from an earlier crossing survive. The river here is a man-made channel excavated as part of the Ipswich and

Stowmarket Navigation in the 18th century to bypass Hawks Mill. Documentary evidence suggests that the bridge is contemporary with the construction of the navigation and dates to c.1793 (NDM 021). Remains of Post-medieval maltings and features were identified at former the former Unilever site (NDM 033iv)

4.6 The Ipswich and Bury Railway line running 65m east of the site was built as an extension to the Eastern Union Railway. It was opened in November 1846 and formally merged with the Eastern Union Railway in July 1847 (SUF 069). Two WWII spigot mortar bases were located 230m to the south-east of the site overlooking the river (NDM 019). Monitoring of features 120m to the south-west of the site recorded no archaeological features or finds (NDM 018).

4.7 The site thus had a potential for evidence of remains associated with the medieval and post-medieval settlement of Needham Market, and for earlier prehistoric to Anglo-Saxon activity above the floodplain of the River Gipping.

5 METHODOLOGY

5.1 SCC AS-CT required a programme of archaeological trial trenching and stipulated that 280m of trenching at 1.8m width should be excavated on a grid array. Fourteen trenches were proposed but Trenches 2, 3 and 11 were not excavated for practical reasons. Eleven trenches each 20m x 1.80m were excavated except Trench 1 which was 30m long and Trench 9 which was 18m long.

5.2 The archaeological evaluation comprised the inspection of the subsoil and natural deposits for archaeological features, the examination of spoil heaps and the recording of soil profiles. Encountered features and deposits were cleaned by hand and recorded using *pro forma* recording sheets, drawn to scale and photographed as appropriate.

5.3 Open trenches and excavated spoil were manually / visually searched and scanned by metal detector to enhance the recovery of archaeological finds.

6 DESCRIPTION OF RESULTS

6.1 The individual trench descriptions are presented below:

Trench 1 Fig. 3

Sample section 1A 0.00 = 21.44m AOD		
0.00 - 0.30m	L1000	Topsoil. Friable, dark grey brown sandy silt with occasional to moderate small sub-rounded and sub-

		angular flints and occasional CBM flecks.
0.30 - 0.71m	L1001	Subsoil. Friable, mid orange brown silty sand with occasional to moderate small sub-rounded flints and sparse CBM flecks.
0.71 – 1.01m	L1024	Colluvium. Firm, mid orange brown silty sand with frequent medium to large sub-angular flints..
1.01m+	L1002	Natural deposits. Mixed deposit of friable mid orange yellow silty coarse sand and friable mid red yellow silty sand. Also contained patches of firm mid brown yellow clayey sand. Occasional - moderate small to medium sub-angular and sub-rounded flints.

Sample section 1B 0.00 = 21.78m AOD		
0.00 - 0.30m	L1000	Topsoil. As above
0.30 - 0.54m	L1001	Subsoil. Friable, mid orange brown silty sand with occasional small sub rounded flints.
0.54 – 0.74m	L1024	Colluvium. As above.
0.74m+	L1002	Natural. As above.

Description: Trench 1 contained no archaeological finds or features.

Trench 2 Fig. 3

Description: Trench 2 was not cut due to its proximity to a railway line and buried service. An additional length was added to Trench 1.

Trench 3 Fig. 3

Description: Trench 3 was not cut as this would have prevented access to the site.

Trench 4 Figs. 3 & 4

Sample section 4A 0.00 = 23.35m AOD		
0.00 - 0.35m	L1000	Topsoil. As above.
0.35 - 0.66m	L1001	Subsoil. As above
0.66m+	L1002	Natural. As above

Sample section 4B 0.00 = 21.37m AOD		
0.00 - 0.53m	L1000	Topsoil. As above.
0.53 - 0.78	L1001	Subsoil. As above.
0.78m+	L1002	Natural. As above.

Description: Trench 4 contained Pit F1003.

Pit F1003 was sub circular in plan (0.65 x 0.90 x 0.92m). It had steep, near vertical sides and a shallow concave base. Its basal and principal fill, L1004, was a friable dark grey sandy silt with moderate sub-angular flints. It contained 19th – mid 20th century pottery (2; 36g), CBM and plastic. The upper fill, L1005, was a friable mid brown grey sandy silt with occasional small sub rounded flints. It contained no finds.

Trench 5 Figs. 3 & 4

Sample section 5A 0.00 = 22.83m AOD		
0.00 - 0.28m	L1000	Topsoil. As above.
0.28 - 0.67m	L1001	Subsoil. As above.
0.67m+	L1002	Natural. As above.

Sample section 5B 0.00 = 22.49m AOD		
0.00 - 0.26m	L1000	Topsoil. As above.
0.26 - 0.40m	L1001	Subsoil. As above
0.40m+	L1002	Natural. As above.

Description: Trench 5 contained Pit F1031. Modern services including F1099 traversed the trench.

Pit F1031 was sub-rectangular in plan (1.73 x 0.45+ x 0.22+m). It had steep, near vertical, sloping sides but was only partially excavated so the base is unknown. Its fill, L1032, was a friable mid grey brown silty sand with occasional sub-angular flints. It contained early modern to modern (19th – 20th century) finds.

Trench 6 Fig. 3

Sample section 6A 0.00 = 22.75m AOD		
0.00 - 0.46m	L1000	Topsoil. As above.
0.46 - 0.86m	L1001	Subsoil. As above.
0.86m+	L1002	Natural. As above.

Sample section 6B 0.00 = 22.75m AOD		
0.00 - 0.24m	L1000	Topsoil. As above, Trench 1
0.24 - 0.47m	L1001	Subsoil. As above, Trench 1

0.47m+	L1002	Natural. As above, Trench 1

Description: Trench 6 contained no archaeological feature or finds.

Trench 7 Figs. 3 & 5

Sample section 7A 0.00 = 23.31m AOD		
0.00 - 0.30m	L1000	Topsoil. As above.
0.30 - 0.43m	L1001	Subsoil. As above.
0.43m+	L1002	Natural. As above.

Sample section 7B 0.00 = 23.90m AOD		
0.00 - 0.21m	L1000	Topsoil. As above.
0.21 - 0.45m	L1001	Subsoil. As above.
0.45m+	L1002	Natural. As above.

Description: Trench 7 contained Pits F1014, F1016, F1018, F1020, F1027, F1029, F1033, Post Hole F1022 and Ditch F1025. A modern service also traversed the trench.

Post Hole F1022 was rectangular in plan (0.38 X 0.29 x 0.11m). It had vertical sides and a flat base. Its fill, L1023, was a friable, mid grey brown silty sand with occasional small sub-rounded flints. It contained no finds but is believed to be modern based on its shape.

Ditch F1025 was linear in plan (1.80+ x 1.15 x 0.15m), orientated south-west/north-east. It had steep sides and a flat base. Its fill, L1026, was a friable dark grey brown silty sand with moderate gravel. It contained mid 18th – 19th century pottery (12; 126g).

The pits are tabulated below:

Feature	Context	Plan/ profile (dimensions)	Fill	Relationship/s	Finds
F1014	L1015	Sub rectangular, steep, near vertical, sides and flat base (0.80 x 0.31+ x 0.59m).	Friable, dark brown silty sand with occasional small sub-angular gravel.	-	19th C pottery (7; 722g)
F1016	L1017	Rectangular. Not excavated (0.75 x 0.75 x ?)	Friable, dark brown silty sand with occasional small sub-angular	-	19th C pottery (2; 2058g)

			gravel.		
F1018	L1019	Rectangular with vertical sides. Partially excavated. (0.80+ x 0.61 x 0.46M+)	Friable dark grey brown silty sand	-	19th – mid 20th C pottery (2; 8g)
F1020	L1021	Sub-rectangular. Not excavated.	Friable mid - dark grey brown silty sand	-	19th – 20th C finds
F1027	L1028	Circular, moderately sloping sides and concave base (0.41 x 0.10m).	Friable mid grey brown with moderate gravel.	-	19th – mid 20th C pottery (2; 15g)
F1029	L1030	Rectangular. Not excavated (0.35+ x 1.00+ x ?)	Friable dark grey brown silty sand with occasional gravel.	-	19th – mid 20th C pottery (3; 223g)
F1033	L1034	Rectangular, steep sides and concave base (1.00+ x 1.40 x 0.68m)	Friable mid grey brown silty sand with moderate gravel.	-	19th – mid 20th C pottery (2; 24g)

Trench 8 Figs. 3 & 5

Sample section 8A 0.00 = 24.65m AOD		
0.00 - 0.41m	L1000	Topsoil. As above.
0.41 - 0.60m	L1001	Subsoil. As above.
0.60m+	L1002	Natural. As above.

Sample section 8B 0.00 = 24.72m AOD		
0.00 - 0.43m	L1000	Topsoil. As above.
0.43 - 0.58m	L1001	Subsoil. As above.
0.58m+	L1002	Natural. As above.

Description: Trench 8 contained Concrete Floor S1007 and Pits F1085 and F1087.

S1007 was a solid pale grey concrete (3.35 x 2.00+ x 0.10m) that was likely a floor. It was present at the base of construction cut F1006 which was not fully defined in plan (7.60 x 2.00+ x 1.10m). It had steep sides and an irregular flattish base. The backfill of F1006 was L1008, a friable mottled mid-orange brown and mid yellow brown coarse silty sand with occasional to moderate small sub-rounded flints.

Pit F1085 was sub-circular in plan (0.95 x 1.40 x ?m). It was not excavated. Its fill, L1086, was a firm mid grey brown silty sand with occasional sub-angular gravel. It contained early modern to modern (19th – mid 20th century) pottery (4; 59g)

Pit F1087 was sub-circular in plan (0.45 x 0.50 x ?m). It was not excavated. Its fill, L1086, was a firm mid grey brown silty sand with occasional sub-angular gravel. It contained early modern to modern (19th - 20th century) pottery.

Trench 9 Figs. 3 & 6

Sample section 9A 0.00 = 23.85m AOD		
0.00 - 0.23m	L1000	Topsoil. As above.
0.23 - 0.36m	L1001	Subsoil. As above.
0.36m+	L1002	Natural. As above.

Sample section 9B 0.00 = 24.04m AOD		
0.00 - 0.16m	L1000	Topsoil. As above.
0.16 - 0.34m	L1001	Subsoil. As above.
0.34m+	L1002	Natural. As above.

Description: Trench 9 contained Pits F1035, F1037, F1039, F1061, F1065, F1067, F1069, F1073, F1075, F1077, F1079, F1081, F1083, and Ditches F1063 and F1071.

Ditch F1063 was linear in plan (2.00+ x 1.42 x ?), orientated north/south. It was not excavated so the profile is unknown. Its fill, L1064, was a firm mid grey brown silty sand with occasional gravel. It contained 19th - 20th century pottery. F1063 was cut by Pit F1061.

Ditch F1071 was linear in plan (2.00+ x 0.20 x ?), orientated north east /south west. It was not excavated so the profile is unknown. Its fill, L1072, was a firm mid grey brown silty sand with occasional gravel. It contained remnants of a broken 20th century pipe and was a service trench or drain.

The pits are tabulated below:

Feature	Context	Plan/ profile (dimensions)	Fill	Relationship/s	Finds
F1035	L1036	Sub-circular, moderately sloping sides and concave base (0.25 x 0.20+ x 0.13m)	Friable, dark grey brown silty sand with occasional small sub-rounded flints.	Cut F1037	Mid 19th – mid 20th C pottery (8; 83g), CBM
F1037	L1038	Sub-circular, moderate to steep sides and concave base (0.45+ x 0.25+ x 0.23m)	Friable, mid grey brown silty sand with occasional sub-rounded flints.	Cut by F1035	19th – 20th C
F1039	L1040	Sub-circular, steep sides and concave base (1.32 x 1.40 x 0.46m).	Compact, mid grey brown sandy silt with moderate small sub-angular flints and occasional chalk flecks.	-	19th – 20th C
F1061	L1062	Sub circular. Not excavated (0.47 x 1.30 x ?)	Friable, mid grey brown sandy silt with occasional sub-angular gravel.	Cut Ditch F1063	19th C pottery (4; 49g)
F1065	L1066	Sub circular. Not excavated (0.50 x 0.45 x ?)	Firm, mid grey brown silty sand with occasional gravel.	-	-
F1067	L1068	Sub circular. Not excavated (0.60 x 0.50 x?)	Firm, mid grey brown silty sand with occasional gravel.	-	-
F1069	L1070	Circular. Not excavated (0.45 x 0.45 x ?)	Firm, mid grey brown silty sand with occasional gravel.	-	19th – 20th C pottery (1; 2g)
F1073	L1074	Sub rectangular. Not excavated (0.81 x 0.45 x ?)	Firm, mid grey brown silty sand with occasional gravel.	-	Late 18th - 19th C pottery (1; 43g)
F1075	L1076	Sub-circular. Not excavated (0.40 x 0.35 x ?)	Firm, mid grey brown silty clayey sand with occasional gravel.	-	-

F1077	L1078	Sub-circular. Not excavated (0.60+ x 0.80 x ?)	Firm, mid grey brown silty sand with occasional gravel.	-	Mid 19th – 20th C sewer pipe (1; 209g)
F1079	L1080	Irregular. Not excavated (1.65+ x 2.20 x ?)	Firm, mid grey brown silty sand with occasional sub-angular gravel.	-	19th – early 20th C pottery (1; 8g)
F1081	L1082	Irregular. Not excavated (0.98 x 1.70 x ?)	Firm, mid grey brown silty sand with occasional sub-angular gravel.	-	Mid 19th – 20th C sewer pipe (1; 400g)
F1083	L1084	Irregular. Not excavated (2.00 x 3.80 x ?)	Firm mid grey brown silty sand with occasional sub-angular gravel.	-	Early 20th C pottery (2; 110g1085

Trench 10 Fig. 3

Sample section 10A 0.00 = 21.75m AOD		
0.00 - 0.21m	L1000	Topsoil. As above.
0.21 - 0.60m	L1013	Made ground. Firm mid grey brown silty sand with occasional small to medium sub-rounded and sub-angular flints, occasional CBM fleck and moderate chalk flecks.
0.60m+	L1002	Natural. As above.

Sample section 10B 0.00 = 21.75m AOD		
0.00 - 0.28m	L1000	Topsoil. As above.
0.28 - 0.68m	L1013	Made ground. As above.
0.68m+	L1002	Natural. As above.

Description: Trench 10 contained no archaeological feature or finds.

Trench 11 Fig. 3

Description: Trench 11 was not cut as it was not located within the boundary of the acquired land.

Trench 12 Figs. 3 & 6

Sample section 12A 0.00 = 23.78m AOD		
0.00 - 0.25m	L1000	Topsoil. As above.
0.25 - 0.51m	L1013	Made ground. As above.
0.51m+	L1002	Natural. As above.

Sample section 12B 0.00 = 23.46m AOD		
0.00 - 0.19m	L1000	Topsoil. As above.
0.19 - 0.39m	L1013	Made ground. As above.
0.39m+	L1002	Natural. As above.

Description: Trench 12 contained Quarry Pit F1009, which was also present in Trench 13.

Quarry Pit F1009, was sub-circular in plan (10.10 x 2.00+ x 1.65m). The full extent of the feature was not defined and the profile is unknown. It contained three fills which are tabulated below:

Layer	**Description**	**Finds**
L1010 (Basal)	Firm, mottled mid yellow brown and dark grey clayey silt with occasional chalk flecks and occasional small sub-angular flints.	-
L1011	Friable, mid red brown coarse silty sand with frequent pea gravel.	-
L1012 (Uppermost)	Friable, dark brown grey sandy silt with moderate chalk flecks, occasional CBM and small sub-rounded flints.	19th – early 20th C pottery (7; 147g), CBM

Trench 13 Figs. 3 & 7

Sample section 13A 0.00 = 24.70m AOD		
0.00 - 0.29m	L1000	Topsoil. As above.
0.29 - 0.82	L1013	Made ground. As above.
0.82m+	L1002	Natural. As above.

Sample section 13B 0.00 = 24.08m AOD		
0.00 - 0.26m	L1000	Topsoil. As above.
0.26 - 0.66m	L1012	Upper fill of F1009.
0.66 - 0.88m	L1011	Secondary fill of F1009.

0.88 - 1.66m	L1010	Basal fill of F1009.
1.66m+	L1002	Natural. As above.

Sample section 13C 0.00 = 54.75m AOD		
0.00 - 0.24m	L1000	Topsoil. As above.
0.24m+	L1002	Natural. As above.

Description: Trench 13 contained Pits F1009, F1089, F1093 and F1097, and Ditch F1095. F1009 was also present in Trench 12.

Quarry Pit F1009 was sub-circular in plan (10.10 x 2.00+ x 1.65m). The full extent of the feature was not defined and the profile is unknown. It contained three fills which are tabulated below:

Layer	Description	Finds
L1010 (Basal)	Firm, mottled mid yellow brown and dark grey clayey silt with occasional chalk flecks and small sub-angular flints.	-
L1011	Friable, mid red brown coarse silty sand with frequent pea gravel	-
L1012 (Uppermost)	Friable, dark brown grey sandy silt with moderate chalk flecks, occasional CBM and small sub-rounded flints.	19th – 20th C

?Pit F1089, was not fully defined due to its extent (? x 2.00+ x 0.70m). It had steep sides and a flattish base. It cut Pit F1093. It contained three fills which are tabulated below:

Layer	Description	Finds
L1090 (Basal)	Firm, mid grey brown sandy silt with moderate small to medium sub-angular flints.	Residual sherd of medieval 12th – 14th C) pottery (1; 28g)
L1091	Firm, mid brown yellow silty clay.	-
L1092 (Uppermost)	Firm to compact mid grey brown sandy silt with moderate small sub-angular flints and occasional chalk and CBM flecks.	CBM

Pit F1093 was sub-circular in plan (0.80+ x 0.98+ x 0.48m). It had gently sloping sides and a shallow concave base. It was cut by ?Pit F1089 and Ditch F1095. Its fill, L1094, was a firm mid yellow grey sandy silt with occasional small sub-angular flints. It contained no finds.

Pit F1097 was sub-circular in plan (0.79 x 0.77+ x 0.48m). It had gently sloping irregular sides and a shallow concave base. Its fill, L1098, was a firm grey sandy silt with occasional small sub-angular flints. It contained early modern (late 18th – 19th century) pottery (2; 4g).

Ditch F1095 was linear in plan (2.00+ x 3.30 x 0.76), orientated north-west/south-east. It had steep sides and flattish base. It cut Pit F1093. Its fill, L1096, was a compact mid grey brown sandy silt with occasional to moderate small to medium sub-angular flints and occasional chalk flecks. It contained 19th – mid 20th century pottery (5; 72g) and CBM.

Trench 14 Figs. 3 & 8

Sample section 14A 0.00 = 24.94m AOD		
0.00 - 0.36m	L1000	Topsoil. As above.
0.36 - 0.78m	L1057	Upper fill of F1054
0.78 - 1.38m	L1056	Middle fill of F1054
1.38 - 1.56m	L1055	Basal fill of F1054
1.56m+	L1002	Natural. As above.

Sample section 14B 0.00 = 24.94m AOD		
0.00 - 0.17m	L1000	Topsoil. As above.
0.17 - 0.39m	L1013	Made ground. As above.
0.39m+	L1002	Natural. As above.

Description: Trench contained Pits F1041 and F1054, Ditches F1043 and F1049, and Animal Burials F1045 and F1047.

The pits are tabulated below:

Feature	Context	Plan/ profile (dimensions)	Fill	Relationship/s	Finds
F1041	L1042	Sub-circular, gently sloping sides and shallow concave base. (2.00 x 2.70+ x 0.25m).	Friable mid brown grey sandy silt with occasional small to medium sub-angular flints.	-	19th – mid 20th C pottery (1; 7g), CBM
F1054	L1055 (Basal)	Not fully defined in plan. Moderately sloping sides and flattish base (10.50+ x 2.00+ x 1.55m)	Firm pale grey brown silty sand with very occasional small sub-rounded flints.	Cut by F1049	-.
	L1056		Firm, mid grey brown silty sand with		-

			occasional small sub-rounded flints.		
	L1057 (Uppermost)		Firm, dark grey brown sandy silt with occasional small sub-angular flints and occasional CBM and chalk flecks.		CBM flecks.

The ditches are tabulated below:

Feature	Context	Plan/ profile (dimensions)	Fill	Relationships	Finds
F1043	L1044 (Basal)	Linear, orientated north-east/south-west with moderately sloping sides and concave base (2.00+ x 2.10+ x 1.00m)	Friable, mid brown grey sandy silt with occasional small sub-rounded flints.	Cut F1054. Cut by F1049	CBM
	L1059		Friable, mid orange brown silty coarse sand.		-
	L1060 (Uppermost)		Friable, mid grey brown sandy silt with occasional small sub-rounded and sub-angular flints and occasional chalk flecks.		-
F1049	L1050 (Basal)	Linear, orientated north-east/south-west, with steep sides and concave base (2.00+ x 1.32+ x 0.64m).	Friable, mid grey sandy silt with occasional CBM and sub-angular flints.	Cut F1043.	CBM flecks.
	L1051		Firm, pale brown yellow clayey sand with occasional small sub-rounded flints.		-
	L1052		Friable, mid grey sandy silt with occasional small sub-		-

			angular and sub-rounded flints and very occasional chalk flecks.		
	L1053 (Uppermost)		Friable mid yellow brown sandy silt with occasional small sub-rounded flints.		-

The animal burials are tabulated below:

Feature	Context	Plan/ profile (dimensions)	Fill	Relationship/s	Finds
F1045	L1046	Sub-circular. Not excavated (1.08 x 0.47 x ?)	Friable, mid-dark grey brown sandy silt.	-	Modern dog burial
F1047	L1048	Sub-circular. Not excavated (0.68 x 0.40 x ?)	Friable, mid-dark grey brown sandy silt.	-	Modern dog burial.

7 CONFIDENCE RATING

7.1 It is not felt that any factors restricted the identification of archaeological features or finds.

8 DEPOSIT MODEL

8.1 Uppermost Topsoil L1000 was a friable dark grey brown sandy silt with occasional to moderate small sub-rounded and sub-angular flints and occasional CBM flecks. In Trenches 1 and 4 - 9 L1000 overlay Subsoil L1001, a friable mid orange brown silty sand with occasional to moderate small sub-rounded flints and sparse CBM flecks. In Trenches 10 and 12 - 14 L1000 overlay Made Ground L1013, a firm mid grey brown silty sand with occasional small to medium sub-rounded and sub-angular flints and CBM flecks, and moderate chalk flecks.

8.2 In Trench 1 Subsoil L1001 overlay Colluvium L1024, a firm mid orange brown silty sand with frequent medium to large sub-angular flints.

8.3 At the base of the sequence the natural, L1002, was a mixed deposit of friable mid orange yellow silty coarse sand and friable mid red yellow silty sand. Also contained patches of firm mid brown yellow clayey sand. Occasional - moderate small to medium sub-angular and sub-rounded flints.

9 DISCUSSION

9.1 The recorded features are tabulated:

Trench	Context	Description	Date
4	F1003	Pit	19th – mid 20th C
5	F1031	Pit	-
7	F1014	Pit	19th C
	F1016	Pit	19th C
	F1018	Pit	19th – mid 20th C
	F1020	Pit	-
	F1022	Post Hole	-
	F1025	Ditch	Mid 18th – 19th C
	F1027	Pit	19th – mid 20th C
	F1029	Pit	19th –mid 20th C
	F1033	Pit	19th – mid 20th C
8	F1006	Construction Cut	-
	S1007	Concrete Floor	-
	F1085	Pit	19th – mid 20th C
	F1087	Pit	-
9	F1035	Pit	Mid 19th – mid 20th C
	F1037	Pit	-
	F1039	Pit	-
	F1061	Pit	19th C
	F1063	Ditch	-
	F1065	Pit	-
	F1067	Pit	-
	F1069	Pit	19th – 20th C
	F1071	Ditch	-
	F1073	Pit	Late 18th – 19th C
	F1075	Pit	-
	F1077	Pit	Mid 19th – 20th C
	F1079	Pit	19th – early 20th C
	F1081	Pit	Mid 19th – 20th C
	F1083	Pit	Early 20th C
12	F1009	Quarry Pit	19th – early 20th C
13	F1009	Quarry Pit	-
	F1089	Pit?	-
	F1093	Pit	-
	F1095	Ditch	19th – mid 20th C
	F1097	Pit	Late 18th – 19th C
14	F1041	Pit	19th – mid 20th C
	F1043	Ditch	-
	F1045	Animal burial	-

	F1047	Animal burial	-
	F1049	Ditch	-
	F1054	Pit	-

9.2 The recorded features were present in central and southern sectors of the site (Trenches 4 - 5, 7 - 9, and 12 - 14. The densest concentrations of features were found in Trench 9 (15 features), Trench 7 (9 features), 13 (5 features) and 14 (6 features).

9.3 The majority of features were pits (29), quarry pits (2), ditches (5), dog burials (2), post hole (1) and a concrete floor.

9.4 The features were of early modern and modern (19^{th} – 20^{th} century) date. A residual sherd of locally-produced medieval coarse ware (12^{th} – 14^{th} century) was present in Pit F1089 (Trench 13). The bulk of the pottery comprised an array of early modern and modern vessel types including stone wares, refined white earthen wares and glazed red earthen wares. The slightly earlier material was from Ditch F1025 (mid 18^{th} – 19^{th} century) and Pit F1073 (late 18^{th} – 19^{th} century), with the remainder of 19^{th} - 20^{th} century (Victorian and later) date. The pottery and contemporary CBM was only present in low quantities in most features, and was likely accumulated as scattered domestic detritus that was incorporated as incidental material in backfilled soils as opposed to specific rubbish disposal. From the late 19^{th} century (Fig.9) to the mid 1980s Luff Meadow was located on the border of an area of orchard and three small fields situated between Stowmarket Road and the railway line.

DEPOSITION OF THE ARCHIVE

Archive records, with an inventory, will be deposited with any donated finds from the site at Suffolk County Archaeological Store. The archive will be quantified, ordered, indexed, cross-referenced and checked for internal consistency.

ACKNOWLEDGEMENTS

Archaeological Solutions would like to thank Mr Martin Last of Last & Tricker Partnership for commissioning the work and Mr Mel Walton of M and S Contractors for funding the works and for their assistance.

AS would also like to acknowledge the input and advice of Ms Rachael Abraham and Dr Hannah Cutler of Suffolk County Council and Ms Grace Campbell for providing the HER information.

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APPENDIX 1 HER Information

The following sites are sites that lie within an approximate 700m radius of the assessment site. The table has been compiled from data held by the Suffolk Historic Environment Record (SHER).

HER	NGR TM	Description
Prehistoric		
NDM 008i	0888 5513	The Pightle May 1993: Two trial trenches were excavated exposing the subsoil surface. This was a mottled sand in which burnt and worked flint were found. The flintwork was mainly Mesolithic with earlier and later Mesolithic assemblages
NDM 033i	0899 5498	Bronze Age cremations and ring ditch identified at former Unilever site
Romano-British		
NMD 008ii	0888 5513	The Pightle May 1993: During trial trenching a number of archaeological features were exposed, one of which contained Rom pottery
NDM 012i	0877 5509	Rom pottery recovered during development (of small extension) to rear of 95 High Street by(?) Mrs Sheila Herring
NDM 033ii	0892 5504	Roman pit or ditch terminus at former Unilever site
CRM 028i	0876 5608	Scatter of Roman material, metalwork and pottery found metal detecting
Anglo-Saxon		
NDM 008iii	0888 5513	The Pightle May 1993: May 1993: Trial trenching exposed a number of Med features including post holes, pits and a possible ditch
NDM 033iii	0899 5498	Two Anglo-Saxon sunken-featured buildings identified at former Unilever site during evaluation trenching and excavation
BAD 004	0818 5591	Gate Ford: Alternative findspot of `Roman vessel full of denarii (see Rom), a cast copper alloy Byzantine bowl and an unusual enamelled bowl in the hanging bowl tradition
Medieval		
NDM 002	0870 5515	111 High Street: sherds, grey ware, square section rim sagging base
NDM 007	0877 5518	Church of St John the Baptist: Hammerbeam roof, arched braces supporting them are hidden by a boarded coving Grade I listed
NDM 012iI	0877 5509	Medieval pottery recovered during development (of small extension) to rear of 95 High Street by (?) Mrs Sheila Herring
NDM 026	0884 5500	The Medieval town of Needham Market
NDM Misci	0844 5562	Penny of Edward III, York mint, from 60 Stowmarket Road
CRM 028ii	0876 5608	Scatter of pottery, a gilded decorative mount of a stylized human figure, found metal detecting
Post-medieval		
NDM 016	0852 5554	Site of a Post Medieval windmill:
NMD 015	0885 5542	Bridge shown on Hodskinson's 1783 map, on line of former course of River Gipping shown on Saxton's and Speede's maps, 1575 and 1610
NMD 022	0885 5540	Hawks (water) Mill on River Gipping. Former mill (construction date unknown) mapped by Hodskinson

		(1783) and Bowen (1755). Replacement built 1884
NDM 033 iv	0896 5499	Post Medieval maltings and features at former Unilever site identified during evaluation trenching and excavation
NMD Miscii	0866 5528	139 High Street: Monitoring of footing trenches revealed two yard surfaces of probable post medieval date, overlying undisturbed natural subsoil
SUF 069	0503 5909	Ipswich to Bury St Edmunds railway line. Opened in November 1846
Modern		
NMD 019	0884 5533	10 Hawksmill Street: Two spigot mortar emplacements, to defend the river crossing
Multi-period		
NDM 012	0877 5509	95 High Street: Rom & Med pottery recovered during development (of small extension) to rear of 95 High Street by (?) Mrs Sheila Herring
Undated		
CRM 012	0841 5591	Ravens Farm: Cropmark of a ring ditch, circa 33m in diameter with a linear (? field boundary) NE - SW respecting it
CRM 037	0863 5574	Cropmark of sub-rectangular enclosure(?), circa 70m square, adjoining and within field system
CRM 075	0912 5557	Series of field boundaries and ditches of unknown date

Concordance of Finds

NDM045 - P7696, Land off Luff Meadow, Needham Market

Feature	Context	Segment	Trench	Description	Spot Date (Pot Only)	Pot Qty	Pottery (g)	CBM (g)	A.Bone (g)	Other Material	Other Qty	Other (g)
1003	1004		4	Basal Fill of Modern Pit	19th-mid 20th C	2	36	924		Shell		298
1009	1012		12 / 13	Upper Fill of ?Quarry Pit	19th-early 20th C	7	147	144	7	Clay Pipe	1	2
1014	1015		7	Fill of Post-Med Pit	19th C	7	722					
1016	1017		7	Fill of Post-Med Pit	19th C	2	2059					
1018	1019		7	Fill of Pit	19th-mid 20th C	2	8	180	47	Shale	1	4
1025	1026		7	Fill of Pit	Mid 18th-19th C	12	126	15				
1027	1028		7	Fill of Pit	19th-mid 20th C	2	15					
1029	1030		7	Fill of Pit	19th-mid 20th C	3	223	139	31			
1033	1034		7	Fill of Pit	19th-mid 20th C	2	24	662	78			
1035	1036		9	Fill of Pit	Mid 19th-mid 20th C	8	83	180		Clay Pipe	2	3
1039	1040		9	Fill of Pit				411	9			
1041	1042		14	Fill of Pit	19th-mid 20th C	1	7			Shell		31
1049	1052		14	Fill of Ditch				13		Shell		54
1061	1062		9	Fill of Pit	19th C	4	49					
1069	1070		9	Fill of Pit	19th-20th	1	2	115				
1071	1072		9	Fill of Ditch & Pipework				131		Coke	1	3
1073	1074		9	Fill of Pit	Late 18th-19th C	1	43					
1077	1078		9	Fill of Pit	Mid 19th-20th C	1	209					
1079	1080		9	Fill of Pit	19th-early 20th C	1	8					
1081	1082		9	Fill of Pit	Mid 19th-20th C	1	400					
1083	1084		9	Fill of Pit	Early 20th century C	2	110					
1085	1086		8	Fill of Pit	19th-mid 20th C	4	59		6			
1089	1090		13	Basal Fill of ?Pit	12th-14th C	1	28	138				
1095	1096		13	Fill of Ditch	19th-mid 20th C	5	72	184	25			
1097	1098		13	Fill of Pit	Late 18th -19th C	2	4	9				

APPENDIX 3 SPECIALIST REPORTS

Pottery
Peter Thompson

The archaeological evaluation recovered 69 sherds weighing 4.383 kg. All of these pottery sherds are early modern to modern in date (i.e. fitting within a mid/late 18th-20th centuries date range), with the exception of one moderately abraded medieval sherd (28g). This was a medieval sandy grey ware base sherd (Suffolk fabric code 3.20), which came from the basal fill of Pit F1089 (L1090), but appears residual.

Methodology
The sherds were examined under x35 binocular microscope and recorded according to the Medieval Pottery Research Group Guidelines (Slowikowski et al 2001).

Feature	Context	Quantity	Date	Comment
Pit 1003	1004	2x36g early modern to modern	19th-mid 20th	
Quarry Pit 1009	1012	7x147g early modern sherds	19th-early 20th	
Pit 1014	1015	7x722g early modern	19th	Stoneware blacking bottle
Pit 1016	1017	2x2,059g early modern	19th	ENGS: complete handled bottle 28 cm high, but minus the handle TPW: shallow bowl
Pit 1018	1019	2x8g early modern to modern	19th – mid 20th C	
Ditch 1025	1026	12x126g early modern	mid 18th-19th	
Pit 1027	1028	2x15g early modern to modern	19th-mid 20th	
Pit 1029	1030	3x223g early modern to modern	19th-mid 20th	
Pit 1033	1034	2x24g early modern to modern	19th-mid 20th	
Pit 1035	1036	8x83g early modern to modern	mid 19th-mid 20th	
Pit 1041	1042	1x7g early modern to modern	19th-mid 20th	
Pit 1061	1062	4x49g early modern	19th	
Pit 1069	1070	1x2g early modern to modern	19th-20th	
Pit 1073	1074	1x43g early modern	late 18th-19th	
Pit 1077	1078	1x209g sewage pipe	mid 19th-20th	
Pit 1079	1080	1x8g early modern	19th-early	

			20th	
Pit 1081	1082	1x400g sewage pipe	mid 19th-20th	
Pit 1083	1084	2x110g modern	early 20th century	shallow stoneware dish R. Seager, Ipswich, for potted meat
Pit 1085	1086	4x59g RWE early modern to modern	19th-mid 20th	
Pit 1089	1090	1x28g MCW	12th-14th	MCW1: slightly rounded grey ware base sherd in fine silty matrix, with fine to medium sub-rounded quartz
Ditch 1095	1096	5x72gearly modern to modern	19th-mid 20th	
Pit 1097	1098	2x4g early modern	late 18th - 19th	

Table 1: Quantification of pottery by context

Bibliography

Slowikowski, A., Nenk, B. and Pearce, J. 2001 *Minimum Standards for the Processing, Recording, Analysis and Publication of Post-Roman Ceramics*, Medieval Pottery Research Group Occasional Paper 2

The Ceramic Building Materials

Andrew Peachey

The trial trench evaluation recovered a total of 54 fragments (3245g) of Victorian to modern CBM (Table 2).

CBM type	Date	Fragment Count	Weight (g)
Peg tile	Victorian	41	1286
Gault floor brick	Victorian-modern	5	532
Salt-glazed white earthen ware sewer pipe		1	131
Pantile	Modern	3	967
Nibbed tile		1	139
Cement		3	190
Total		*54*	*3245*

Table 2: Quantification of CBM

The peg tile was manufactured in an orange fabric with common medium-sand temper, and although highly fragmented exhibit regular faces and sharp edges consistent with 19th century production. The small fragments of peg tile were contained in Pits, F1018, F1033, F1035, F1039, F1089, F1097, Ditches F1049, F1071, F1095 and Quarry Pit F1009. In Pit F1033 the peg tile was associated with 30mm gault floor brick, which was exceptionally hard-fired (near vitrified) with

the upper surface appearing ‘polished’ through wear, and of contemporary Victorian date. The salt-glazed white earthen ware sewer pipe in Ditch F1071 was in very good condition and may represent the remnant of a formerly extant drain in that feature.

The remaining CBM is of modern date and warrant little further comment. Pantile was present in Pits F1003, F1025, and F1033; with cement from between courses of bricks or tiles in Pits F1069 and F1089. A single fragment of machine-made nibbed tile contained in Pit F1029 was notable for exhibiting the partial stamp of Benthall, Broseley, a significant industrial manufacturer of both pottery and tile in the late 19th to early 20th century near Coalbrookdale, Shropshire.

APPENDIX 4 SPECIFICATION

LAND OFF LUFF MEADOW, NEEDHAM, MARKET, SUFFOLK

WRITTEN SCHEME OF INVESTIGATION FOR ARCHAEOLOGICAL EVALUATION

2nd July 2018

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

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ARCHAEOLOGICAL SOLUTIONS LTD

Unit 6, Brunel Business Court, Eastern Way,
Bury St Edmunds IP32 7AJ
Tel 01284 765210

PI House, r/o 23 Clifton Road, Shefford SG17 5AF
Tel 01462 850483

e-mail info@ascontracts.co.uk
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LAND OFF LUFF MEADOW, NEEDHAM, MARKET, SUFFOLK
ARCHAEOLOGICAL EVALUATION

1 INTRODUCTION

1.1 This specification (written scheme of investigation) has been prepared in response to a brief & specification issued by Suffolk County Council Archaeological Service Conservation Team (SCC AS-CT, Rachael Abraham, dated 25th May 2018) for archaeological evaluation prior to the proposed construction of a new residential development of 8 dwellings on land off Luff Meadow, Needham Market, Suffolk, (Mid Suffolk Planning Ref. 0012/15) (NGR TM 086 554). The work is required to comply with a planning condition (4) on approval for the development, on advice from SCC AS-CT. The WSI has been prepared for the approval of SCC AS-CT and the LPA.

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 archaeological evaluation has been prepared for the approval of SCC AS-CT. Further archaeological works may be required by SCC AS-CT following the evaluation, should remains be present.

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 The site lies on the southern side of Luff Meadow, north of the High Street in Needham Market. The north eastern edge of the site is bounded by the main railway line. The site comprises a vacant rear plot extending to c.1ha. It is proposed to erect 8 new dwellings on the site.

3.2 The Suffolk Historic Environment Record notes that this is an area of archaeological potential, within the area of the medieval town settlement at Needham Market (HER NDM 026). It also occupies a position on the higher ground above the floodplain of the Gipping that would have been a favourable location for early occupation/activity. This is reflected by the recent findings of a Bronze Age ring ditch and Saxon activity on a similar topographic position some 450m to the south (HER NDM 033).

3.3 The site thus has a potential for evidence of remains associated with the medieval and post-medieval settlement area of Needham Market, and for earlier activity above the floodplain of the River Gipping.

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). 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).

4.2.2 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.

4.2.3 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.

4.2.4 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. Ayers

(in Brown & Glazebrook, 2000) discusses these research topics in more detail. For demography, issues include assessment of population structures, density and mobility, urban sustainability, immigration and rural colonisation and housing/provisioning. For social organisation, issues include assessment of the impact of royal vills, major institutions and the Church on urban settlement, territorial boundaries in proto-urban and urban settlements, the effect of national political developments, ranking and status in settlements, spatial analysis, wealth distribution, specialism, acquisition of raw materials, building form and function, markets and commercial/corporate activity. Economic issues of the above also need to be considered, particularly with regard to industrial zoning. The impact of culture and religion could include issues such as identifying characteristics of urban culture, its growth, complexity and values. The Church and its influence on the burgeoning towns must also be addressed. As Murphy notes in Brown and Glazebrook (2000, 31), urban environmental archaeology should be approached by analysis of environmental 'events', processes and study of relationships with producing sites in the rural hinterland.

4.2.5 Medlycott (2011, 57) states that he 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).

4.2.6 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).

4.2.7 As set out above, the principal research objectives will be to identify any significant evidence of the medieval and post-medieval settlement area of Needham Market, and/or to identify any remains of earlier activity on the site

References

Brown, N & Glazebrook, J (eds), 2000, *Research and Archaeology: A Framework for the Eastern Counties. 2. Research Agenda and Strategy*, East Anglian Archaeology Occasional Papers 8

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

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

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

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 CIfA.

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* 2017.

5.1.4 SCC AS-CT require a programme of archaeological evaluation by trial trenching and require 280 linear metres of trenching at 1.8m width. Nine trenches each 31m x 1.8m are therefore 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 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.

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 monument number will be obtained from the County HER Officer.

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/waterlogged ground/alluvium are encountered (which is unlikely on this site) the upper levels of the trench 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 1.8m 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 on conclusion of the topsoil stripping, and thereafter during the course of the excavation. The spoil tips will also be surveyed. Regular metal detector surveys of the excavation area and spoil tips will reduce the loss of finds to unscrupulous users of metal detectors (treasure hunters). All non-archaeological staff working on the site should be informed that the use of metal detectors is forbidden.

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 BSc MCIfA

Qualifications: Member of the CIfA
Experience: Tom has over 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 (ACCOUNTS)
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 MANAGER (LOGISTICS)
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.

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
Janet Frary
Experience: Janet's professional experience has involved a variety of administrative, curatorial and management level posts with institutions/organisations including West Suffolk Hospital and Marlows Home & Garden Ltd. Her duties have included professional and public relations, the preparation of correspondence, health and safety checks and various elements of day-to-day office management.

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

SENIOR PROJECTS MANAGER
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)). This background has provided Vincent with a 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. Since joining Archaeological Solutions Ltd, Vincent has managed various large and complex excavation projects including a number of sites associated with the onshore element of the East Anglia One project (ScottishPower Renewables). His duties include overall project management (fieldwork), the management of staff and timescales, and professional liaison with clients, local authority representatives and other organisations as necessary.

Vincent also assists in the dissemination of project outcomes through contributions to 'grey' and published literature, and through the organisation and delivery of site open days. He is CSCS qualified (expires June 2020) and has successfully completed the Emergency First Aid at Work course (January 2018).

SENIOR PROJECT OFFICER
Kerrie Bull BSc

*Qualifications:*University of Reading: BSc Archaeology (2008-2011)
Experience: During her undergraduate degree at the University of Reading Kerrie worked on the Lyminge Archaeological Project (2008), the Silchester 'Town Life' Project (2009) and the Ecology of Crusading Research Programme (2011). Through her academic and professional career, Kerrie has gained good experience of archaeological fieldwork and post-excavation techniques. Since joining Archaeological Solutions Ltd, Kerrie has gained enhanced experience of commercial archaeological practice, and has managed the fieldwork elements of various large projects, including the excavation of Chilton Leys, Stowmarket. Kerrie's other responsibilities include the training and management of field staff, and professional liaison with clients and local authority representatives. Kerrie has contributed towards the dissemination of project outcomes through the production of 'grey' literature and published works. She is CSCS qualified (expires February 2019).

PROJECT OFFCICER
Gareth Barlow MSc

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

SUPERVISOR
Keeley-jade Diggons

*Qualifications:*University of Southampton, BA Archaeology and Geography (2014-2017)
Experience: Keeley's higher education at the University of Southampton provided her with a good, working understanding of archaeological fieldwork method and theory through the completion of

modules including *Archaeological Survey*, *Geophysics* and *Advanced GIS*. She also gained valuable excavation and finds administration experience through participation on British and overseas field projects. Since joining Archaeological Solutions Ltd, Keeley has participated on a number of fieldwork projects, including elements of the East Anglia One infrastructure project (ScottishPower Renewables), and has coordinated geophysical survey projects, including cart-based surveys. Keeley has also contributed to the production of archaeological reports through the collation and assessment of site data and she holds a qualification in Remote Outdoor First Aid.

SUPERVISOR
Niomi Edwards BSc (Hons) MSc

Qualifications: Bridgend College (2010 - 2012) BTEC National Diploma in Applied Science (Forensics)
Bournemouth University (2012 - 2015) BSc Archaeology, Anthropology and Forensic Science
Bournemouth University (2015 - 2016) MSc Forensic Anthropology

Experience: Niomi's higher education has provided her with a solid foundation in archaeological theory and practice. With Bournemouth University she undertook 16 weeks of archaeological fieldwork training as part of the Professional Archaeological Studies and Training Project, and also participated in the simulated excavation of a mass grave. Professionally, Niomi has worked as a trainee with Cotswold Archaeology, where she furthered her practical knowledge of fieldwork skills on a number of commercial projects. Niomi holds a CSCS accreditation.

SUPERVISOR
Craig Jones BA MSc

Qualifications: BA (Hons) Prehistoric and Roman Archaeology (Bournemouth University 2010–13)
MSc Osteoarchaeology (Bournemouth University 2015–16)

Experience: Craig's higher education has provided him with a good, practical knowledge of archaeological theory and method, through the completion of modules including *Archaeological Management*, *Later Prehistoric Britain* and *Practical Skills.* Craig's past participation on a number of research projects, including the *Durotriges Project* (2011 and 2013) and the *Wiggold Farm Excavation* (2012) has provided a firm grounding in archaeological fieldwork techniques, including excavation, recording, resistivity and magnetometer survey, and environmental sampling/processing. In a voluntary capacity with Corinium Museum, he also gained valuable experience of professional curation and outreach, including the provision of educational activities. Since joining Archaeological Solutions Ltd, Craig has undertaken a variety of commercial fieldwork across the East of England, including participation on the East Anglia One

infrastructure project (ScottishPower Renewables). Craig is CSCS certified.

SUPERVISOR
Samuel Thomelius BA MA

Qualifications: Bachelor Programme in Archaeology and Ancient History, Archaeology (Uppsala University 2012–15)
Master Programme in the Humanities, Archaeology (Uppsala University 2015–17)

Experience: Samuel's higher education has provided him with a good, practical understanding of the archaeology of northern Europe and a firm grounding in various vocational skills. Samuel's practical experience encompasses archaeological excavation duties and post-excavation curation, including a lead role in digital documentation at Uppsala University (2016). His principle research interests are landscape archaeology and digital methods in archaeology. Since joining Archaeological Solutions Ltd, Samuel has worked on a variety of commercial fieldwork projects, developing his practical skills and gaining a good understanding of various archaeological periods across the East of England. Samuel is CSCS certified.

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 (1999-2003)
University of Bradford, Dip Professional Archaeological Studies (2002)

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

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 15 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. Antony has a broad experience of fieldwork and post-excavation practice including specialist (archaeofauna), teaching, supervisory and directing-level posts. In his current role, Antony is responsible for the post-excavation management of large excavation projects, from the assessment, interpretation and synthesis of site data to the production of archaeological reports from assessment to publication level. Antony has successfully published in a variety of regional and national peer reviewed journals including *Medieval Settlement Research* and *Anglo-Saxon Studies in Archaeology and History*.

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, Cambridgshire. Andrew has worked on important Roman kiln assemblages, including a Nar Valley ware production site at East Winch Norfolk, a face-pot producing kiln at Hadham, Hertfordshire and is currently researching early Roman Horningsea ware kilns at Waterbeach, Cambridgeshire. Andrew is an enthusiastic member of the Study Group for Roman Pottery, and also undertakes pottery and lithics analysis as an 'external' specialist for a range of archaeological units and local societies in the south of England.

POTTERY RESEARCHER
Peter Thompson MA

*Qualifications:*University of Bristol BA (Hons), Archaeology (1995-1998)
University of Bristol MA; Landscape Archaeology (1998-1999)

Experience: As a student, Peter participated in a number of projects, including the excavation of a Cistercian monastery cemetery in

Gascony and surveying an Iron Age promontory hillfort in Somerset. Peter has two years excavation experience with the Bath Archaeological Trust and Bristol and Region Archaeological Services which includes working on a medieval manor house and a post-medieval glass furnace site of national importance. Peter joined HAT (now AS) in 2002 to specialise in Iron Age, Saxon and medieval pottery research and has also produced desk-based assessments. Pottery reports include an early Iron pit assemblage and three complete Early Anglo-Saxon accessory vessels from a cemetery in Dartford, Kent.

PROJECT OFFICER (OSTEOARCHAEOLOGY)
Dr Julia Cussans

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

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

ENVIRONMENTAL ARCHAEOLOGIST
Dr John Summers

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

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

SENIOR GRAPHICS OFFICER
Kathren Henry

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

GRAPHICS OFFICER
Juan Palomeque-Gonzalez

Qualifications: University Alfonso X (Madrid), MSc post-graduate certificate in education (2014-2015)
University Complutense of Madrid, BSc Archaeology (2010-2014)

Experience: Juan's higher education provided him with a good, working understanding of archaeological theory and practice, including specialist knowledge of the archaeological application of micro-photogrammetry. He is an author on a number of technical academic papers, including 'On applications of micro-photogrammetry and

geometric morphometrics to studies of tooth mark morphology: The modern Olduvai Carnivore Site (Tanzania)', *Palaeogeography*, *Palaeoclimatology, Palaeoecology* (2017), and 'Micro-photogrammetric characterization of cut marks on bones', *Journal of Archaeological Science* (2015). Juan's academic interests have led to his involvement on a number of international research projects including the OLDUVAI Project (Tanzania) and The Ulaca Research Project, Avila (Spain). He has gained good experience of archaeological excavation and post-excavation practice through voluntary and professional participation on a number of field projects and has worked commercially for LURE ARCHAEOLOGY S.L. (Madrid). Since joining Archaeological Solutions Ltd, Juan has worked on various projects across East Anglia and has received training in the use of AutoCAD. He has passed the Health, Safety and Environment Test for Managers and Professionals (October 2017) and has been awarded a certificate in Emergency First Aid at Work (November 2017).

HISTORIC BUILDING RECORDING
Tansy Collins BSc

Qualifications: University of Sheffield, Archaeological Sciences BSc (Hons) (1999-2002)
University of Cambridge, MSt Building History (2013-2015)

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 CO-ORDINATOR
Luke Harris

Qualifications:Northampton College, A-Level History, English Literature and Language and AS-Level Government and Politics (2006)

Experience: Since completing his advanced education, Luke has held a number of professional administrative roles with companies and institutions including Nationwide Building Society (2007–2011) and Civica (2013–2014). His duties and responsibilities in these posts included the supervision and coordination of co-workers, the handling of customer enquiries and the categorisation, collation and digitalisation of paper records. Luke has also gained valuable clerical experience through voluntary roles and work experience. Since joining Archaeological Solutions Ltd, Luke has received training in finds recognition, finds and environmental processing/ storage, archiving and the deposition of archaeological archives.

ARCHAEOLOGICAL SOLUTIONS: PRINCIPAL SPECIALISTS

GEOPHYSICAL SURVEYS	David Bescoby Dr John Summers
AIR PHOTOGRAPHIC ASSESSMENTS	Air Photo Services
PHOTOGRAPHIC SURVEYS	K Henry
PREHISTORIC POTTERY	A Peachey MCIfA
ROMAN POTTERY	A Peachey MCIfA
SAXON & MEDIEVAL POTTERY	P Thompson
POST-MEDIEVAL POTTERY	P Thompson
FLINT	A Peachey MCIfA
GLASS	H Cool
COINS	British Museum, Dept of Coins & Medals
SMALL FINDS	R Sellwood
SLAG	A Newton
ANIMAL BONE	Dr J Cussans
HUMAN BONE:	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

Printable version

OASIS ID: archaeol7-323711

Project details

Project name	Land Off Luff Meadow, Needham Market TT
Short description of the project	In July 2018 Archaeological Solutions (AS) carried out an archaeological evaluation on land off Luff Meadow, Needham Market, Suffolk (NGR TM 086 554; Figs. 1 - 2). The evaluation was undertaken in compliance with the initial requirements of a planning condition attached to planning approval for the proposed construction of a new residential development (Mid Suffolk Planning Ref. 0012/15). It was required based on the advice of Suffolk County Council Archaeological Service Conservation Team (SCC AS-CT). The site occupies a favourable location for early occupation/activity reflected in the findings of Bronze Age ring ditches and Saxon activity within approximately 500m of the site (NDM 033, CRM 012, NDM 008). The known limit of the medieval town of Needham Market reaches 70m south of the site (NDM 026). A post-medieval windmill was located 140m to the north-west of the site (NDM 016), and two postmedieval yard surfaces were identified 170m to the south (NDM Misc). The recorded features identified during the evaluation were present in central and southern sectors of the site (Trenches 4 - 5, 7 - 9, and 12 - 14. The densest concentrations of features were found in Trench 9 (15 features), Trench 7 (9 features), 13 (5 features) and 14 (6 features). The majority of features were pits (29), quarry pits (2), ditches (5), dog burials (2), post hole (1) and a concrete floor. The features were of early modern and modern (19th - 20th century) date. The earliest pottery was from Ditch F1025 (mid 18th - 19th century), and Pit F1073 (late 18th - 19th century). A residual medieval (12th - 14th century) sherd was present with Pit F1089 (Trench 13).
Project dates	Start: 26-07-2018 End: 31-07-2018
Previous/future work	No / Not known
Any associated project reference codes	P7696 - Contracting Unit No.
Any associated project reference codes	NDM 045 - Sitecode
Type of project	Field evaluation
Site status	Area of Archaeological Importance (AAI)
Current Land use	Other 15 - Other
Monument type	PITS Medieval
Significant Finds	SHERDS Medieval
Methods & techniques	"Targeted Trenches"
Development type	Rural residential
Prompt	Planning condition

Position in the planning process	Not known / Not recorded

Project location

Country	England
Site location	SUFFOLK MID SUFFOLK NEEDHAM MARKET Land Off Luff Meadow,Needham Market
Postcode	IP6 8DP
Study area	1 Hectares
Site coordinates	TM 086 554 52.156889688704 1.049906690358 52 09 24 N 001 02 59 E Point
Lat/Long Datum	Unknown
Height OD / Depth	Min: 24m Max: 24m

Project creators

Name of Organisation	Archaeological Solutions Ltd
Project brief originator	SCC
Project design originator	Jon Murray
Project director/manager	Jon Murray
Project supervisor	Archaeological Solutions
Type of sponsor/funding body	M and S Contractors
Name of sponsor/funding body	M and S Contractors

Project archives

Physical Archive recipient	Suffolk County Archaeological Store
Physical Contents	"Animal Bones","Ceramics","other"
Digital Archive recipient	Suffolk County Archaeological Store
Digital Contents	"Animal Bones","Ceramics","other"
Digital Media available	"Database","Spreadsheets","Text"
Paper Archive recipient	Suffolk County Archaeological Store
Paper Contents	"Animal Bones","Ceramics","other"
Paper Media available	"Context sheet","Drawing","Map","Photograph","Plan","Report","Section","Survey "

Project bibliography 1

Publication type	Grey literature (unpublished document/manuscript)
Title	Land at Luff Meadow, Needham Market, Suffolk. An Archaeological Evaluation
Author(s)/Editor(s)	Bull,K

Author(s)/Editor(s)	Thompson, P
Other bibliographic details	R5630
Date	2018
Issuer or publisher	Archaeological Solutions Ltd
Place of issue or publication	Bury St Edmunds

Entered by	Hollie Wesson (admin@ascontract.co.uk)
Entered on	10 October 2018

OASIS:

Please e-mail Historic England for OASIS help and advice

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Pits F1014 and F1016 in Trench 7

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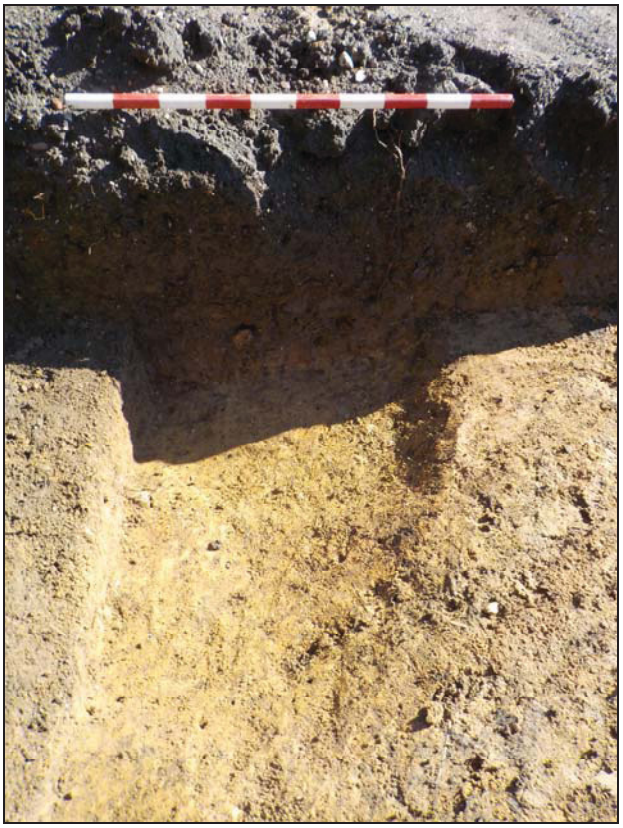

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Pit F1041 in Trench 14

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Ditches F1043 and F1049 in Trench 14

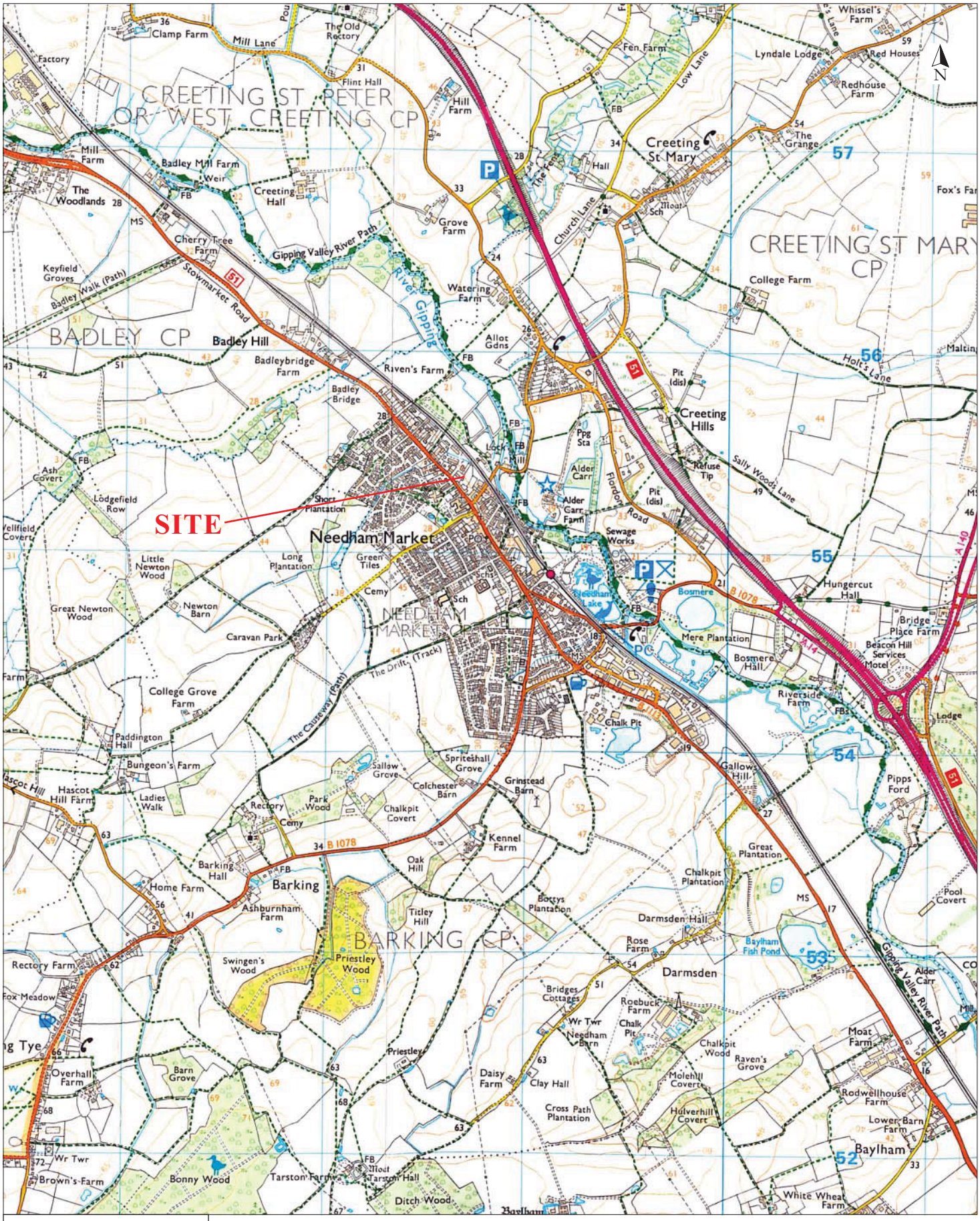

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Fig. 1 Site location plan

Scale 1:25,000 at A4

Luff Meadow, Needham Market, Suffolk (P7696)

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Fig. 2 Detailed site location plan

Scale 1:1000 at A4

Luff Meadow, Needham Market, Suffolk (P7696)

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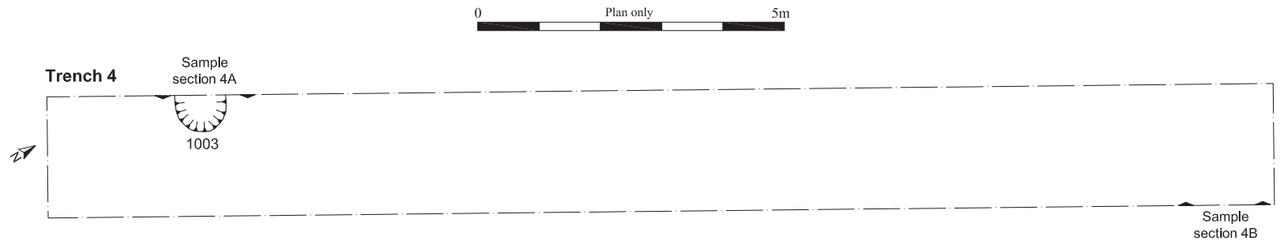
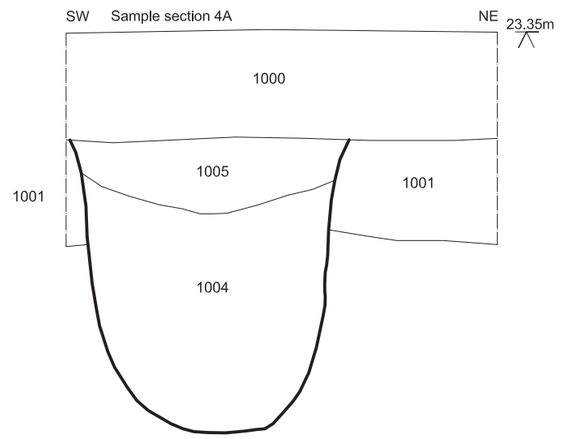
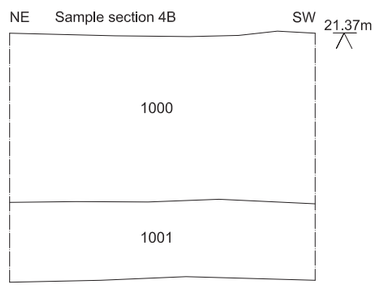
Fig. 3 Trench location plan

Scale 1:750 at A4

Luff Meadow, Needham Market, Suffolk (P7696)







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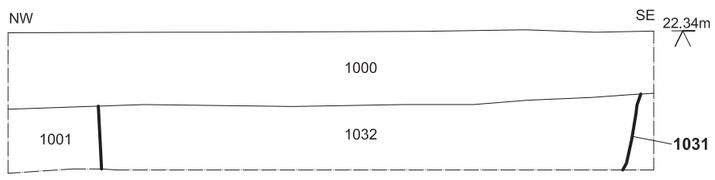

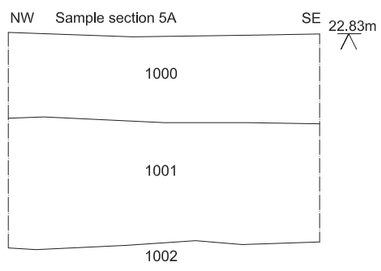

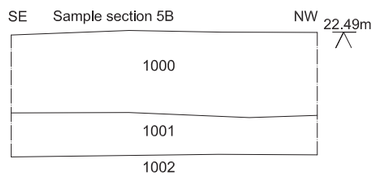

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Fig. 4 Plans and sections

Scale Plans 1:100, sections 1:20 at A3

Luff Meadow, Needham Market, Suffolk (P7696)

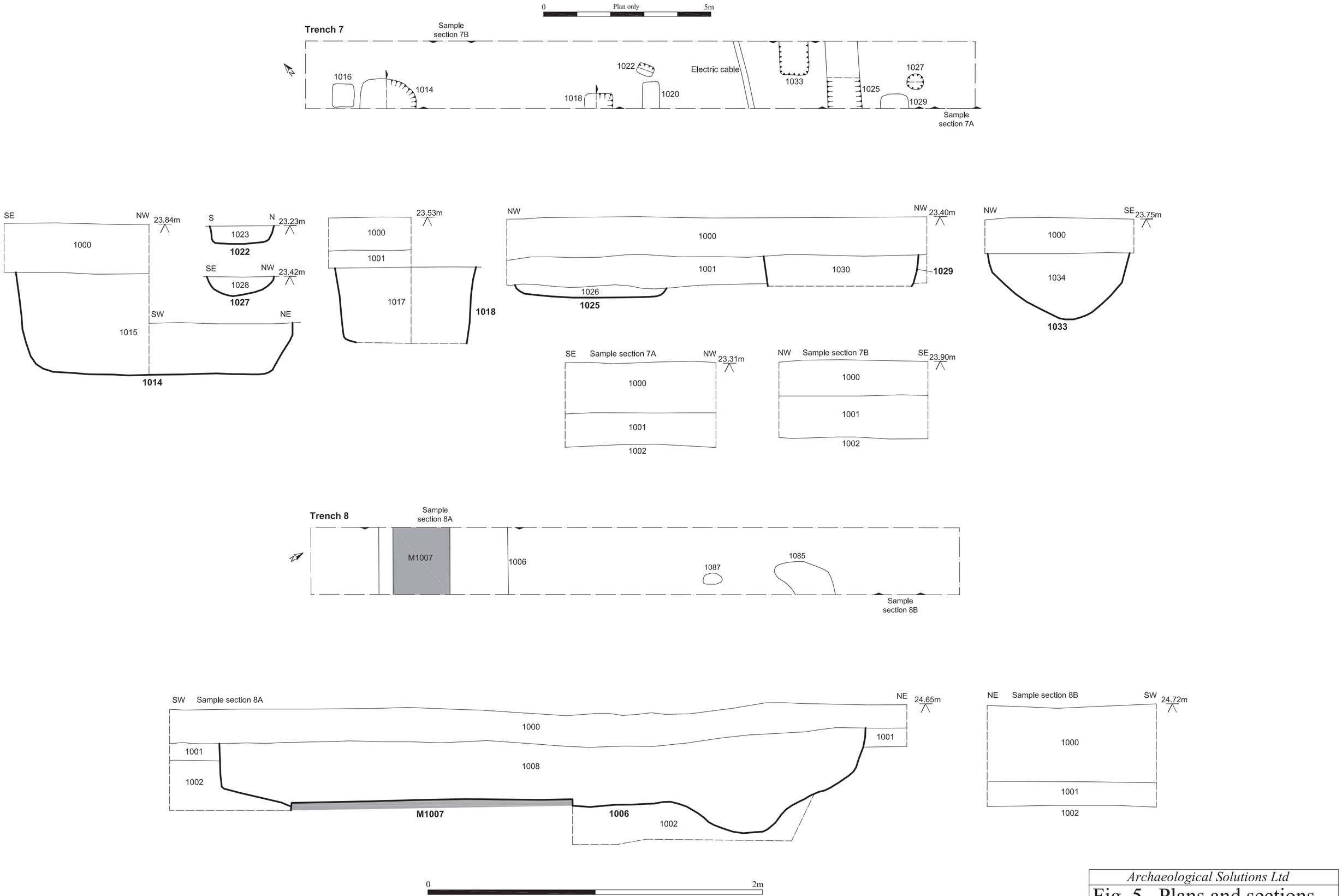

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Fig. 5 Plans and sections

Scale Plans 1:100, sections 1:20 at A3

Luff Meadow, Needham Market, Suffolk (P7696)

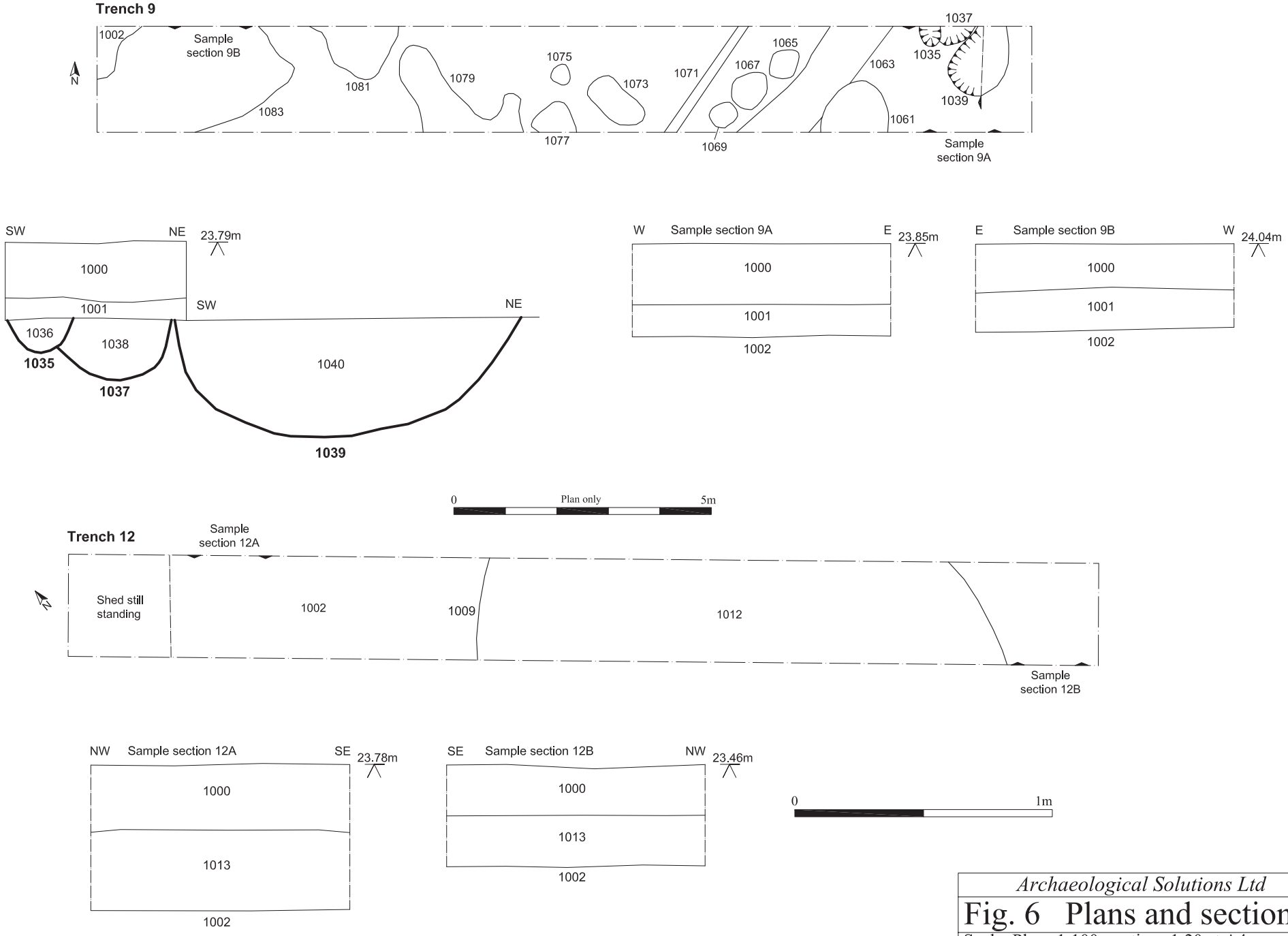

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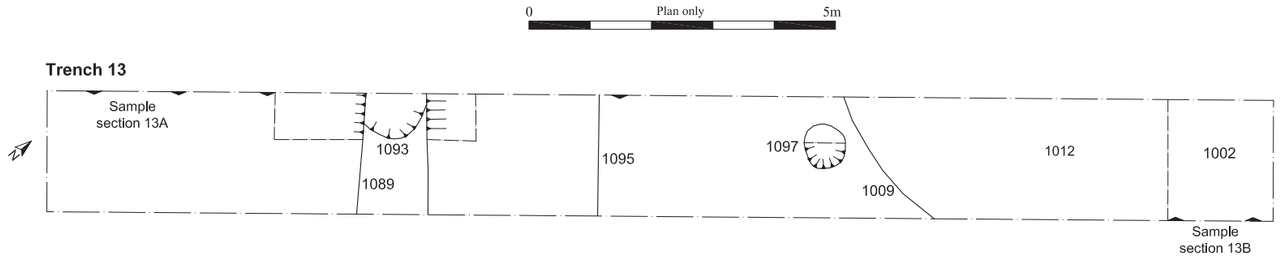
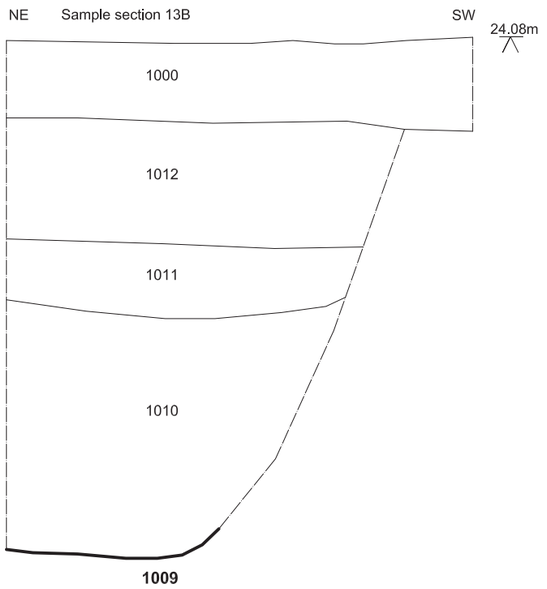
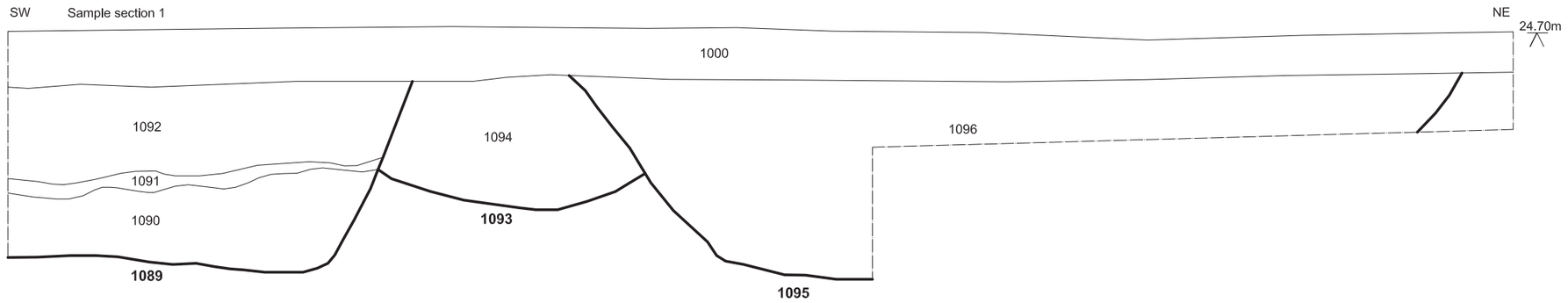
Fig. 6 Plans and sections

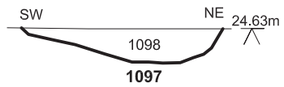
Scale Plans 1:100, sections 1:20 at A4

Luff Meadow, Needham Market, Suffolk (P7696)









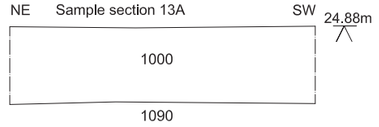


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Fig. 7 Plans and sections

Scale Plans 1:100, sections 1:20 at A3

Luff Meadow, Needham Market, Suffolk (P7696)

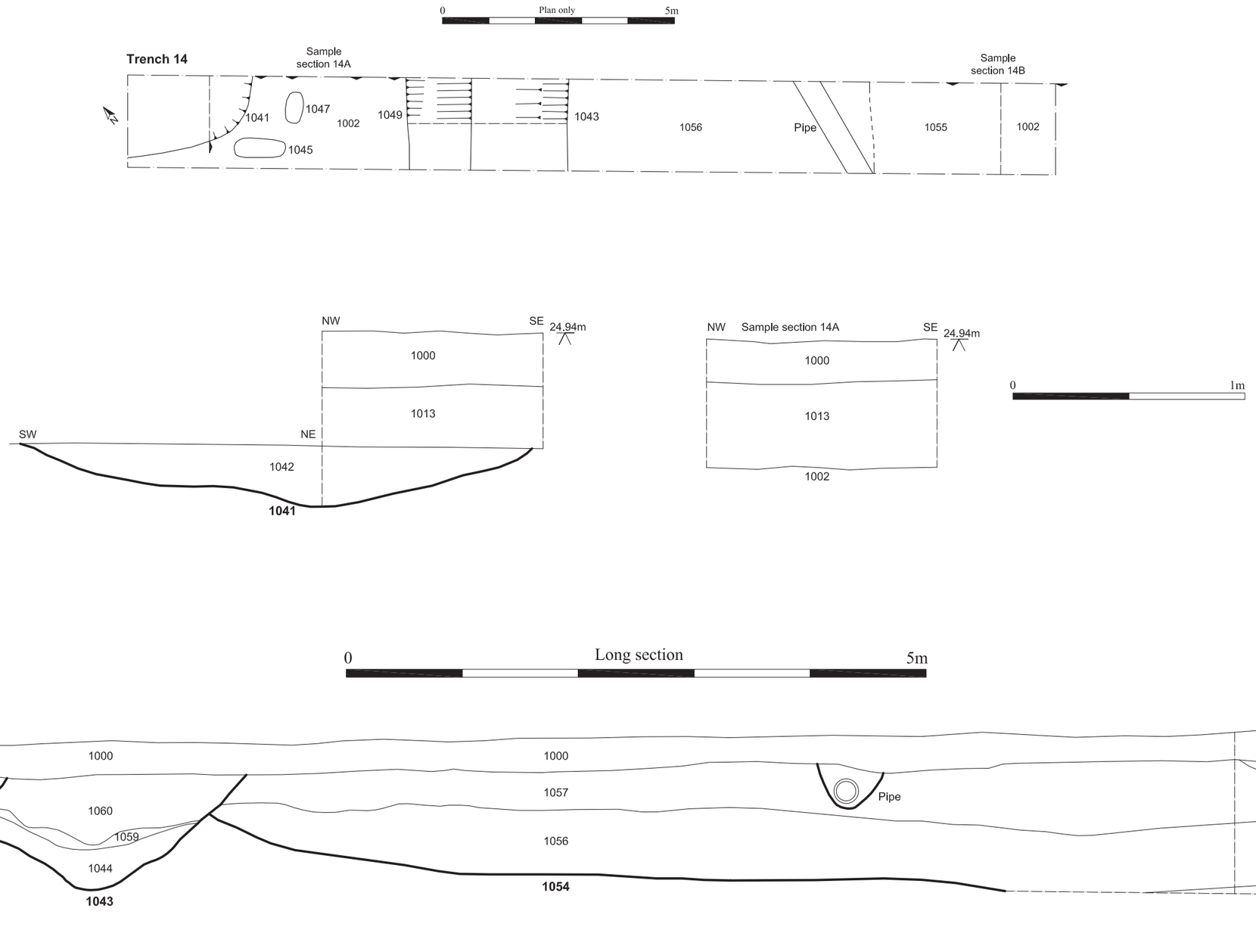

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Fig. 8 Plans and sections
Scale Plans 1:100, sections 1:20 at A3
Luff Meadow, Needham Market, Suffolk (P7696)

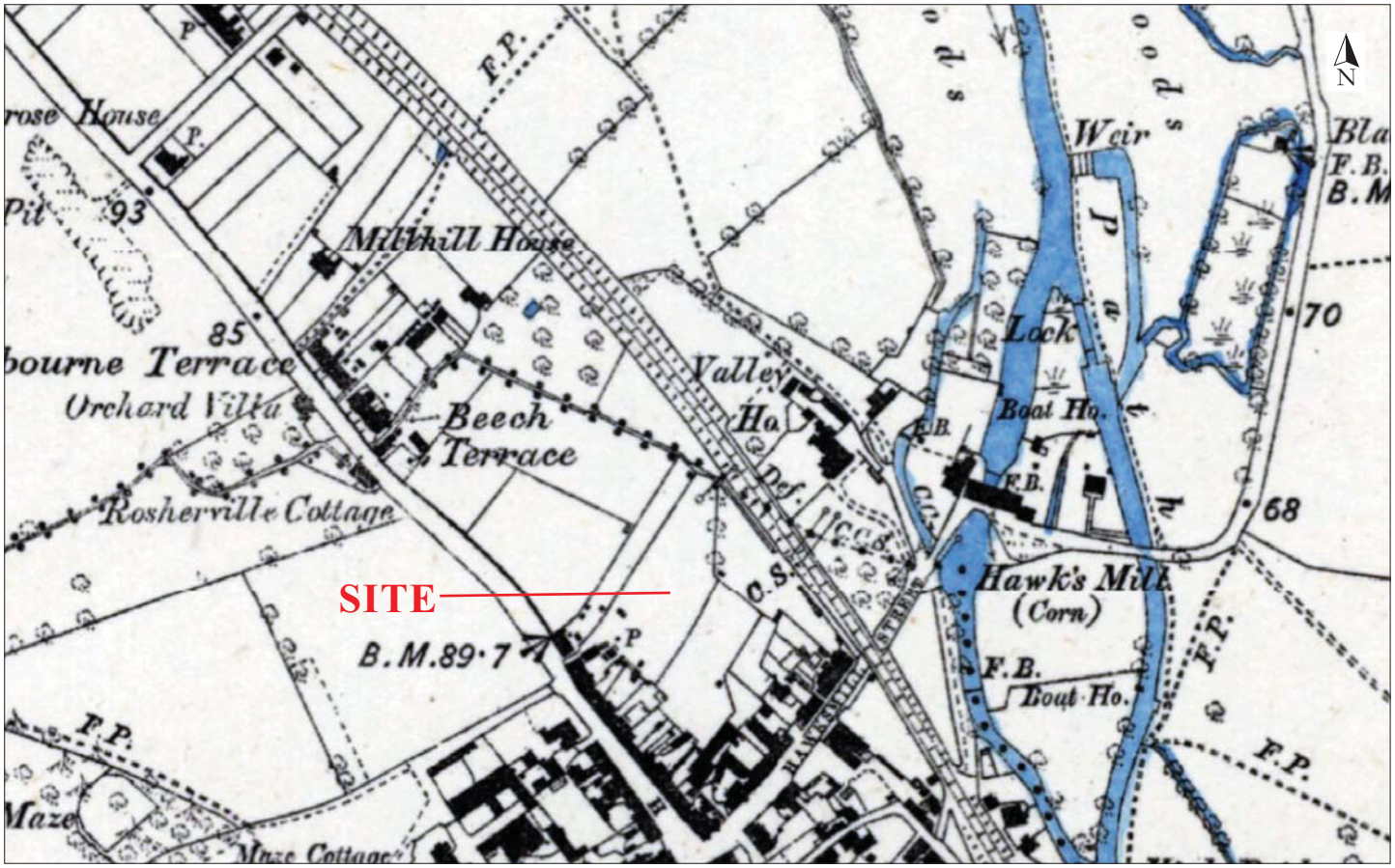

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Fig. 9 OS map, 1884
Scale 1:25,000 at A4
Luff Meadow, Needham Market, Suffolk (P7696)

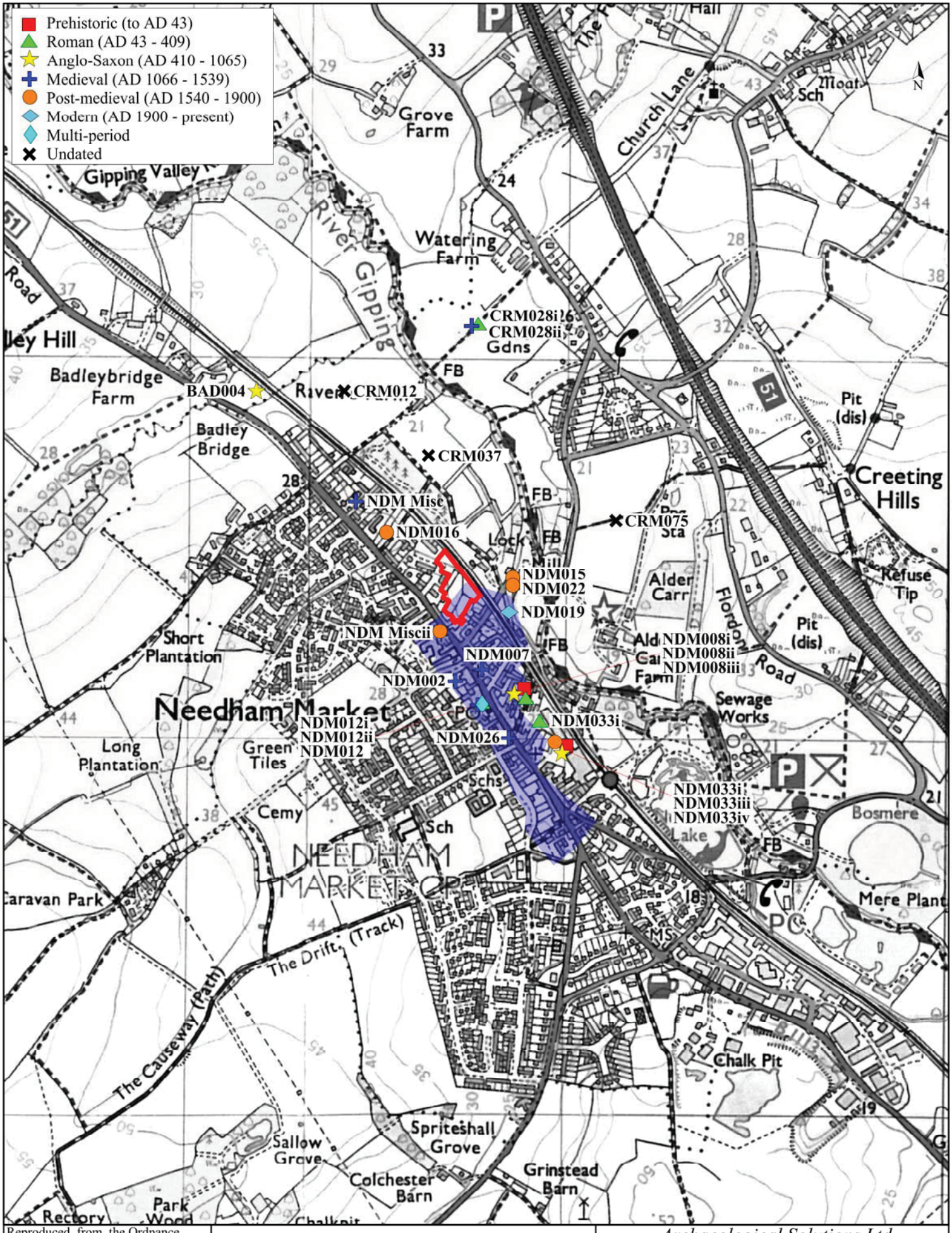

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Fig. 10 HER data

Scale 1:12,500 at A4

Luff Meadow, Needham Market, Suffolk (P7696)