ARCHAEOLOGICAL EVALUATION REPORT

Worlington Quarry: Completion of Phase 3, Part of Phase 5 and the entirety of Phase 7, Bay Farm, Worlington
WGN 034/WGN 035

A REPORT ON THE ARCHAEOLOGICAL EVALUATION, 2008/9
(Planning app. no. F/2004/0227/CCA)

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Contents

List of Figures

List of Tables

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Acknowledgements

This project was funded by M. Dickerson Ltd and the archaeological work was specified by Edward Martin (Suffolk County Council Archaeological Service, Conservation Team).

The excavation was carried out by a number of archaeological project assistants, (Nick Taylor, Jonathan Van Jennians, John Sims and Andy Beverton) all from Suffolk County Council Archaeological Service, Field Team.

The project was directed by Liz Muldowney and Mo Muldowney, and managed by David Gill, who also provided advice during the production of the report.

Finds processing was carried out by Gemma Adams, and the specialist finds report was produced Richenda Goffin. Post excavation assistance was provided by Gemma Adams.

Summary

Two evaluations at Bay Farm, Worlington Quarry revealed sparse archaeological remains of probable prehistoric date and a small quantity of later Bronze Age flints. The findings indicate a lack of settlement-related activity and suggest that use of the land was low-level and infrequent.

HER information

Planning application no.	F/2004/0227/CCA
Date of fieldwork:	22.09.2008 to 02.10.2008 and 19.01.09 to 24.01.09
Grid Reference:	TL 6954 7148 (WGN 0334) and TL 6967 7096 (WGN 035)
Funding body:	M. Dickerson Ltd
Oasis reference	suffolkc1-48278

1. Introduction

An archaeological evaluation was carried out at Bay Farm, Worlington (Fig. 1) in advance of an ongoing programme of sand and gravel extraction (Planning Application F/2004/0227/CCA). The work was carried out in accordance with a Written Scheme of Investigation (WSI) issued by John Craven (SCCAS) following a Brief and Specification issued by Edward Martin (Suffolk County Council Archaeological Service, Conservation Team) in 2004. The WSI is included in this document as Appendix 1.

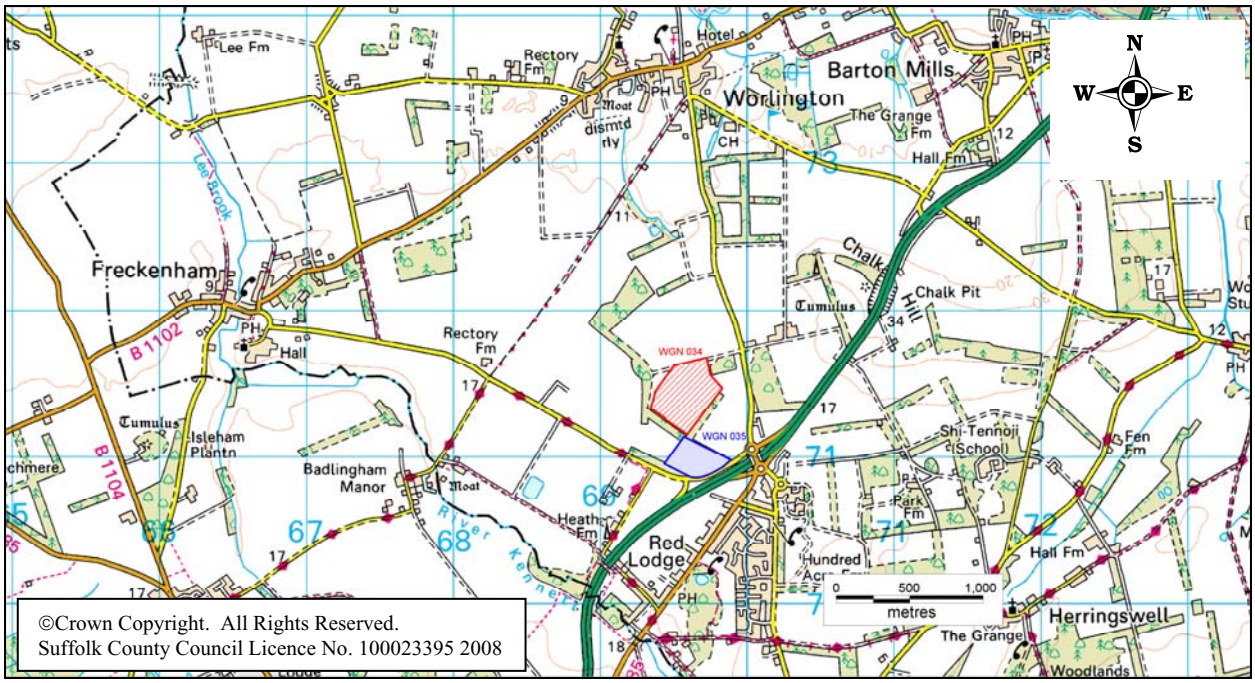

Figure 1. Site Location (WGN 034 shaded red, WGN 035 shaded blue)

The evaluation was carried out as two separate projects (WGN 034 and WGN 035); both will be included in this document. WGN 034 comprised the completion of the evaluation of the Phase 3 extraction scheme, carried out in early 2008 and described in SCCAS Report No. 2008/93 (Craven 2008) and the Phase 5 scheme. The evaluation of the Phase 7 extraction scheme was carried out as Project WGN 035.

1.1 Topology and Geology

The sites lie at TL 6954 7148 and TL 6967 7096 respectively, on a slight east facing slope varying in height from approximately 14m to 16.6m OD and were in agricultural use at the time of the evaluation. The geology predominantly comprised yellowish orange sands and gravels; however in some places the underlying chalk was visible.

1.2 Archaeological and Historical background (Fig. 2)

The development area lies within an area identified as having potential for widespread Bronze Age occupation. A Bronze Age barrow (WGN 003) lies 300m to the east of Site WGN 034, and a further four (BTM 012, BTM 013, BTM 027 and BTM 028) are recorded 1.2 km to the east on Chalk Hill. Saxon burials (WGN 013) and a possible Roman villa (BTM 026) are also recorded on this raised area. The evaluation of Phases 1 and 2 of the quarry (WGN 028), carried out in 2004, identified a scatter of pits dating to the Bronze and Iron Age (Everett 2004). Site WGN 032, lying immediately to the north-west of Site WGN 034, was evaluated in early 2008 and encountered no archaeological remains.

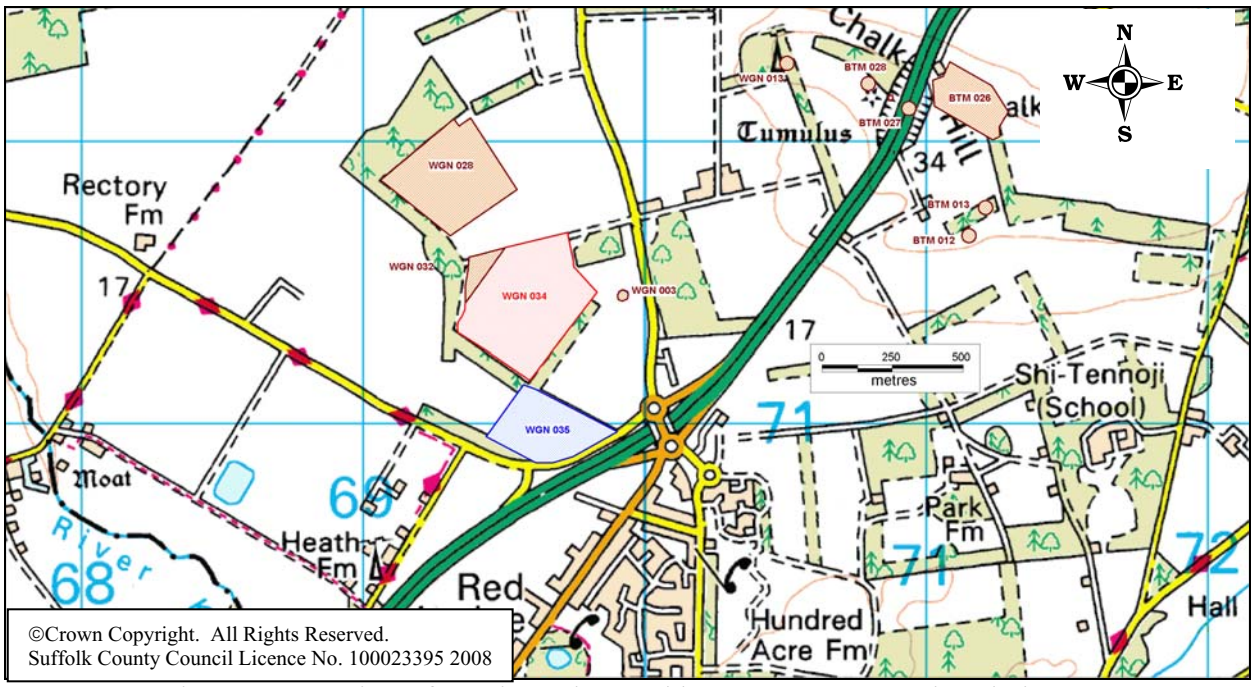

Figure 2. Location of previous sites and known monuments in relation to present evaluation areas

2. Methodology

A programme of evaluation was carried out in accordance with the previous specification issued by Edward Martin and supplemented by the WSI. Site WGN 035 was defined as encompassing an area of approximately 7 hectares, WGN 034 was projected as being 8.3 hectares and trench plans were proposed in the WSI on this basis (Appendix 1). Site WGN 035 was as predicted and the trenches were set out using differential GPS with the exception of Trenches 33 to 39 and Trench 24 which were set out with tapes and located by GPS (Fig. 3). The area encompassed by WGN 034 was significantly smaller than originally defined, when resurveyed it covered 6.7 instead of 8.3 hectares. Trenches 11, 20 to 22 and 35 could not be excavated; Trenches 7, 9, 10, 12, 19, 23, 40, 41 and 47 were shorter than originally designed (Fig. 4).

The excavation and recording were carried out in accordance with SCCAS guidelines. Plans and sections were produced at appropriate scales, all records were created using SCCAS *pro forma*, and photographs were taken of all relevant features and deposits on 35mm black and white print film and as high resolution digital images.

All finds were retained for inspection, no environmental samples were taken.

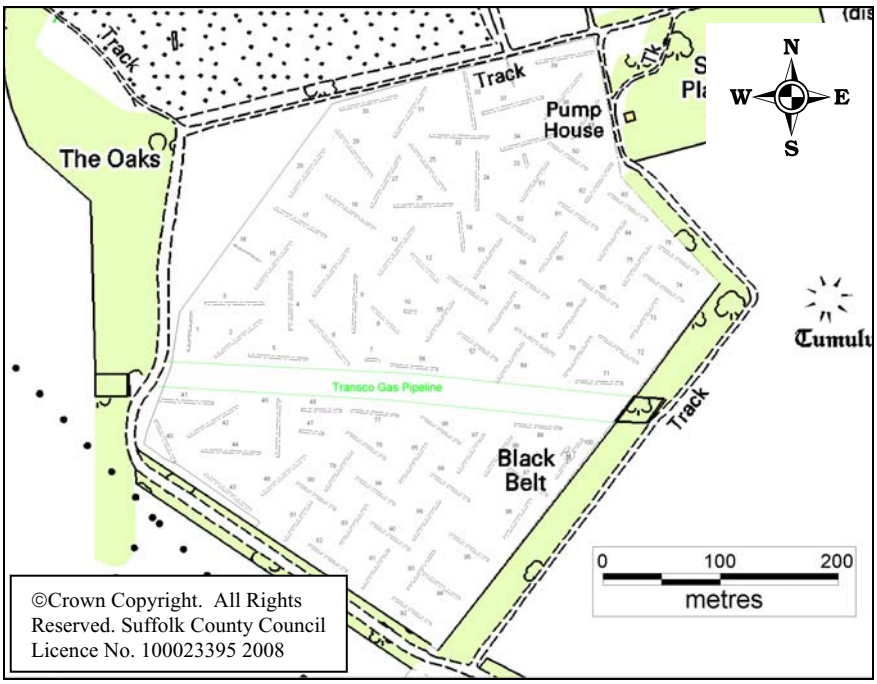

Figure 3. WGN 034 Trench Plan, showing gas main route

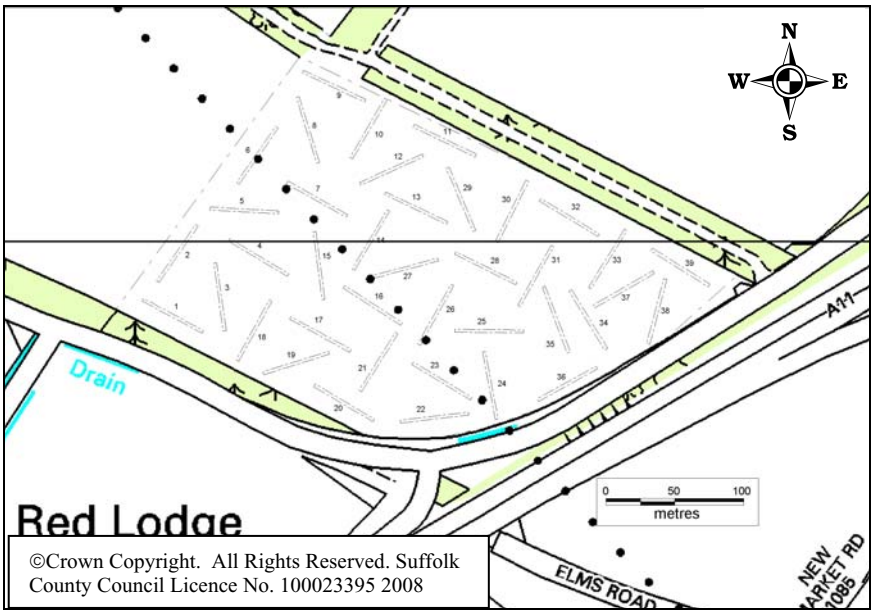

Figure 4. WGN 035 Trench plan

3. Results

3.1 Site WGN 034

Few archaeological features were encountered on the site; a spread of hearth debris incorporating a flint scatter was recorded in Trench 5 and a small pit in Trench 27. Twenty three trenches contained modern features, forty trenches contained natural irregular silt-filled hollows and/or tree bowls. The results of the trenches will be summarized in Table 1 below; the features will then be described in more detail.

Topsoil (0002 in WGN 034, 0012 in WGN 035) was uniform across both the sites and was described as being very loose mid grey brown silty sand with occasional small flint fragments, occasional medium flint nodules and rare chalk flecks. No subsoil was present on either site,

although in places there was a disturbed interface between the topsoil and the undisturbed geological horizon, this deposit was approximately 0.1m deep and was the result of deep ploughing mixing the two soft deposits at this point.

Site Code	Tr. No.	Size	Oriented	Topsoil	Arch.	Notes
WGN 034	01	34.0m x 2.2m	N-S	0.49m	None	Modern plough scars
WGN 034	02	50.5m x 2.2m	NE-SW	0.48m	None	Natural silt filled hollow
WGN 034	03	50.7m x 2.2m	W-E	0.50m	Modern feature	2 x silt hollows
WGN 034	04	49.2m x 2.2m	N-S	0.54m	Modern feature	2 x silt hollows
WGN 034	05	51.0m x 2.2m	WNW-ESE	0.46m	Hollow 0004	Silt hollow
WGN 034	06	50.0m x 2.2	NW-SE	0.31m	Modern features	
WGN 034	07	11.6m x 2.2m	E-W	0.38m	None	
WGN 034	08	50.0m x 2.2m	N-S	0.48m	None	Silt hollow
WGN 034	09	31.9m x 2.2m	NW-SE	0.30m	Modern feature	Silt hollow, plough scars
WGN 034	10	09.7m x 2.2m	E-W	0.54m	Modern feature	
WGN 034	12	32.5m x 2.2m	NW-SE	0.41m	None	Silt hollow
WGN 034	13	51.5m x 2.2m	NE-SW	0.41m	Modern feature	2 x silt hollows
WGN 034	14	50.7m x 2.2m	NE-SW	0.35m	None	Tree bowl
WGN 034	15	50.0m x 2.2m	NE-SW	0.35m	None	Silt hollow
WGN 034	16	27.7m x 2.2m	NW-SE	0.44m	None	Tree bowl
WGN 034	17	51.3m x 2.2m	WSW-ENE	0.48m	None	
WGN 034	18	51.0m x 2.2m	NW-SE	Not recorded	None	Tree bowls
WGN 034	19	32.5m x 2.2m	N-S	0.40m	None	Silt hollow
WGN 034	23	10.6m x 2.2m	NNW-SSE	0.32m	None	Plough scars
WGN 034	24	49.4m x 2.2m	N-S	0.43m	None	Silt hollow
WGN 034	25	48.4m x 2.2m	NW-SE	0.46m	None	
WGN 034	26	48.8m x 2.2m	WSW-ENE	0.42m	None	
WGN 034	27	49.5m x 2.2m	SSW-NNE	0.40m	Pit 0008	Plough damage
WGN 034	28	50.5m x 2.2m	NE-SW	0.38m	None	Silt hollow
WGN 034	29	50.6m x 2.2m	NW-SE	0.33m	None	Silt hollow
WGN 034	30	52.0m x 2.2m	ENE-WSW	0.45m	None	Tree bowl
WGN 034	31	51.5m x 2.2m	NNE-SSW	0.38m	None	Silt hollow
WGN 034	32	50.5m x 2.2m	W-E	0.34m	None	Silt hollow
WGN 034	33	48.5m x 2.2m	NNW-SSE	0.40m	None	Silt hollow
WGN 034	34	48.1m x 2.2m	ENE-WSW	0.41m	None	
WGN 034	36	50.5m x 2.2m	NE-SW	0.38m	None	
WGN 034	37	55.7m x 2.2m	ENE-WSW	0.42m	None	Silt hollow
WGN 034	38	26.8m x 2.2m	NNW-SSE	0.47m	None	
WGN 034	39	49.3m x 2.2m	W-E	0.30m	None	
WGN 034	40	31.0m x 2.2m	NNW-SSE	0.40m	None	Plough scars
WGN 034	41	45.0m x 2.2m	W-E	0.39m	Modern features	
WGN 034	42	49.5m x 2.2m	WSW-ENE	0.37m	None	Plough scars
WGN 034	43	50.0m x 2.2m	NW-SE	0.45m	Modern feature	Root disturbance
WGN 034	44	51.5m x 2.2m	W-E	0.50m	Modern feature	
WGN 034	45	49.2m x 2.2m	N-S	0.43m	Modern feature	Silt hollow
WGN 034	46	50.0m x 2.2m	NE-SW	0.47m	Modern features	
WGN 034	47	19.2m x 2.2m	NW-SE	0.38m	None	Silt hollow, plough scars
WGN 034	48	32.5m x 2.2m	W-E	0.40m	None	Silt hollow
WGN 034	49	38.0m x 2.5m	NNE-SSW	0.50m	None	Chalk band and silt hollow
WGN 034	50	39.5m x 2.5m	SE-NW	0.50m	None	
WGN 034	51	38.2m x 2.5m	NE-SW	0.60m	None	Two silt hollows, 2m deep
WGN 034	52	38.3m x 2.5m	NW-SE	0.55m	None	
WGN 034	53	37.8m x 2.5m	NE-SW	0.54m	None	Silt hollow, modern test pit
WGN 034	54	38.6m x 2.5m	WNW-ESE	0.43m	Modern feature	
WGN 034	55	38.9m x 2.5m	NE-SW	0.52m	None	Silt hollows
WGN 034	56	39.5m x 2.5m	W-E	0.60m	Modern feature	
WGN 034	57	38.5m x 2.5m	SE-NW	0.50m	None	
WGN 034	58	37.5m x 2.5m	SW-NE	0.70m	None	Silt hollows
WGN 034	59	37.5m x 2.5m	SE-NW	0.60m	None	Silt hollow
WGN 034	60	40.0m x 2.5m	NNE-SSW	0.40m	None	Silt hollow
WGN 034	61	37.5m x 2.5m	SE-NW	0.50m	None	Rooting
WGN 034	62	37.0m x 2.5m	NNE-SSW	0.55m	None	Chalk bands

Site Code	Tr. No.	Size	Oriented	Topsoil	Arch.	Notes
WGN 034	63	39.0m x 2.5m	NW-SE	0.40m	None	Three plough scars
WGN 034	64	39.0m x 2.5m	NNE-SSW	0.50m	None	Rooting (0011)
WGN 034	65	40.0m x 2.5m	SE-NW	0.60m	None	
WGN 034	66	38.0m x 2.5m	NE-SW	0.55m	None	Tree bowl
WGN 034	67	39.5m x 2.5m	ESE-WNW	0.50m	None	Silt hollow
WGN 034	69	38.5m x 2.5m	SW-NE	0.52m	None	Two silt hollows
WGN 034	70	39.5m x 2.5m	NE-SW	0.30m	None	
WGN 034	71	41.8m x 2.5m	W-E	0.47m	None	Silt hollow, plough scar
WGN 034	72	40.0m x 2.5m	SE-NW	0.50m	None	Silt hollow
WGN 034	73	40.0m x 2.5m	SW-NE	0.48m	None	
WGN 034	74	38.7m x 2.5m	NW-SE	0.49m	None	Plough scars
WGN 034	75	39.5m x 2.5m	SW-NE	0.55m	None	
WGN 034	76	39.5m x 2.5m	NW-SE	0.50m	None	Plough scars
WGN 034	77	39.8m x 2.5m	W-E	0.40m	None	
WGN 034	78	40.0m x 2.5m	SE-NW	0.40m	Modern features	
WGN 034	79	39.5m x 2.5m	SW-NE	0.55m	Modern features	
WGN 034	80	39.0m x 2.5m	SE-NW	0.50m	Modern feature	
WGN 034	81	39.0m x 2.5m	SW-NE	0.30m	Modern features	
WGN 034	82	39.0m x 2.5m	ESE-WNW	0.45m	Modern features	
WGN 034	83	39.5m x 2.5m	SW-NE	0.30m	Modern feature	
WGN 034	84	38.1m x 2.5m	WNW-ESE	0.42m	Modern feature	
WGN 034	85	39.8m x 2.5m	SW-NE	0.50m	None	Tree bowl
WGN 034	86	38.5m x 2.5m	WNW-ESE	0.42m	None	
WGN 034	87	39.0m x 2.5m	NE-SW	0.40m	None	
WGN 034	88	38.4m x 2.5m	NW-SE	0.42m	None	
WGN 034	89	39.8m x 2.5m	NE-SW	0.40m	None	Silt band
WGN 034	90	38.8m x 2.5m	WNW-ESE	0.41m	Modern feature	Plough scar
WGN 034	91	39.4m x 2.5m	SW-NE	0.50m	Modern feature	
WGN 034	92	38.7m x 2.5m	NW-SE	0.48m	None	Silt hollow
WGN 034	93	38.3m x 2.5m	NE-SW	0.46m	None	
WGN 034	94	40.0m x 2.5m	SE-NW	0.44m	None	Plough scar
WGN 034	95	39.2m x 2.5m	NW-SE	0.50m	None	
WGN 034	96	38.5m x 2.5m	NE-SW	0.55m	None	Silt hollow
WGN 034	97	40.0m x 2.5m	NW-SE	0.55m	None	Silt hollow
WGN 034	98	40.5m x 2.5m	SW-NE	0.45m	None	
WGN 034	99	39.0m x 2.5m	E-W	0.44m	None	Plough scars
WGN 034	100	39.5m x 2.5m	NE-SW	0.80m	Pit 0014	
WGN 034	100 ext	9.3m x 9.7m		1.10m	Modern feature	Base of machine-dug pit

Table 1. WGN 034 Trench Summary

3.1.1 Archaeological Features

Two archaeological features were recorded on the site in Trenches 5 and 27.

Trench 5 contained a shallow irregular teardrop-shaped hollow 0004 (Fig. 5) measuring 4.2m by 1.45m narrowing to 0.42m by 0.1m. This hollow was in the top of a larger irregular natural silt filled hollow, it contained a single fill 0005 which comprised mid grey brown silty sand with frequent charcoal flecks, moderate burnt flint fragments and a scatter of flint knapping debitage (some burnt) and some blade and tool fragments. The quality of the knapping might indicate an Iron Age date for this assemblage although an earlier date can not be ruled out. There was no evidence for burning *in situ*, and this is likely to have been a dump of fire debris and flint waste which collected in the hollow and became trapped there. This hollow was disturbed by a modern animal burrow 0006 which contained the remains of a small creature in its collapsed fill 0007.

Trench 27 contained a single undated irregular pit 0008 (Fig. 5), it was U-shaped in profile with gradual sides and a concave base and a single fill (0009).

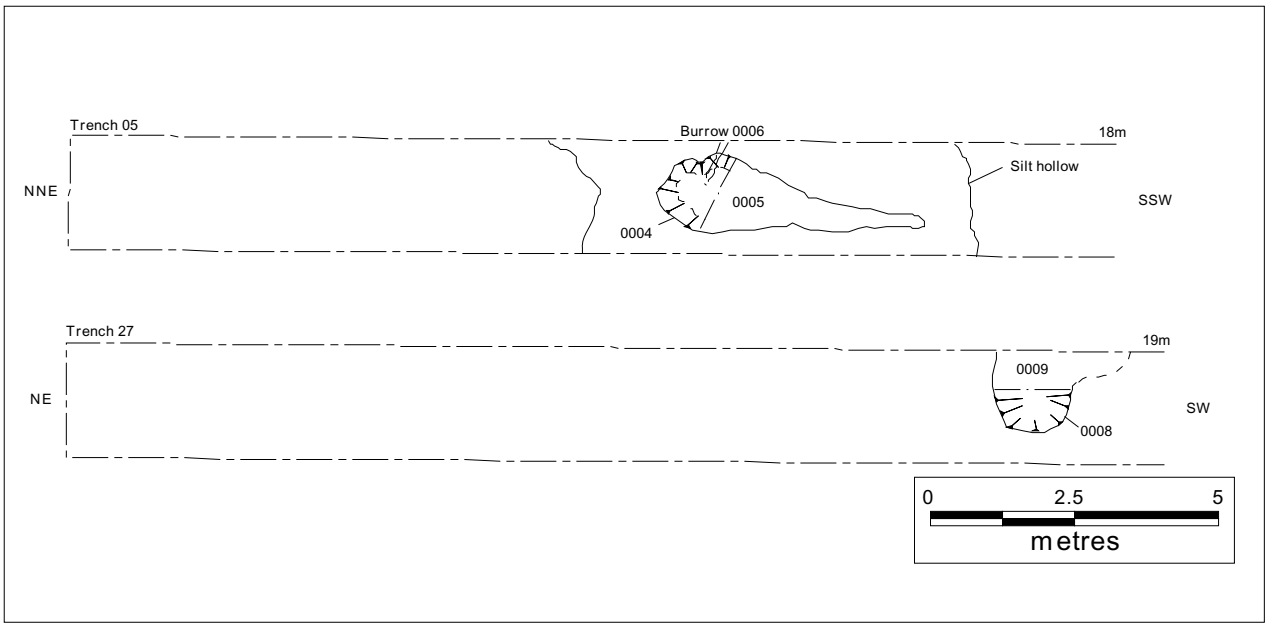

Figure 5. Pit 0004 (Trench 05) and pit 0008 (Trench 27)

3.1.2 Modern Features

Modern features were recorded in twenty three of the ninety nine trenches, these comprised machine cut pits, service trenches, and possible extraction pits. They were located only in the southern half of the area and are described below by trench:

Trench 3 contained the northern end of a 1.9m wide square-ended pit filled with interleaved bands of re-deposited natural gravel and topsoil. Excavation was halted at a depth of 0.3m when the feature was determined to be of modern origin.

Trench 4 contained a large machine cut pit; the unexcavated feature was 9m in length and had evidence for toothed bucket marks on both edges. The fill was a mixture of topsoil, chalk fragments and gravel. A similar, smaller pit was observed at the east end of Trench 56.

Trench 6 had two areas of modern disturbance, one was likely to be a machine dug pit similar to the pit in Trench 4, the other was filled with a mixture of grey silt and fine graded sandy gravel. This feature might have been the remains of a previous small scale extraction pit. Neither was excavated.

Trench 9 contained a service trench for an irrigation pipe.

Trench 10 contained the continuation of the irrigation pipe trench seen in Trench 9.

Trench 13 contained a 3.5m wide gravel extraction pit filled with re-deposited gravels and topsoil.

Trench 41 contained two small areas of modern disturbance with mixed topsoil and gravel backfills.

Trench 43 contained numerous irregular patches of disturbance filled again with a mixture of topsoil and yellow sand lenses. Their origin is uncertain.

Trench 44 contained the continuation of the irrigation pipe trench seen in Trenches 9 and 10.

Trench 45 contained the continuation of the irrigation pipe trench seen in Trenches 9, 10 and 44. It was partially excavated in this trench to confirm the interpretation that it was a modern feature, excavation stopped when the blue plastic pipe was exposed.

Trench 46 was almost entirely filled by a large machine cut feature, machine bucket tooth marks were visible on the sides, with a very mixed unexcavated upper fill.

Trench 53 contained a narrow 'strip' across part of a silt hollow, suggestive of a machine-dug geo-test pit.

Trench 54 contained a blue plastic pipe near the base of a silt patch.

Trenches 79 to 82 and 91 contained a series of sub-circular areas of mixed silt and gravel bands within shallow depressions. They are likely to be related to the placement of modern pig shelters/pens. These trenches were clustered together at the south end of the trenched area (Fig. 3).

Trench 84 contained an irregular but rounded silt and mixed gravel-filled pit. It is of almost certain recent origin.

Trench 90 contained a 1.2m long by 0.65m wide oval modern pit, with very compact sandy fill. A fragment of plastic was recovered confirming the feature as modern. A plough scar was also visible at the north-west end of the trench.

Trench 100 contained a 4.35m wide by 0.6m deep pit with gently sloping sides and a flat base. The fill was loose with occasional flint inclusions but contained no finds. It is most likely that this feature is a small-scale modern gravel extraction pit.

3.1.3 Natural Features

Natural features were recorded in forty of the ninety nine trenches. A significant proportion of these were large irregular generally shallow silt-filled hollows, although that excavated by machine in Trench 51 was no more than 2m deep. These were widespread across the area and all had comparable fills, they were likely to be undulations in the sandy landscape that had silted up naturally in the prehistoric period. A number of these features were partially excavated by machine; all were filled with marbled lenses of probably wind blown silt and sand. A small number of tree bowls were also recorded.

Silt hollows were located in Trenches 2, 3, 4, 5, 8, 9, 12, 13, 15, 19, 24, 28, 29, 31, 32, 33, 37, 45, 47, 48, 49, 51, 53, 55, 58, 59, 67, 69, 92, 96 and 97. Machine slots were excavated through the hollows in Trenches 2, 4, 9, 28, 37 and 51, the hollow in Trench 15 was 100% excavated by machine.

Tree bowls were recorded in Trenches 14, 16, 18, 30, 66 and 85 and an area of burnt-out roots (0011) containing two struck flints was identified in Trench 64. Further rooting was identified in Trenches 60 and 61.

3.2 Site WGN 035

Two pits were recorded on this site in Trench 28 and in its extension area. Eight modern features and eight natural features were recorded. The results of all trenches will be summarized below in Table 2 and the features will be further described below.

Site Code	Tr. No.	Size	Oriented	Topsoil	Arch.	Notes
WGN 035	1	50.5m x 2.2m	E-W	0.38m	None	Tree bowls
WGN 035	2	49.0m x 2.2m	NNE-SSW	0.40m	None	Plough Scar
WGN 035	3	52.0m x 2.2m	NNW-SSE	0.41m	None	Root disturbance
WGN 035	4	49.0m x2.2m	NW-SE	0.43m	None	
WGN 035	5	51.0m x 2.2m	W-E	0.45m	None	
WGN 035	6	51.0m x 2.2m	NNE-SSW	0.38m	None	
WGN 035	7	50.5m x 2.2m	WNW-ESE	0.38m	None	Tree bowls
WGN 035	8	49.0m x 2.2m	NNW-SSE	0.38m	None	Tree bowl
WGN 035	9	60.0m x 2.2m	NW-SE	0.38m	Modern feature	
WGN 035	10	50.0m x 2.2m	N-S	0.50m	None	
WGN 035	11	49.5m x 2.2m	NW-SE	0.45m	None	Root disturbance
WGN 035	12	49.5m x 2.2m	NE-SW	0.50m	None	Root disturbance
WGN 035	13	51.0m x 2.2m	ESE-WNW	0.41m	None	
WGN 035	14	50.8m x 2.2m	NE-SW	0.41m	None	
WGN 035	15	48.3m x 2.2m	NNW-SSE	0.44m	None	
WGN 035	16	48.2m x 2.2m	NW-SE	0.41m	Modern feature	
WGN 035	17	50.5m x 2.2m	NW-SE	0.50m	None	
WGN 035	18	51.5m x 2.2m	NNE-SSW	0.41m	None	Root disturbance
WGN 035	19	51.0m x 2.2m	ENE-WSW	0.38m	Modern feature	
WGN 035	20	48.0m x 2.2m	NW-SE	0.45m	None	
WGN 035	21	50.0m x 2.2m	NNE-SSW	0.45m	Modern feature	
WGN 035	22	50.5m x 2.2m	NW-SE	0.50m	None	
WGN 035	23	51.0m x 2.2m	WNW-ESE	0.50m	None	
WGN 035	24	50.5m x 2.2m	N-S	0.45m	None	
WGN 035	25	52.8m x 2.2m	W-E	0.38m	Modern features	
WGN 035	26	50.4m x 2.2m	NE-SW	0.45m		Silt hollow
WGN 035	27	50.3m x 2.2m	NE-SW	0.45m	None	
WGN 035	28	50.2m x 2.2m	NW-SE	0.43m	Pit 0007	
WGN 035	28 ext	5.0m x 5.0m		0.43m	Pit 0007 and Pit 0013	
WGN 035	29	49.2m x 2.2m	NW-SE	0.40m		Silt hollow
WGN 035	30	50.3m x 2.2m	NE-SW	0.42m	None	Silt hollow
WGN 035	31	50.9m x 2.2m	NNE-SSW	0.43m	None	Root disturbance
WGN 035	32	50.5m x 2.2m	NW-SE	0.40m	Modern feature	
WGN 035	33	48.3m x 2.2m	NNE-SSW	0.40m	None	
WGN 035	34	51.5m x 2.2m	NW-SE	0.34m	None	
WGN 035	35	51.5m x 2.2m	N-S	0.45m	Modern feature	
WGN 035	36	50.5m x 2.2m	ENE-WSW	0.50m	None	Silt hollow
WGN 035	37	51.5m x 2.2m	ENE-WSW	0.35m	None	
WGN 035	38	49.2m x 2.2m	NE-SW	0.43m	None	Silt hollow
WGN 035	39	50.0m x 2.2m	NE-SW	0.38m	None	

Table 2. WGN 035 Trench Summary

3.2.1 Archaeological Features

Two archaeological features were recorded on the site, a pit in Trench 28 and a similar feature close to it in the 5 by 5m area excavated immediately to its south (Fig. 4). Both were undated and no other features of this nature were encountered in the area.

Pit 0007 was partially excavated within the original trial trench and subsequently 100% excavated when the trench was extended to the south. It was oval in plan with steep sides and a concave base, measuring 2m in length, 1.5m in width and 0.44m in depth. Its single fill 0008 was relatively unmodified mid brown silty sand probably derived from natural silting processes. No datable artefacts were retrieved.

The trench was extended to the south to determine whether this pit was isolated in the area, and a second similar pit 0013 was recorded 1.5m to the south-west. The pit was also oval in plan with a stepped northern side, a steep south side and a flattish base. It measured 2.24m in length, 1.1m in width and 0.50m in depth. No artefacts were retrieved from the single fill which was similar in appearance to the fill of pit 0007.

3.2.2 Modern Features

Modern features were encountered in seven of the thirty nine trenches, these comprised irrigation pipe trenches and probable pits. They were predominantly located in the eastern half of the area with the exception of the feature located in Trench 9.

Trench 9 contained a large possible pit, measuring approximately 11.5m in length, excavated to a depth of 1.4m. Its fill comprised interleaved lenses of topsoil and re-deposited yellow natural sand.

Trench 16 contained a small pit measuring 2.5m in width and 0.9m+ in depth, it had a similar backfill to the larger pit in Trench 9.

Trench 19 contained a west-south-west to east-north-east oriented irrigation pipe trench.

Trench 21 contained a similar irrigation pipe trench oriented south-west to north-east that may have been the continuation of the feature in Trench 19. The feature was partially excavated in this trench to confirm its modern interpretation; excavation stopped when the blue plastic pipe was exposed.

Trench 25 contained the continuation of the irrigation pipe trench from Trench 21 and a large machine dug pit backfilled with mixed chalky sand and some re-deposited topsoil.

Trench 32 contained an irrigation pipe trench oriented north-north-east to south-south-west.

Trench 35 contained a machine excavated pit similar to the feature in Trench 25.

3.2.3 Natural Features

Natural features were encountered in eight of the thirty nine trenches. They comprised silty hollows similar to the features described in Site WGN 034 and tree bowls.

Silt hollows were located in Trenches 26, 29, 30, 36 and 38. As with the modern features they were located predominantly on the east side of the area. A 1m slot was excavated through the hollow (0009) in Trench 26, which revealed a sequence of well-sorted gravels (0010) sealed by fine silts (0011).

Tree bowls were located in Trenches 1, 7 and 8.

4 Finds and environmental evidence (Cathy Tester and Colin Pendleton)

4.1 Introduction

Finds were collected from five contexts, as shown on the table below:

Context No	Trench no	Flint		Burnt flint		Animal bone		Spotdate
		No.	Wt/g	No.	Wt/g	No.	Wt/g	
0001		1	9					
0005	5	31	143	29	339			
0007	5					5	3	
0010	61			1	24			
0011	64	2	6					
Total		34	158	30	363	8	3	

Table 3. Finds quantities

Flint

Thirty-four pieces of struck flint weighing 158g were collected from three contexts. All but three flakes were from fill of hollow 0004 (0005) in Trench 5. The flint is mostly dark grey to black in colour and cortex where present is an off-white or cream colour. All of the flint is unpatinated. Detailed descriptions by context are shown below.

Context	Type	No	Description	Date
0001	flake	1	Flake with limited cortex down one side. Parallel flake scars on dorsal face. Cortical striking platform	
0005	flake	1	Thick flake (partly fire-cracked) w cortex forming distal end	
	flake	1	Squat irregular flake w obtuse striking platform. Cortex forms distal end	LNEBA
	flake	1	Thick irregular flake w parallel flake scars on dorsal face. Cortex forms distal end	
	flake	1	Irregular flake w cortex down one edge and distal end	
	flake	3	Three irregular squat flakes relatively thick. (2 w limited cortex),	
	flake	3	Three irregular flakes, 1 partly burnt with limited cortex	
	flake	6	Six fragmented, lightly burnt flakes, 1 w hinge fracture, 2 w small amount of cortex	EBA
	flake	3	Three flakes 1 cortical striking platform, 1 squat, all hinge-fractured and small amt of cortex	
	flake	3	Three snapped flakes, 1 with cortex at distal end. 1 w hinge fracture	
	flake	1	Fragment of squat irregular flake	
	flake	1	Thin, broad large-ish squat flake w limited crude edge retouch. Parallel flake scars on dorsal face	
	flake	1	Partly burnt flake w parallel flake scars on dorsal face. possible retouch/use-wear on 1 edge.	
	flake	1	Irregular flake w limited edge retouch and 'gloss' on ret edge. Parallel flake scars on dorsal face.	
	flake/blade	1	Long flake/blade w limited edge retouch or use-wear. Cortical striking platform and further cortex down one edge.	
	spall	2	Two spalls.	
	scraper	1	Small oval scraper, 'working end' snapped. Partly burnt. Cortex forms dorsal face	
	spall	2	Spalls.	
	util flake	1	Irregular flake w sub-triangular cross--section. Limited patch of use-wear along one edge. Limited cortex	
0011	flake	1	Small flake, natural dorsal face.	Later Preh
	flake	1	Flake dorsal face = cortex	

Table 4. Flint by context

More than three-quarters of the assemblage consists of unmodified flakes which are mostly small, squat and irregular, a number of which are thick. One has an obtuse striking platform and five are hinge-fractured. Two have cortical striking platforms and most of the pieces have further cortex on small to more extensive areas.

There are only a few retouched pieces, four flakes, one of them 'blade-like,' which have limited crude retouch on one edge. One of these pieces has a glossy sheen on the retouched edge.

One small oval scraper and one utilised flake are also present.

The flake assemblage is made up predominantly of irregular and/or squat flakes. Most have some cortex suggesting primary flaking of local surface-collected raw material and that little preparation of the cores took place before their use. Nevertheless, the quality of the flint is good.

Despite the presence of several pieces with parallel flake scars on dorsal faces which suggest relatively careful working, the nature of most of the flint working is crude enough to suggest a later Bronze Age date, possibly middle Bronze Age for the assemblage.

Burnt flint

Thirty fragments (0363g) of burnt flint were recovered. Twenty-nine fragments, all grey or white and fire-crackled were from the fill of hollow 0004 (0005) in Trench 5. A single fragment of slightly fire-altered flint came from the layer 0010 in Trench 61.

Animal bone

Five fragments of bird bone (3g) were recovered from the fill of 0006 (0007), a modern animal burrow in Trench 5.

4.2 Discussion of the finds and environmental evidence

Finds were sparse and all but a few unstratified items came from the silted-up natural hollow in Trench 5. The assemblage consisted of flint and burnt flint which can be broadly dated to the later Bronze Age but suggests only limited activity on this site. This is in contrast to the finds assemblage from the evaluation and excavation of Phases 1 and 2 just to the north at WGN 028 (Sommers, in prep) which included early Bronze Age and early Iron Age pottery and flints from twenty pits.

5 Discussion

5.1 WGN 034

Two archaeological features were identified in the latter stage of Phase 3 of the evaluation at Bay Farm, Worlington; they included a silt hollow (0004) containing flint knapping debitage and an undated, irregular pit (0008). These features were located in Trench 5 and 27 respectively and although both were sited towards the west side of the area, were probably unrelated. The flint debitage recovered from silt hollow 0004 is likely to be Iron Age or earlier (see section 4.2) and in the form of a scatter of blade and tool fragments which indicates that its deposition was an isolated event. Tools were frequently made in an *ad hoc* fashion during the prehistoric period, leaving the tell-tale scatter pattern of flint fragments at the spot they were created. Although undated, pit 0008, may also date to the prehistoric period.

5.2 WGN 035

Site WGN 035, Phase 7 of the evaluation at Bay Farm also identified two pits (0007 and 0013), both located in Trench 28. Although undated, these pits may be of prehistoric origin, possibly dug in order to extract flint nodules suitable for knapping into tools.

It is worth noting that a significant amount of modern intrusion had also taken place across the area, in the form of silt and gravel-filled hollows created by animals and machines. There was also a series of irrigation pipes and a moderate amount of deep plough damage.

6 Conclusion and Recommendations

Sites WGN 034 and WGN 035 revealed sparse archaeological remains of probable prehistoric date which indicated very occasional use of the landscape and a complete absence of settlement-related activity. Flints recovered during the evaluation were dated to the later Bronze Age, but were of such small quantities that they represent little more than occasional or limited use of the area. The results corroborate conclusions drawn during the first stage of WGN 034 (Craven 2008) and WGN 032 (Everett 2004).

Liz Muldowney and Mo Muldowney
February 2009

References

Craven, J. A., 2008, Part of Phase 3, Worlington Quarry, Bay Farm, Worlington. WGN 032. SCCAS Report No. 2008/93

Everett, L., 2004, Phases 1 & 2, Bay Farm, Worlington. WGN 028. SCCAS Report No. 2004/147

Sommers, M., (in prep) Worlington Quarry Excavation report: Phases 1 & 2, Bay Farm, Worlington. WGN 028

Disclaimer

Any opinions expressed in this report about the need for further archaeological work are those of the Field Projects Division alone. The need for further work will be determined by the Local Planning Authority and its archaeological advisors when a planning application is registered. Suffolk County Council's archaeological contracting service cannot accept responsibility for inconvenience caused to clients should the Planning Authority take a different view to that expressed in the report.

Appendix 1 – Brief and Specification

SUFFOLK COUNTY COUNCIL
ARCHAEOLOGICAL SERVICE - CONSERVATION TEAM

Brief and Specification for an Archaeological Evaluation

Evaluation by trial trench

P48: PROPOSED MINERAL EXTRACTION SITE,
BAY FARM, WORLINGTON

1. Background

1.1 A proposal has been made for mineral extraction on the above site (identified as P48 in the *Suffolk Mineral Local Plan* (p. 22).

1.2 In order to establish the full archaeological implications of this application the developer has been advised that an archaeological evaluation of the proposed area should be undertaken (in line with Planning Policy Guidance 16).

1.3 The proposed area lies adjacent to two known archaeological sites: a Neolithic and Bronze Age burial mound called Swale's Tumulus and an undated square enclosure on Redlodge Warren that is shown on 19th-century maps (Suffolk Sites and Monuments Record nos. WGN 003 and FRK 049). There is therefore a potential that the proposed development will affect archaeological deposits.

1.4 All arrangements for the field evaluation of the site, the timing of the work, access to the site, the definition of the precise area of landholding and area for proposed development are to be defined and negotiated with the commissioning body.

1.5 In accordance with the standards and guidance produced by the Institute of Field Archaeologists this brief should not be considered sufficient to enable the total execution of the project. A Project Design or Written Scheme of Investigation (PD/WSI) based upon this brief and the accompanying outline specification of minimum requirements, is an essential requirement. This must be submitted by the developers, or their agent, to the Conservation Team of the Archaeological Service of Suffolk County Council (Shire Hall, Bury St Edmunds IP33 2AR; telephone/fax: 01284 352443) for approval. The work must not commence until this office has approved both the archaeological contractor as suitable to undertake the work, and the PD/WSI as satisfactory. The PD/WSI will *provide the basis for measurable standards* and will be used to establish whether the requirements of the planning condition will be adequately met

2. Brief for the Archaeological Evaluation

2.1 Establish whether any archaeological deposit exists in the area, with particular regard to any which are of sufficient importance to merit preservation.

2.2 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.

2.3 Evaluate the likely impact of past land uses, and the possible presence of masking colluvial/alluvial deposits.

2.4 Establish whether waterlogged organic deposits are likely to be present in the proposal area.

2.5 Provide sufficient information to construct an archaeological conservation strategy, dealing with preservation, the recording of archaeological deposits, working practices, timetables and orders of cost.

2.6 It is expected that the evaluation will proceed sequentially: the desk-based evaluation will precede the field evaluation (there is a possibility that some aspect of the site's history may indicate that further evaluation is not necessary); the results of the desk-based work are to be used to inform the trenching design.

2.7 This project will be carried through in a manner broadly consistent with English Heritage's *Management of Archaeological Projects,* 1991 (*MAP2*), all stages will follow a process of assessment and justification before proceeding to the next phase of the project. Field evaluation is to be followed by the preparation of a full archive, and an assessment of potential. Any further excavation required as mitigation is to be followed by the preparation of a full archive, and an assessment of potential, analysis and final report preparation may follow. Each stage will be the subject of a further brief and updated project design, this document covers only the evaluation stage.

2.8 The developer or his archaeologist will give the Conservation Team of the Archaeological Service of Suffolk County Council (address as above) five working days notice of the commencement of ground works on the site, in order that the work of the archaeological contractor may be monitored.

2.9 If the approved evaluation design is not carried through in its entirety (particularly in the instance of trenching being incomplete) the evaluation report may be rejected. Alternatively the presence of an archaeological deposit may be presumed, and untested areas included on this basis when defining the final mitigation strategy.

2.10 An outline specification, which defines certain minimum criteria, is set out below.

3. Specification A: Desk-Based Assessment

3.1 Consult the County Sites and Monuments Record (SMR), both the computerised record and any backup files.

3.2 Examine all the readily available cartographic sources (e.g. those available in the County Record Office). Record any evidence for archaeological sites (e.g. buildings, settlements, field names) and history of previous land uses. Where possible, photocopies or tracings should be included in the report.

3.3 Provide a transcription of archaeological features from all available air photographs held by Suffolk County Council Environment and Transport Department and its SMR, at a scale of 1:2500.

3.4 Ascertain whether there are other constraints on the site (e.g. Site of Special Scientific Interest, County Wildlife Site, Area of Outstanding Natural Beauty, Tree Preservation Order, etc).

4 Specification B: Field Evaluation

4.1 Examine the area for earthworks e.g. banks, ponds, ditches. If present these are to be recorded in plan at 1:2500, with appropriate sections. A record should be made of the topographic setting of the site (e.g. slope, plateau etc). The Conservation Team of SCC Archaeological Service must be consulted if earthworks are present and before proceeding to the excavation of any trial trenches.

4.2 Trial trenches are to be excavated to cover a minimum 5% by area of the entire site and shall be positioned to sample all parts of the site. Linear trenches are thought to be the most appropriate sampling method. Trenches are to be a minimum of 1.8m wide unless special circumstances can be demonstrated. If excavation is mechanised a toothless 'ditching bucket' at least 1.2m wide must be used. The trench design must be approved by the Conservation Team of the Archaeological Service before field work begins.

4.3 The topsoil may be mechanically removed using an appropriate machine fitted with toothless bucket and other equipment. All machine excavation is to be under the direct control and supervision of an archaeologist. The topsoil should be examined for archaeological material.

4.4 The top of the first archaeological deposit may be cleared by machine, but must then be cleaned off by hand. There is a presumption that excavation of all archaeological deposits will be done by hand unless it can be shown there will not be a loss of evidence by using a machine. The decision as to the proper method of further excavation will be made by the senior project archaeologist with regard to the nature of the deposit.

4.5 In all evaluation excavation there is a presumption of the need to cause the minimum disturbance to the site consistent with adequate evaluation; that significant archaeological features, e.g. solid or bonded structural remains, building slots or post-holes, should be preserved intact even if fills are sampled.

4.6 There must be sufficient excavation to give clear evidence for the period, depth and nature of an archaeological deposit. The depth and nature of colluvial or other masking deposits must be established across the site.

4.7 The contractor shall provide details of the sampling strategies for retrieving artefacts, biological remains (for palaeoenvironmental and palaeoeconomic investigations), and samples of sediments and/or soils (for micromorphological and other pedological/sedimentological analyses. Advice on the appropriateness of the proposed strategies will be sought from P Murphy, English Heritage Regional Adviser for Archaeological Science (East of England). A guide to sampling archaeological deposits (Murphy and Wiltshire 1994) is available.

4.8 Any natural subsoil surface revealed should be hand cleaned and examined for archaeological deposits and artefacts. Sample excavation of any archaeological features revealed may be necessary in order to gauge their date and character.

4.9 Metal detector searches must take place at all stages of the excavation by an experienced detector user.

4.10 All finds will be collected and processed (unless variations in this principle are agreed with the Conservation Team of SCC Archaeological Service during the course of the evaluation).

4.11 Human remains must be left *in situ* except in those cases where damage or desecration are to be expected, or in the event that analysis of the remains is shown to be a requirement of satisfactory evaluation of the site. However, the excavator should be aware of, and comply with, the provisions of Section 25 of the Burial Act 1857.

4.12 Plans of the archaeological features on the site are to be drawn at 1:20 or 1:50, depending on the complexity of the data to be recorded. Sections should be drawn at 1:10 or 1:20 again depending on the complexity to be recorded. Any variations from this must be agreed with the Conservation Team.

4.13 A photographic record of the work is to be made, consisting of both monochrome photographs and colour transparencies.

4.14 Topsoil, subsoil and archaeological deposit to be kept separate during excavation to allow sequential backfilling of excavations.

5. General Management

5.1 A timetable for all stages of the project must be agreed before the first stage of work commences, including monitoring by the Conservation Team of SCC Archaeological Service.

5.2 The composition of the project staff must be detailed and agreed (this is to include any subcontractors).

5.3 A general Health and Safety Policy must be provided, with detailed risk assessment and management strategy for this particular site.

5.4 No initial survey to detect public utility or other services has taken place. The responsibility for this rests with the archaeological contractor.

5.5 The Institute of Field Archaeologists' *Standard and Guidance for Archaeological Desk-based Assessments* and for *Field Evaluations* should be used for additional guidance in the execution of the project and in drawing up the report.

6. Report Requirements

6.1 An archive of all records and finds must be prepared consistent with the principles of English Heritage's *Management of Archaeological Projects*, 1991 (particularly Appendix 3.1 and Appendix 4.1).

6.2 The data recording methods and conventions used must be consistent with, and approved by, the County Sites and Monuments Record.

6.3 The objective account of the archaeological evidence must be clearly distinguished from its archaeological interpretation.

6.4 An opinion as to the necessity for further evaluation and its scope may be given. No further site work should be embarked upon until the primary fieldwork results are assessed and the need for further work is established

6.5 Reports on specific areas of specialist study must include sufficient detail to permit assessment of potential for analysis, including tabulation of data by context, and must include non-technical summaries.

6.6 The Report must include a discussion and an assessment of the archaeological evidence. Its conclusions must include a clear statement of the archaeological potential of the site, and the significance of that potential in the context of the Regional Research Framework (*East Anglian Archaeology*, Occasional Papers 3 & 8, 1997 and 2000).

6.7 Finds must be appropriately conserved and stored in accordance with *UK Institute of Conservators Guidelines*. The finds, as an indissoluble part of the site archive, should be deposited with the County SMR if the landowner can be persuaded to agree to this. If this is not possible for all or any part of the finds archive, then provision must be made for additional recording (e.g. photography, illustration, analysis) as appropriate.

6.8 The site archive is to be deposited with the County SMR within three months of the completion of fieldwork. It will then become publicly accessible.

6. 9 Where positive conclusions are drawn from a project (whether it be evaluation or excavation) a summary report, in the established format, suitable for inclusion in the annual 'Archaeology in Suffolk' section of the *Proceedings of the Suffolk Institute for Archaeology*, must be prepared. It should be included in the project report, or submitted to the Conservation Team, by the end of the calendar year in which the evaluation work takes place, whichever is the sooner.

6.10 County SMR sheets must be completed, as per the county SMR manual, for all sites where archaeological finds and/or features are located.

6.11 At the start of work (immediately before fieldwork commences) an OASIS online record http://ads.ahds.ac.uk/project/oasis/ must be initiated and key fields completed on Details, Location and Creators forms.

6.12 All parts of the OASIS online form must be completed for submission to the SMR. This should include an uploaded .pdf version of the entire report (a paper copy should also be included with the archive).

Specification by: Edward Martin

Suffolk County Council
Archaeological Service Conservation Team
Environment and Transport Department
Shire Hall
Bury St Edmunds
Suffolk IP33 2AR Tel: 01284-352442

This brief and specification remains valid for 12 months from the above date. If work is not carried out in full within that time this document will lapse; the authority should be notified and a revised brief and specification may be issued.

If the work defined by this brief forms a part of a programme of archaeological work required by a Planning Condition, the results must be considered by the Conservation Team of the Archaeological Service of Suffolk County Council, who have the responsibility for advising the appropriate Planning Authority.

Appendix 2 – Context Information

Site	Trench	Context	Feature	Identifier	Type	Function/notes
WGN 034		0001		Finds	N/A	Unstratified finds
WGN 034	All	0002	0002	Layer	Deposit	Topsoil
WGN 034	30	0003	0003	Layer	Deposit	Charcoal rich patch in tree bowl
WGN 034	5	0004	0004	Hollow	Interface	Slight dip in natural hollow
WGN 034	5	0005	0004	Hollow	Fill	Hearth and knapping debris
WGN 034	5	0006	0006	Animal Burrow	Interface	Burrow disturbs hollow 0004
WGN 034	5	0007	0006	Animal Burrow	Fill	Contains remains of creature
WGN 034	27	0008	0008	Pit	Cut	Irregular pit
WGN 034	27	0009	0008	Pit	Fill	
WGN 034	64	0011	0011	Tree bowl	Fill	Burnt out? Contained single flint sherd
WGN 034	100	0014	0014	Pit	Cut	Uneven base of probable machine-dug pit
WGN 034	100	0015	0014	Pit	Fill	
WGN 035		0001		Finds	N/A	Unstratified finds
WGN 035	8	0002	0002	Tree bowl	Interface	
WGN 035	8	0003	0002	Tree bowl	Fill	
WGN 035	8	0004	0002	Tree bowl	Fill	
WGN 035	2	0005	0005	Plough scar	Cut	Modern feature
WGN 035	2	0006	0005	Plough scar	Fill	
WGN 035	28	0007	0007	Pit	Cut	Undated
WGN 035	28	0008	0007	Pit	Fill	
WGN 035	29	0009	0009	Hollow	Interface	
WGN 035	29	0010	0009	Hollow	Fill	Gravel deposits
WGN 035	29	0011	0009	Hollow	Fill	Silt deposits
WGN 035	All	0012		Layer	Deposit	Topsoil
WGN 035	28 ext	0013	0013	Pit	Cut	Undated
WGN 035	28 ext	0014	0013	Pit	fill	