

INDUSTRY AND ENCLOSURE IN THE NEOLITHIC.

A Causewayed Enclosure at Freston, Suffolk. TM 16803795.

Summary

This report concerns the air photographic survey of plough-levelled archaeological features in the vicinity of the Neolithic Causewayed Enclosure at Freston, Suffolk (TM 16803795).

All readily available photography held by RCHME at the NMRC Swindon, the Cambridge University Committee for Aerial Photography (CUCAP) and Suffolk County Council (SFU) were examined in detail and a photogrammetric plan prepared at 1:2500 of all the archaeological features visible.

1. Introduction

The photographic transcription of this site was undertaken from September to October 1995 by the Air Photography Unit of RCHME, as part of the Industry and Enclosure in the Neolithic Project.

The archaeological interpretation and photographic transcription was carried out by Carolyn Dyer, who also wrote this report.

2. The 1:2500 Air Photographic Transcription

2.1 Objectives

The aim of this survey was to interpret and transcribe at 1:2500 scale, all archaeological features showing on the available photography within the survey area. The survey was confined to four fields which lie to either side of the B1080, between Potash Farm and Turkey Farm, immediately south of the village of Freston.

The final objective was to produce an accurate photogrammetric plan of all the plough-levelled archaeological features within the survey area, in the form of an overlay to the OS 1:2500 maps. Target accuracy was +/- 2 m.

2.2. Definitions

For the purposes of the present survey, plough-levelled features are defined as those which have been recorded by aerial photography as differentially coloured or textured marks in bare plough-soil, arable crops, grass or any other form of vegetation.

2.3 Photographic Sources Consulted

During the course of this survey, all the specialist oblique and vertical air

photographs held by the National Monuments Record, Air Photographs (RCHME) were examined. The collections held by the Cambridge University Committee for Aerial Photography (CUCAP) and Suffolk County Council (SFU) were also consulted and relevant photographs examined.

It was not possible to carry out an exhaustive search for further photography which may be held by commercial air survey companies or private individuals.

The quality of the photography consulted was generally fair. The cropmarks of the north-east sector were the most sharp, however control was rather poor and it was necessary to use carry-over control points between photographs, using telegraph poles. The south-east section showed as a reasonably good cropmark on many photographs taken over several years, however, it sits to the north end of a large field and consequently control was again poor and carry-over control had to be used.

Control for the other two sections of the enclosure was good, however the quality of the cropmarks varied considerably. The south-west section was only visible on CUCAP photographs taken in 1976 and even then, they were not particularly sharp. The north-west sector showed as reasonably good cropmarks on several years photography, but this whole area is criss crossed by geological features, obscuring and confusing the archaeology.

Appendix one

This consists of a listing of the air photographs consulted, giving accession number, date flown and repository information.

2.4 Survey Methods and Techniques

Due to the need for accuracy, it was decided to produce plots of the various archaeological features using computer-aided rectification. This was achieved through the use of the AERIAL software published by the University of Bradford which uses plane transformation techniques offering metrical precision in the region of ± 0.2 m at 1:2500.

Field control was derived from current edition O.S 1:2500 plans (TM1637-1237 and TM1638-1738). Carry over control using telegraph poles, from previously digitised photographs was also used.

The residual errors recorded during the rectification of the archaeological features were not greater than ± 1.8 metres and generally below ± 1.5 metres. Where archaeological features were plotted from more than one photograph, correlation was in most cases good, indicating that features were located within 2 metres of their true ground position.

During the course of the survey, eight separate photogrammetric plots were prepared all of which were incorporated into the final drawing.

Appendix two.

This consists of a listing of the digital files created during the course of the survey, giving file name, maximum residual error and digitised photograph reference number.

2.5. Cartographic Presentation

At the time of plotting, the format of the final published plans had not been decided. No topographical detail, including field boundaries, has therefore been included in the pencil drawings.

Solid lines:	Ditches or negative features.
Stipple:	Indistinct negative features.
Chain lines:	Edge of deeper soils.

3. Physical Landscape

3.1. Location and Topography

The Freston causewayed enclosure lies in the Suffolk parish of Freston, immediately north of its boundary with Holbrook. 2km to the north east lies the southern bank of the Orwell estuary and 4km to the south, the estuarine Holbrook Bay and River Stour. The enclosure sits on slightly higher ground and overlooks these river estuaries.

The topography in the immediate vicinity of the enclosure, is fairly flat, with two slight linear depressions relating to stream valleys, one at Latimer Cottages and one just to the north of Turkey Farm. The streams themselves are not marked on the OS plans but 1.3km to the south east, the presence of a complex of fish ponds at Holbrook Gardens indicates their existence. The location of these stream channels is clear from the photographs, each being filled with thicker alluvial deposits which show as a dark crop-mark that obscures the archaeology. (BX1 39-40 & K17 AL 116)

3.2. Geology and Soils

The underlying geology of this area is the reddish, brownish Pliocene sands known as the Red Crag, which is overlain by Pleistocene sands and gravels.

There are two predominant soil types in the area, (information from the 1:250,000 Soil Map of England and Wales, published by the Soil Survey of England and Wales). The enclosure lies on a stoneless, coarse loamy soil (type 582e [TENDRING]), whilst to the north and south, well drained, loamy-sandy soils predominate (type 571x [Ludford]). Both are deep soils suitable for cereal cultivation and horticultural crops.

4. Previous Work

4.1. Aerial Photography

The earliest aerial photographs of the area are verticals taken by the RAF in 1944, at this time, no sign of the enclosure was visible, neither as a cropmark, nor and earthwork. The earliest photographs of the enclosure itself are Ordnance Survey verticals taken in July 1966. In these, the northern arc of the enclosure is clearly visible and parts of the north eastern sector are faintly visible.

The site is generally accepted as being discovered in 1969 during an aerial reconnaissance flight by St Joseph when the site was first intentionally recorded by photography. As with the OS verticals, in these images, only the northern arc is visible. The site was re flown by CUCAP throughout the 1970's, the best crop-marks being visible in 1976. The enclosure was included in D Wilsons article on causewayed enclosures, published in 1975.

RCHME undertook aerial reconnaissance of the area throughout the late 70's, the results of which especially show the south eastern sector in greater detail.

4.2. Field Work

Very little field investigation of this site has taken place since its discovery and none appears to have been published. The site is currently scheduled (SAM number 183) and the discovery of a sparse scatter of possible pot boilers and struck flint is documented in the scheduling information. The flints are said to include a few cores and scrapers as well a barbed and tanged arrowhead from approximately TM 16823777. A scatter of flint work was recovered from the area of the outer circuit by Sylvia Laverton of Freston in the winter of 1979-80, but the current whereabouts of the collection is uncertain. They are thought to be held in either Bury or Ipswich Museum. (Source: Suffolk SMR Record number 08555)

5. The Archaeology

5.1. The Causewayed Enclosure

The enclosure is irregular in shape, combining both curvilinear and rectilinear elements. Overall, it is asymmetric and can best be described as a five sided polygon, with irregular sides varying from concave to convex with wide curved corners. Its maximum, internal, dimensions are 300m by 290m, the inner ditch enclosing an area of approximately 8.5 hectares.

The enclosure is broken in five places along its circuit. At TM 16913807, it is cut by the B1080 and at TM 16773777, a 100m segment is obscured by the building complex of Potash Farm. The ditches are obscured in three other areas (TM 16663792, TM 16663800 and TM 16943790) all of which are due to the presence of tongues of deeper soils which overlie the

archaeological features and relate to the stream channels described in section 3.1..

The enclosure comprises two concentric interrupted ditch circuits. The gap between the two is fairly uniform, varying from 8m to 17m but generally being 10m to 12m. They closely follow the same irregular circuit and are cut at irregular intervals by narrow causeways, between 2m and 8m wide. Not all, but many of the causeways in the inner and outer circuits coincide and this close correspondence in general lay out implies that these two circuits were laid out together. At several points along the circuit, faint cropmarks of a continuous narrow ditch can be seen between the two main ditches. This is likely to represent a palisade trench.

The cropmarks show that this area is crossed by several geological and periglacial features in the form of wide, irregular ditches which cut through the enclosure. However, few internal features of archaeological significance are visible on the photographs. A light speckling does occur across the site which may relate to pit features, however, these extend across a wide area outside the enclosure and are therefore likely to be of geomorphological origin.

The only internal archaeological feature of probable contemporary date is located in the far north east corner of the enclosure, 6m from the inner ditch. It is a rectangular enclosure 38m by 10m in size, its two long sides being defined by pits. Individual pits cannot be made out along the two short sides, the cropmarks showing as a continuous dark line. This may indicate the presence of a ditch, or may represent a series of pits, which are so closely spaced that they have merged together.

The enclosure is orientated ENE-WSW appears to have internal, ditch defined divisions at its eastern end. To the west it is cut by a short pit alignment. The size, shape and construction of this enclosure, suggests that it is a timber long hall.

5.2. Other Archaeological Features

Several other archaeological features can be seen in the vicinity of the enclosure, although none appear to be contemporary with it and have therefore not been included on the final plot. As has already been mentioned a number of linear features criss-cross the whole area and these are interpreted as periglacial frost cracking.

In the fields to the west and north east of the enclosure, a more regular system of ditches can be seen, which are clearly field boundaries relating to an extensive field system. Some of these boundaries are clearly recent in date, possibly Post Medieval, however, the majority are likely to be much earlier, possibly Romano-British. The system includes a number of double ditched trackways. One runs approximately north-south between TM 16403777 and TM 16453831 and a second, from TM 16743863 travels in a WNW-ESE direction where it branches, crosses other trackways and forms an integral part of an extensive system of fields and enclosures.

A double concentric circular enclosure, approximately 26m across, lies at TM 17283839 and a smaller sub-circular, single ditched enclosure, approximately 8m across, lies at TM 17423837.

140m to the south west of the causewayed enclosure lies a four sided, rectilinear enclosure which may best be described as sub-square. It is approximately 40m across with two possible entrances, one mid-way along its eastern side and the second facing south, close to the south-eastern corner. Its orientation and close proximity to the previously described field system indicates contemporaneity.

6. Conclusions

The aerial photographs of this area clearly show the presence of multi-ditched causewayed enclosure with an internal feature, possibly a timber long hall. Thick drift deposits obscure parts of the south, east and west sectors of the enclosure, however, these deposits may have had the effect of protecting the underlying archaeology and survival may be high in these areas.

In many cases, causewayed enclosure are known to be associated with other contemporary monuments such as henges and cursuses, but there are no known sites of a similar date in the immediate area of the Freston enclosure. Field work in the area has produced a number of Neolithic artifacts however, which may indicate the presence of a settlement or flint working site.

The enclosure is a good example of Palmers double ditched, closely spaced variety of enclosure, of which there are several examples across the country. It shows a number of similarities with the outer two ditches of the Orsett enclosure which has a similar ditch spacing and causeway length and is also one of the few examples to have evidence for a palisade trench. In the Orsett example, however, the palisade trench is located inside the second ditch rather than between ditches.

Appendix one

OBLIQUE PHOTOGRAPHS CONSULTED

NGR Index number	Accession number	Frame	Repository	Date flown	NGR
TM1637/2	RHF 11499	174	NMR	25-JUL-77	TM168379
TM1637/4	SFU 11590	10	SFU	01-JUL-77	TM165377
TM1637/5	RHF 11499	174	NMR	25-JUL-77	TM168379
TM1637/6	RHF 11489	166	NMR	15-JUL-77	TM167377
TM1637/7	SFU 11597	2	SFU	26-JUL-78	TM169378
TM1637/8	SFU 11597	3	SFU	26-JUL-78	TM169378
TM1637/9	SFU 11575	2	SFU	03-JUL-78	TM166376
TM1637/10	SFU 11575	3	SFU	03-JUL-78	TM166376
TM1637/11	SFU 11575	4	SFU	03-JUL-78	TM164378
TM1637/12	SFU 11549	19	SFU	23-JUL-75	TM165377
TM1637/13	RHF 11483	206	RHF	27-JUL-79	TM168379
TM1637/14	NMR 1659	357-368	NMR	13-JUL-79	TM168379
TM1637/15	NMR 1659	385	NMR	13-JUL-79	TM168376
TM1637/17	NMR 1832	418	NMR	31-JUL-80	TM169379
TM1637/27	NMR 1832	419	NMR	31-JUL-80	TM169379
TM1637/28	NMR 1832	420	NMR	31-JUL-80	TM169379
TM1637/29	NMR 1832	421	NMR	31-JUL-80	TM169379
TM1637/30	NMR 1832	422	NMR	31-JUL-80	TM169379
TM1637/31	NMR 1832	423	NMR	31-JUL-80	TM169379
TM1638/3	SFU 11560	GC/11	SFU	01-JUL-77	TM168381
TM1638/5	RHF 11489	166	NMR	15-JUL-77	TM164380
TM1638/7	RHF 11483	206	RHF	27-JUL-79	TM164380
TM1638/8	NMR 1659	369-384	NMR	13-JUL-79	TM169380
TM1638/10	NMR 1671	315-316	NMR	06-AUG-79	TM169380
TM1638/11	NMR 10717	75-77	NMR	13-JUL-79	TM167383
TM1737/11	NMR 1671	297-298	NMR	06-AUG-79	TM170379
TM1737/12	NMR 1671	299-300	NMR	06-AUG-79	TM171379
TM1737/13	NMR 1671	301-302	NMR	06-AUG-79	TM170378
TM1737/21	NMR 4579	31	NMR	30-MAY-90	TM171379
TM1738/6	SFU 11565	GJ/17	SFU	21-JUL-77	TM170380
TM1738/8	SFU 11570	GM/15	SFU	04-AUG-77	TM170381
TM1738/9	SFU 11570	GM/16	SFU	04-AUG-77	TM170381
TM1738/11	SFU 11570	GM/23	SFU	04/AUG-77	TM171380
TM1738/14	SFU 11585	10	SFU	26-JUL-79	TM170381
TM1738/15	SFU 11585	11	SFU	26-JUL-79	TM170381
TM1738/20	NMR 1671	303-310	NMR	06-AUG-79	TM171381
TM1738/23	NMR 4579	32	NMR	30-MAY-90	TM172381

SUFFOLK COUNTY COUNCIL PRINTS CONSULTED

Code	Frames	Date Flown
AGC	8-10	01-JUL-77
AGJ	18	21-JUL-77

VERTICAL PHOTOGRAPHS CONSULTED

Film number	Date flown	Scale	Repository	Frames	Library number
106G/UK/1635	09-JUL-46	10000	MOD	2028-9	423
106G/UK/1707	29-AUG-46	10250	MOD	3331-2	459
106G/UK/1707	29-AUG-46	10250	MOD	4364	459
CPE/UK/1937	18-JAN-47	10000	MOD	1229-31	566
CPE/UK/1937	18-JAN-47	10000	MOD	2260-1	566
CPE/UK/1937	18-JAN-47	10000	MOD	5259-60	566
58/5506	04-OCT-62	11000	MOD	185-6	2112
543/1879	25-SEP-62	10000	MOD	175-6	2113
58/699	31-MAY-51	7900	MOD	5071-3	3399
MAL/65097	06-NOV-65	12000	NMR	18-9	4167
106G/LA17	28-MAY-44	10300	MOD	4138-9	8308
106G/LA27	05-AUG-44	11000	MOD	3001	8313
OS/66189	23-JUL-66	7500	NMR	149-50	11657
HLA/686	02-MAR-44	10500	NMR	3159-62	8588A
HLA/692	15-MAR-44	10750	FDM	4002-3	8599
HLA/692	15-MAR-44	10750	FDM	4020-21	8599

CAMBRIDGE UNIVERSITY COMMITTEE FOR AERIAL PHOTOGRAPHY

PRINTS CONSULTED

Code	Frames	Date Flown
AXP	69-72	10/06/69
BX1	39-41	15/06/76
BXY	25-31	23/06/76
BYC	30-32, 36-37	24/06/76
CCR	79 & 81	13/07/77
CGZ	8	27/07/78
CME	78-81	18/06/80
CRF	108	
K17 AL	114-116	23/06/76

Appendix two

DIGITAL FILES

Digital file name	Digitised photograph	Maximum residual error
FRESTON1.DIG	K17 AL/116	1.8 m
FRESTON2.DIG	TM1738/14	1.1 m
FRESTON3.DIG	TM1637/2	1.7 m
FRESTON4.DIG	BXY 28	0.9 m
FRESTON5.DIG	BXI 40	0.6 m
FRESTON6.DIG	BXY 25	1.1 m
FRESTON8.DIG	BYC 37	0.9 m
FRESTON9.DIG	AXP 71	1.8 m

BIBLIOGRAPHY

- Palmer, R 1976. 'Interrupted Ditch Enclosures in Britain: the use of Aerial Photography for Comparative Studies'. Proc Prehist Soc **42**, 161-186
- Wilson, D R 1975 ''Causewayed camps' and 'interrupted ditch systems''. Antiquity **49**, 178-186

FRESTON - SUFFOLK.

TM 165382



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