Suffolk County Council

ARCHAEOLOGICAL EVALUATION REPORT

SCCAS REPORT No. 2010/100

Cedars Park, Stowmarket to Baylham pumping station, Anglian Water pipeline (Phase 1)

CRP 009
CRP 010

Kieron Heard

www.suffolk.gov.uk/environment/archaeology

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HER Information

Planning Application:	**n/a**
Dates of Fieldwork:	**Field walking 15–19 December 2006** **Monitoring August – September 2007**
Grid Reference:	**TM 0654 5812 – TM 0931 5582**
Funding Body:	**Anglian Water plc**
Curatorial Officer:	**Jess Tipper**
Project Officers:	**Rob Atfield, Kieron Heard & Mark Sommers (fieldwork)** **Kieron Heard (reporting)**
Oasis Reference:	**suffolkc1-36016**
	Digital report submitted to Archaeological Data Service: http://ads.ahds.ac.uk/catalogue/library/greylit

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Summary

CRP 009 & CRP 010, Cedars Park, Stowmarket to Baylham pumping station, Anglian Water pipeline (phase 1): A field-walking survey and subsequent archaeological monitoring of ground work was carried out in relation to the construction of a new water main.

The field walking produced occasional isolated and widely dispersed finds of prehistoric pottery and worked flints and some fragments of medieval pottery. The monitoring of ground work revealed a 19th-century field boundary ditch but had no significant results.

In the light of these limited results a recommendation is made that no further analysis or publication of the results of the archaeological investigation are required. This evaluation report should be disseminated *via* the OASIS online archaeological database.

1. Introduction

A program of archaeological investigation was carried out along the route of a new water main between Cedars Park, Stowmarket and the Baylham pumping station, over a distance of approximately 9km. The construction of the water main took place in two phases, and the archaeological response was tailored accordingly.

Phase 1 of construction (the north-western section of the pipeline) took place in 2007 and extended over a distance of approximately 4km from Cedars Park, Stowmarket (TM 0654 5812) to Creeting St Mary (TM 0931 5582). The archaeological response to this phase of construction (field walking and monitoring of ground work) is described in this report. Phase 2 of construction (the south-eastern section of the pipeline) occurred in 2008 and ran for approximately 5km from Creeting St Mary (TM 0931 5582) to the Baylham pumping station (TM 1169 5210). The archaeological fieldwork associated with the second phase of construction (field walking, evaluation and excavation, supplemented by geophysical and palaeo-environmental surveys) is described in a separate report (Heard, forthcoming).

The archaeological investigation of Phase 1 of the pipeline route was generally given the Historic Environment Record (HER) number CRP 009. A single find of prehistoric pottery from the field-walking element of the investigation (see below) was considered significant enough be given its own HER number CRP 010.

2. Location, geology and topography

Phase 1 of the pipeline ran approximately northwest–southeast along the south side of the A14 corridor, on the upper eastern slopes of the River Gipping valley (Fig. 1). It was located mainly in Creeting St Peter parish, passing into Creeting St Mary near the southeast end of the route.

The published Quaternary geology for most of the Phase 1 route is glacial till (boulder clay). Towards the southeast end of the route (from the point where the pipeline crossed a tributary of the River Gipping and entered Creeting St Mary parish) the till is overlaid by glacial sand and gravel (British Geological Survey, East Anglia, Sheet 52N 00,

Quaternary). Soil types vary according to the nature of the underlying drift geology. Deep clay soils of the Hanslope series overlie the till, while alluvium or calcareous and loamy soils of the Swaffham Prior series overlie the sand and gravel.

The northwest and central parts of the route crossed an undulating plateau at an average height of 45m AOD. Ground level descended gradually towards the crossing of the tributary stream and was at a minimum height of 25m AOD at the southeast end of the route.

The Phase 1 route was located in an area of Rolling Valley Farmlands and Furze, as defined in Suffolk County Council's *Suffolk Landscape Character Assessment* (www.suffolklandscape.org.uk). The key characteristics of this landscape type are as follows:

- Valleys with prominent river terraces of sandy soil.
- Small areas of gorse heath land in a clay land setting.
- Straight boundaries associated with late enclosure.
- Co- axial field systems.
- Mixed hedgerows of hawthorn, dogwood and blackthorn with oak, ash and field maple.
- Fragmentary cover of woodland.
- Sand and gravel extraction.

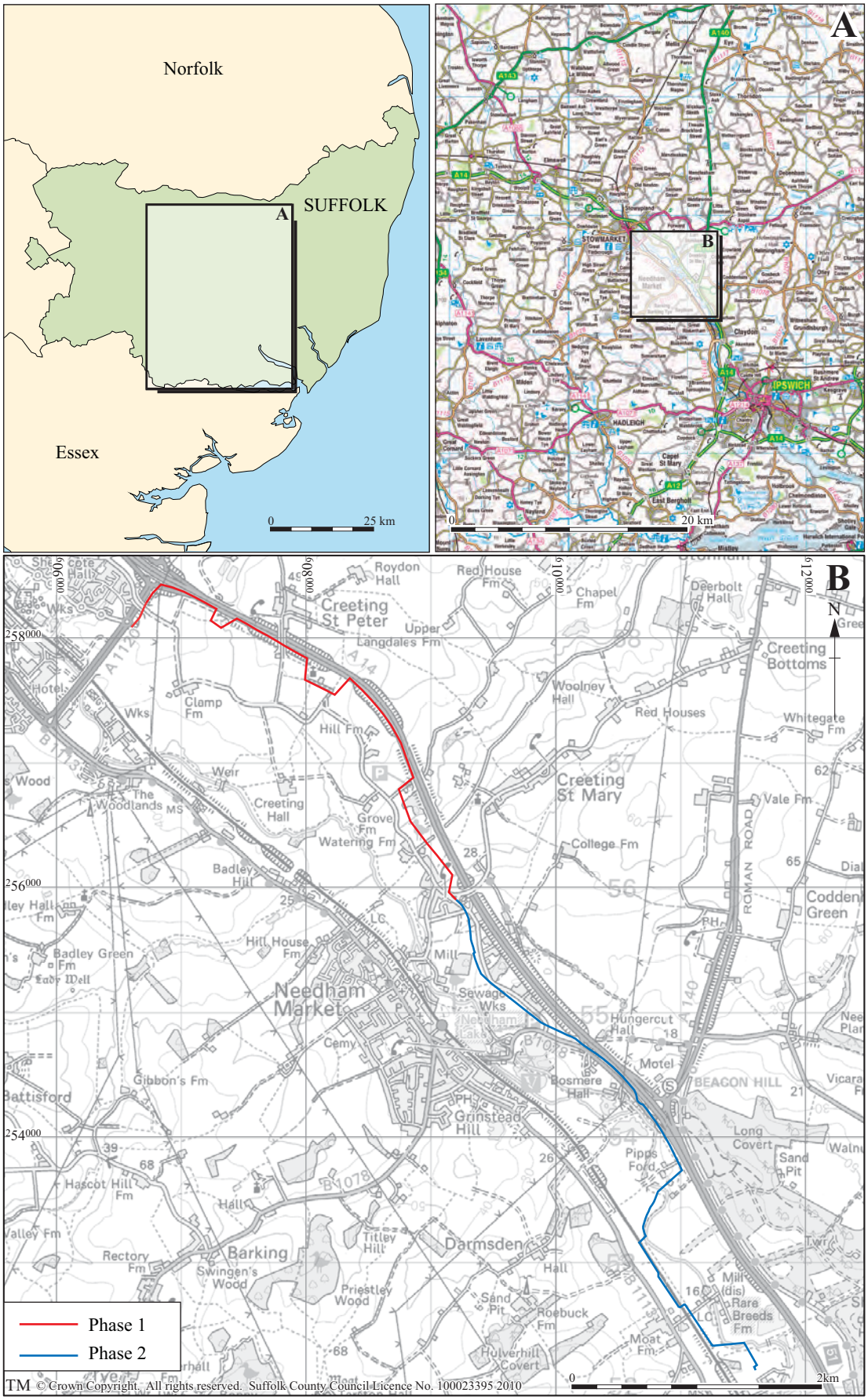

Figure 1. Location map showing the pipeline route (phases 1 and 2)

3. Archaeological background

The archaeological background to the project was described in detail in a desk-top assessment compiled prior to the fieldwork (Rolfe, 2006) and the following summary is drawn largely from that earlier work, supplemented by the results of a re-assessment of aerial photographic evidence undertaken as part of the archaeological evaluation of the Phase 1 route (Palmer, 2007; Appendix 3) .

There has been little archaeological fieldwork in the area of the Phase 1 route. Some isolated finds have come to light in the course of metal detecting or field-walking surveys and a number of sites are known from the evidence of aerial photographs.

Nineteen possible Mesolithic flints were found during field walking on a site (CRP 007) to the west of Creeting St Peter church, and a Neolithic flint chisel, probably re-chipped from a polished axe, was found at St Mary's Gardens (CRM 015). Isolated finds of Roman metalwork and pottery have been made on a number of widely dispersed sites (CRM 028, CRM 030 & CRM 031). The church of Creeting St Peter (CRP 004) was recorded in the Domesday Book and therefore has Anglo-Saxon origins, and medieval artefacts have been recovered in small numbers by metal-detectorists (for example, two farthings of Edward I from CRM 030).

Crop marks of ring ditches (possibly Bronze Age funerary monuments) are known at several locations close to the pipeline route, including CRP 002, CRP 003, CRP 008, and CRM 014. Notably, a pair of closely-spaced ring ditches has been identified at Raven Farm (CRM 012). The crop mark of a sub-rectangular enclosure is recorded at Grove Farm (CRP 005).

4. Methodology

4.1 Introduction

The archaeological investigation of the Phase 1 pipeline route had two elements. The first was a non-intrusive evaluation that included a field-walking survey and the re-assessment of aerial photographic evidence; this was carried out prior to the construction of the pipeline. The evaluation was followed by an archaeological

monitoring of ground work during the construction of the pipeline. Both elements of fieldwork were conducted in accordance with Brief and Specification documents by Jess Tipper of SCCAS Conservation team (Tipper, 2006 & 2007; Appendices 1 & 2), and Written Schemes of Investigation by Kieron Heard and John Newman of SCCAS Field Team (Heard, 2007; Newman, 2006).

4.2 Field-walking survey

The field-walking survey was carried out within a 100m wide corridor along the proposed pipeline route; where possible the pipeline route was central within this corridor. Transects were walked perpendicular to the pipeline at approximately 20m intervals. In areas where the pipeline route was central within the field-walking corridor each transect was divided into two 50m-long finds collection units; otherwise the 100m long transects were treated as single finds collection units (Fig. 2). Note that the route of the pipeline shown on Figure 2 was as proposed at the time that the field walking took place. Minor modifications to the route were made subsequently, although the pipeline remained within the field-walked corridor. Transects were numbered sequentially from the northwest end of the pipeline route and finds bags were labelled accordingly. The finds bags were also marked with the Ordnance Survey grid reference of the centre of the transect.

Some parts of the pipeline route, particularly at its southeast end, crossed areas of pasture and fields of crops that could not be field-walked effectively. These areas are labelled on Figure 2.

All surface finds of pre-16th-century date were collected on each transect within a 1m wide strip. Later (post-medieval) finds, particularly building materials, were sampled more sparingly.

4.3 Monitoring

Following the topsoil stripping of the 10m wide easement for the pipeline (by the main building contractors), and prior to the excavation of the pipe trench, exposed surfaces were examined for archaeologically significant deposits or features. Where possible, the excavated pipe trench (generally 0.40m wide and up to 1m deep), was observed also.

It should be noted that the topsoil stripping was not carried out under archaeological supervision and consequently was generally not deep enough to fully expose levels of potential archaeological significance.

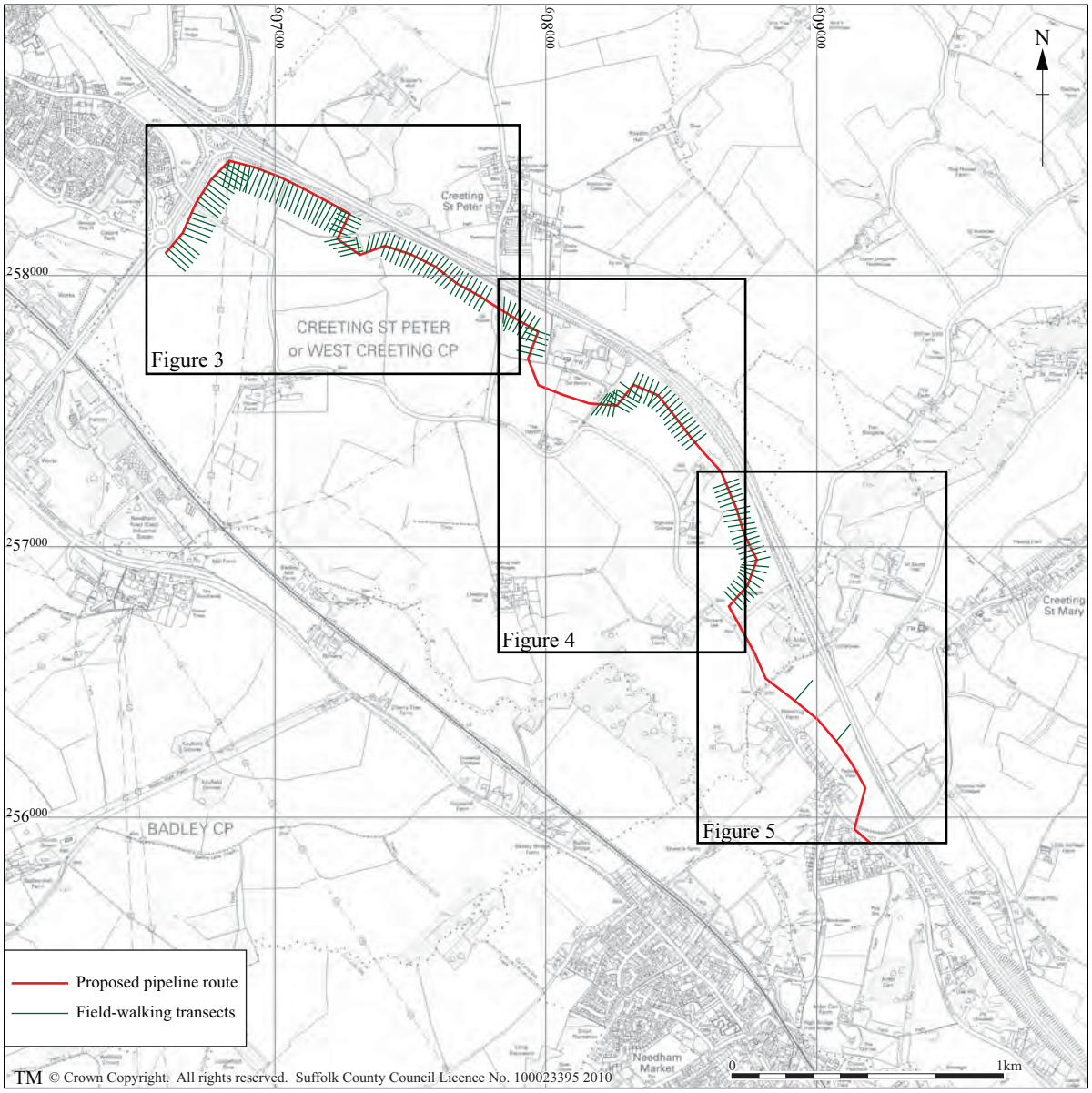

Figure 2. Plan locating the field-walking transects and detailed Figures 3-5

5. Results

5.1 Field-walking survey

The field walking produced a small assemblage of finds, notably two sherds of later Iron Age pottery (transects 0032 & 0062; CRP 009), a Bronze Age pottery sherd (transect 0105; CRP 010) and seven prehistoric worked flints (transects 0010, 0038, 0055, 0078, 0128, 0151 & 0224). The remaining finds include medieval and post-medieval pottery and other post-medieval artefacts, mostly ceramic building material. No significant concentrations of finds were identified. Table 1 indicates which transects produced finds, and those transects are located on Figure 2. The finds are described in Section 6 of this report.

Transect	Map reference	Ground conditions	Weather	Date
0010	TM 0663 5804	Light cereal growth	Bright	15/12/2006
0013	TM 0667 5809	Light cereal growth	Bright	15/12/2006
0016	TM 0672 5815	Light cereal growth	Bright	15/12/2006
0018	TM 0673 5819	Light cereal growth	Bright	15/12/2006
0019	TM 0671 5822	Light cereal growth	Bright	15/12/2006
0029	TM 0686 5838	Light cereal growth	Bright	15/12/2006
0031	TM 0683 5836	Light cereal growth	Heavy cloud	15/12/2006
0032	TM 0685 5836	Light cereal growth	Heavy cloud	15/12/2006
0038	TM 0696 5833	Light cereal growth	Heavy cloud	15/12/2006
0044	TM 0706 5828	Light cereal growth	Poor light	15/12/2006
0055	TM 0725 5823	Light cereal crop / frost	Bright sun	18/12/2006
0060	TM 0728 5818	Light cereal crop / frost	Bright sun	18/12/2006
0062	TM 0727 5816	Light cereal crop / frost	Bright sun	18/12/2006
0068	TM 0721 5811	Obscured by oil seed rape	Bright sun	18/12/2006
0078	TM 0737 5813	Ploughed / weathered	Bright sun	18/12/2006
0086	TM 0747 5811	Ploughed / weathered	Bright sun	18/12/2006
0087	TM 0745 5806	Ploughed / weathered	Bright sun	18/12/2006
0103	TM 0759 5800	Ploughed / weathered	Bright sun	18/12/2006
0107	TM 0762 5797	Ploughed / weathered	Bright sun	18/12/2006
0108	TM 0767 5800	Ploughed / weathered	Bright sun	18/12/2006
0111	TM 0765 5794	Ploughed / weathered	Bright sun	18/12/2006
0122	TM 0778 5793	Ploughed / weathered	Bright sun	18/12/2006
0128	TM 0788 5787	Ploughed / weathered	Bright sun	18/12/2006
0130	TM 0789 5786	Ploughed / weathered	Bright sun	18/12/2006
0151	TM 0818 5750	Poor visibility / stubble	Bright sun	19/12/2006
0216	TM 0873 5712	Harrowed / weathered	Bright sun	19/12/2006
0224	TM 0875 5704	Harrowed / weathered	Bright sun	19/12/2006
0241	TM 0873 5690	Harrowed / weathered	Bright sun	19/12/2006
0243	TM 0872 5689	Harrowed / weathered	Bright sun	19/12/2006
0254	TM 0895 5646	Very poor visibility / stubble	Light cloud	19/12/2006

Table 1. List of field-walking transects that produced finds

5.2 Monitoring

Generally the topsoil stripping of the pipeline easement was insufficient to adequately expose levels of potential archaeological significance. Consequently the results of the monitoring were limited to the identification of a single feature – a ditch to the south of the rectory next to Creeting St Peter church (Fig. 6). The ditch was oriented at a right

angle to the line of the easement. It was 1.5m wide and filled with loamy soil similar to the current topsoil. The ditch coincided with a field boundary shown on the First Edition Ordnance Survey map of *c.* 1880.

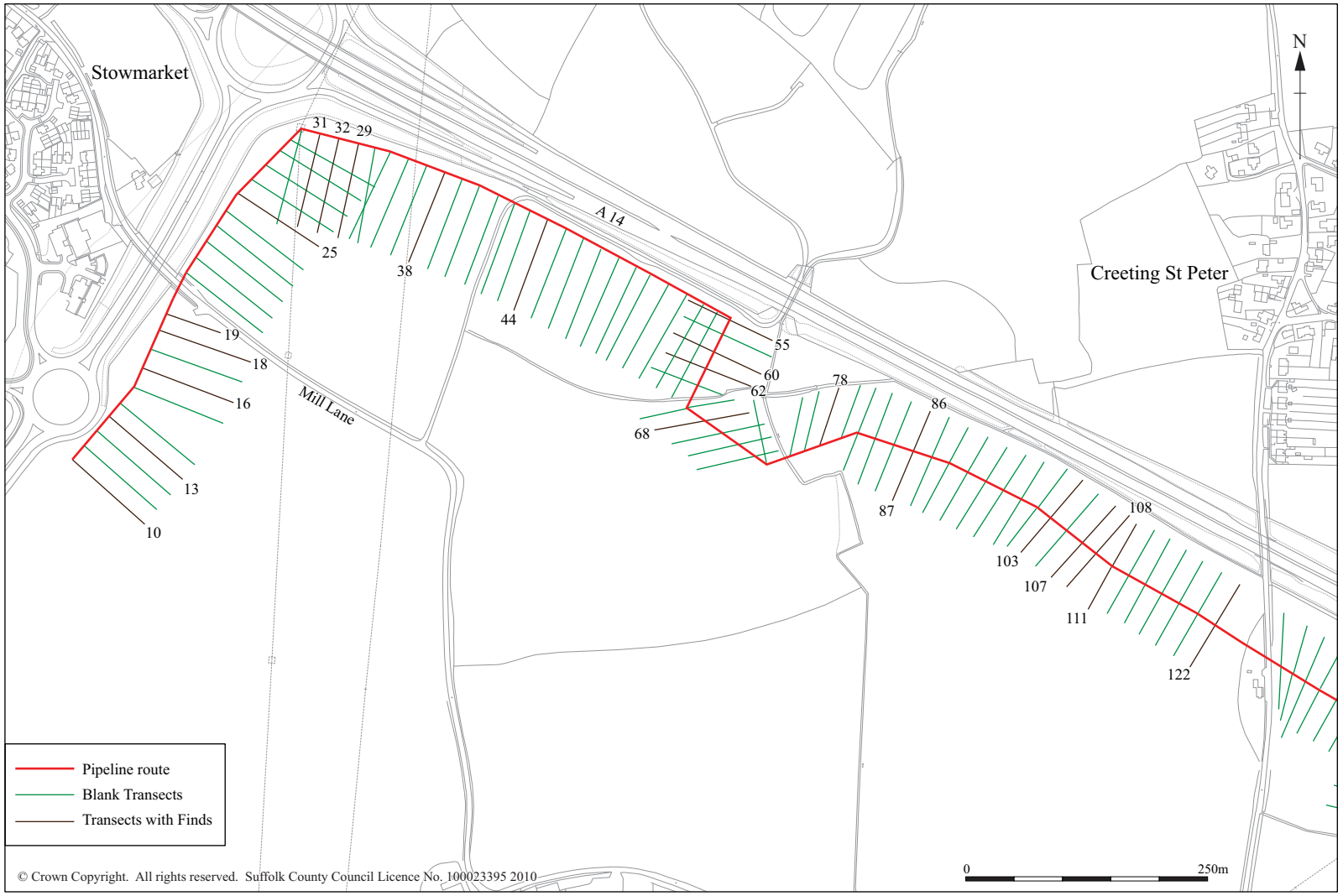

Figure 3. Field-walking transects, northern zone

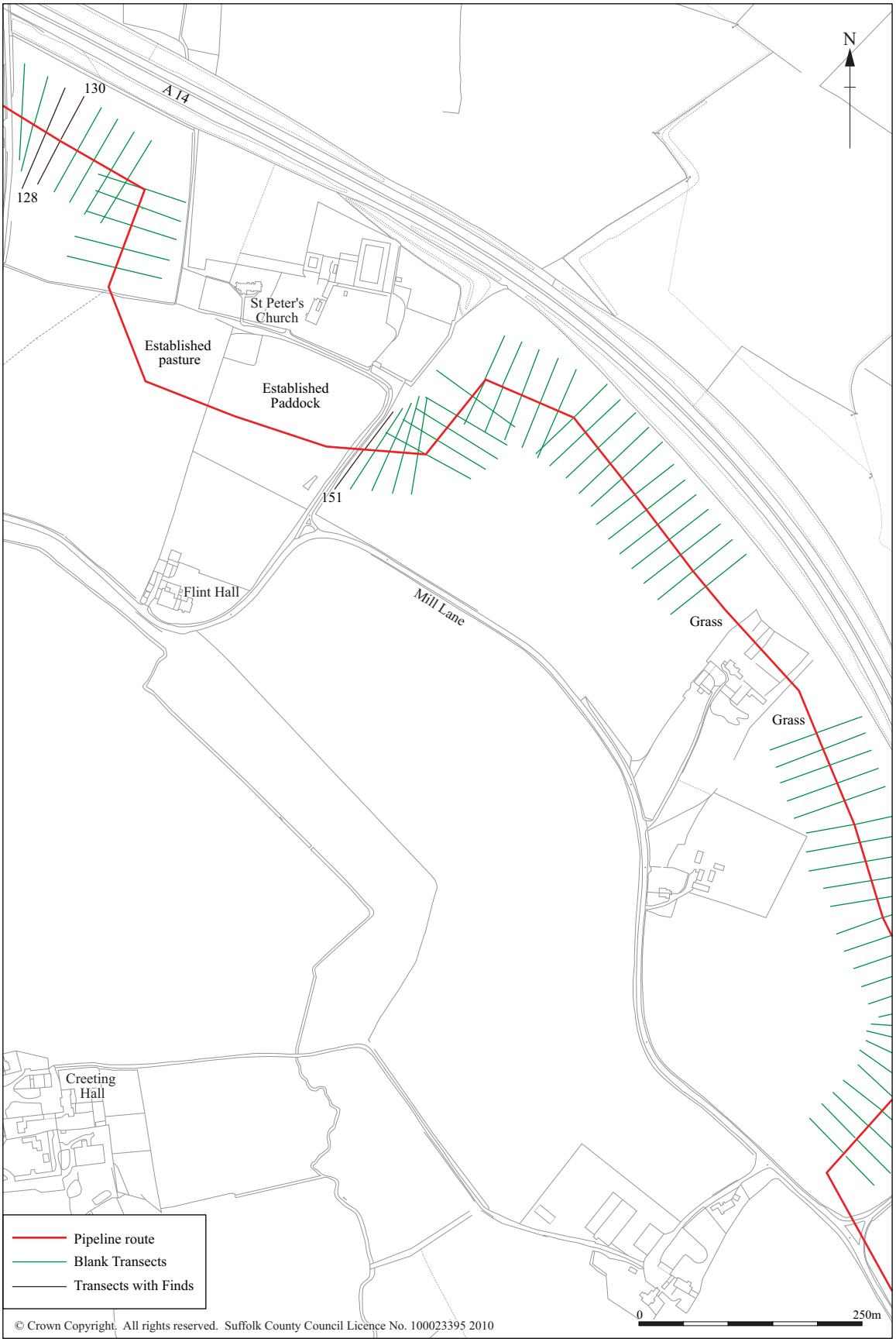

Figure 4. Field-walking transects, central zone

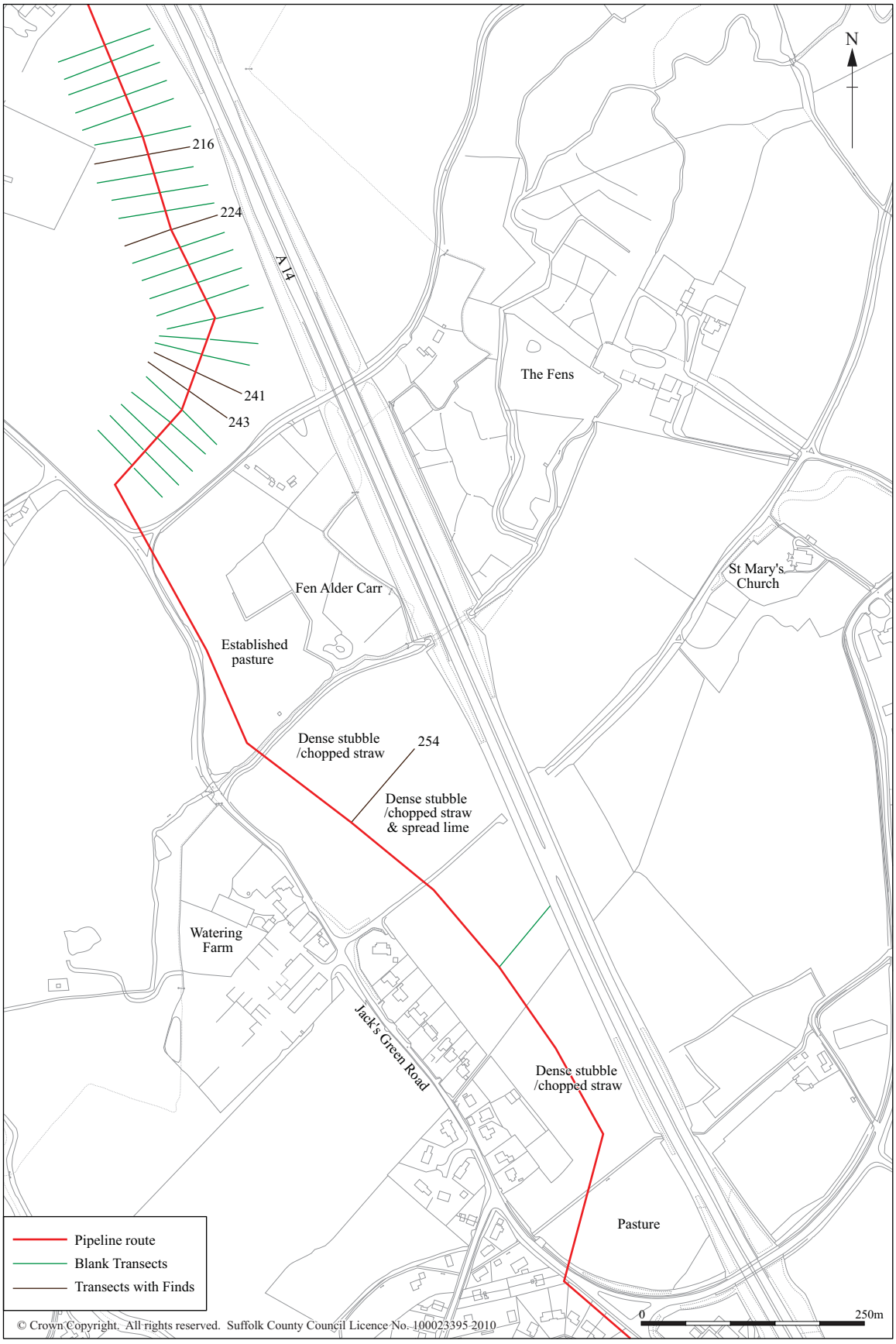

Figure 5. Field-walking transects, southern zone

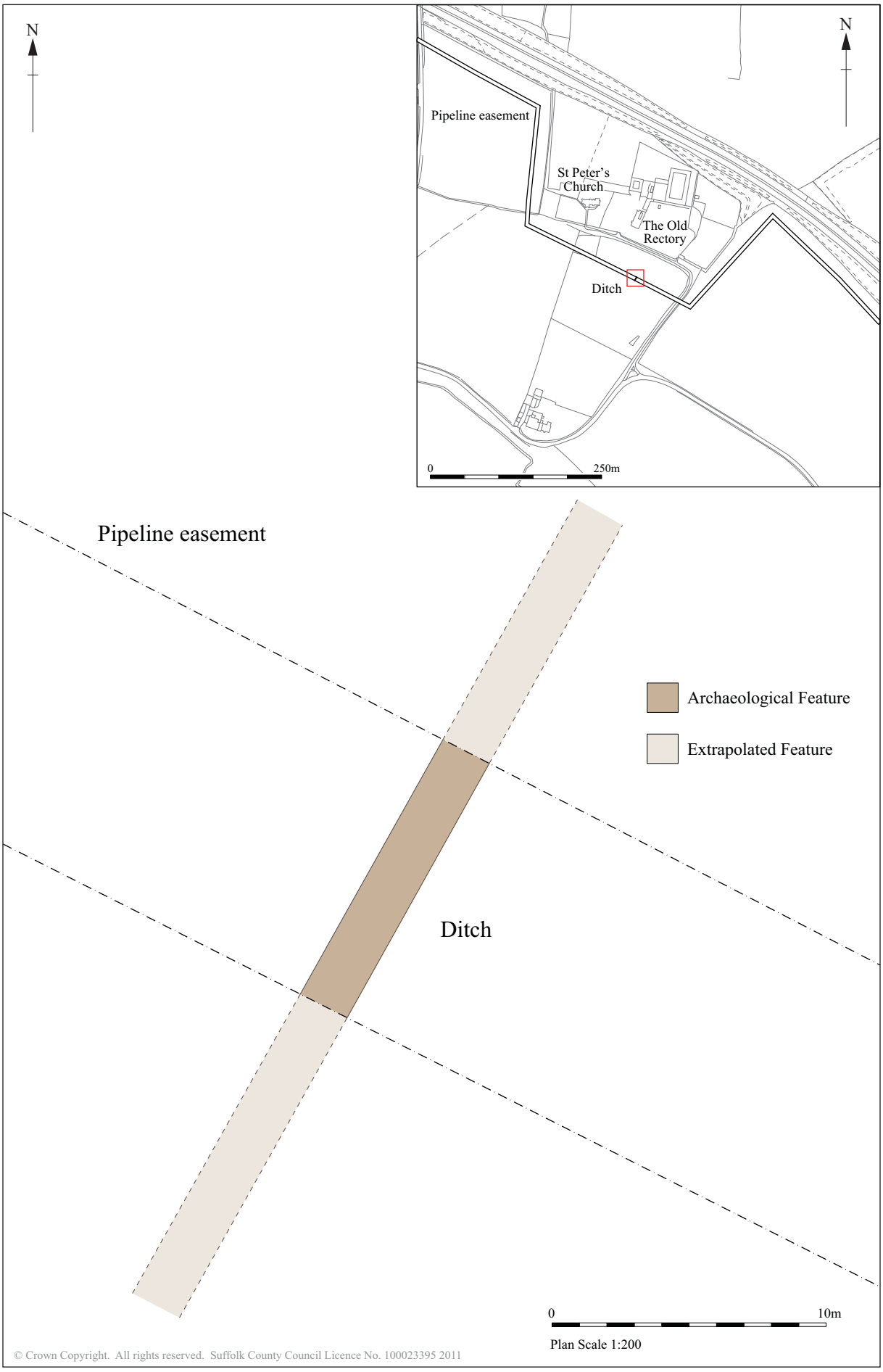

Figure 6. Plan locating the 19th-century ditch found during the monitoring

6. Finds evidence

Richenda Goffin

6.1 Introduction

Finds were recovered from thirty field-walking transects. No finds were recovered during the subsequent monitoring of topsoil stripping of the pipeline easement. Table 1 shows the quantities of finds collected during the field-walking survey. A full quantification by context is included as Appendix 4.

Find type	No.	Wt/g
Pottery	21	155
CBM	16	454
Clay pipe	2	3
Worked flint	7	595
Burnt flint / stone	2	43
Slag	2	16
Iron	1	113

Table 2. Finds quantities

Nearly all the finds were assigned to one site code in the parish of Creeting St Peter (CRP 009), but a single large fragment of pottery of prehistoric date was considered significant enough to merit a separate site code (CRP 010).

6.2 The finds

6.2.1 Pottery

Methodology

The pottery was counted and weighed and the size and condition of individual sherds was recorded. The ceramics were catalogued by fabric and form, and date ranges for fabric types were given.

Prehistoric pottery

A small, abraded fragment of a hand-made sandy ware from transect 0032 is likely to date to the later Iron Age (Cathy Tester, *pers. comm.*). A similar, slightly larger sherd of the same date was also recovered (transect 0062), but the fragments were found some distance from each other (approximately 500m). The size and condition of the sherds indicate that they may have been considerably redeposited.

A large thick-walled sherd of Bronze Age date was collected in transect 0105 (CRP 010). The fabric contains sparse angular flint inclusions up to 3mm in length and occasional grog inclusions. The fragment is very abraded, particularly on the inner surface. The sherd was found in the same transect as a fragment of medieval pottery.

Post-Roman pottery

A total of seven fragments of pottery are medieval (22g). All are small and mainly abraded body sherds of medieval coarsewares (late 12th–14th century). A fragment of Hollesley type ware was collected from transect 0105.

The remainder of the pottery is post-medieval. Eight sherds of Glazed red earthenware and Late post-medieval earthenwares were recovered, dating from the 16th–20th century (36g). A single fragment of Iron Glazed blackware is dated to the 16th–18th century. The only imported pottery is a single fragment of Frechen stoneware from the Rhineland, dated *c*.1550–1700.

6.2.2 Ceramic Building Material (CBM)

Sixteen fragments of CBM were collected (454g). The assemblage consists mainly of small pieces of post-medieval roof tile, including pantile, with a very small piece of post-medieval brick. A small fragment of roof tile with a reduced core and voids where calcareous material has leached out is earlier in date (late medieval, from transect 0254).

6.2.3 Flint (identified by Colin Pendleton)

A total of seven worked flints was collected from the field walking (595g). Four fragments are dated to the Later Prehistoric period. A small un-patinated flake with a retouched notch on one edge and limited retouch on the opposite edge was recovered from transect 0010. An oval-shaped flake with limited relatively crude retouch from transect 0038 may be a simple scraper. The flake is hinge fractured and mostly cortex on the dorsal face. A snapped flake with pronounced ripples and some edge retouch from transect 0055 and another snapped flake with limited edge retouch and parallel flake scars on the dorsal face from transect 0224 are also of this general date.

A snapped long flake or blade from transect 0151 may date to the Neolithic period, although it could be later. It has steep, relatively crude edge retouch and parallel flake scars on the dorsal face.

A large, thick sub-triangular flint with a number of flake scars has been extensively damaged. The flake scars could be relatively recent, and the flint could be one that has not been worked but has been the recipient of repeated plough damage.

A small, battered flint collected from transect 0128 is probably natural.

6.2.4 Fired-cracked flint

Two fragments of fire-cracked flint were the only finds collected from transects 0013 and 0018 at the northwest end of the pipeline.

6.2.5 Miscellaneous finds

Two fragments of clay tobacco pipe stem were recovered from transects 0078 and 0108. In both cases post-medieval pottery was also collected from these transects.

Two small pieces of slag were collected from transect 0010.

A single sub-rectangular fragment of iron, probably post-medieval, was collected from transect 0103. One edge is slightly curved and thickened. It is likely to be of agricultural origin, and could have come from a plough.

6.3 Finds discussion

There were no significant concentrations of finds of one particular date identified from the field walking. The prehistoric pottery and the worked flints are relatively widely dispersed, although there may be some significance in the location of the burnt flint and hand-made sherd from transects 0010, 0013 and 0018 at the northwest end of the pipeline. However, the three sherds of prehistoric pottery recovered overall were all abraded, and are likely to have been considerably dispersed from their original place of deposition.

The majority of the finds date to the medieval and post-medieval periods and likely to represent material brought in during manuring of the fields.

7. Conclusions and recommendations

The archaeological investigation of Phase 1 of the pipeline has produced a few isolated and widely dispersed finds of prehistoric pottery and worked flints and some fragments of medieval pottery. These were surface finds collected during the field-walking survey.

The subsequent monitoring of the pipeline easement failed to provide evidence for significant archaeological features or deposits.

In the light of these limited results it is recommended that no further analysis of the stratigraphic and finds archives should be undertaken and that further publication of the results of the archaeological investigation is not required.

This evaluation report should be disseminated *via* the OASIS online archaeological database.

8. Archive deposition

Paper archive: SCCAS Ipswich office
Digital archive: SCCAS Ipswich office
Finds archive: SCCAS Bury St Edmunds office, Parish Box H/80/1

9. Acknowledgements and list of contributors

The project was commissioned by Dave Barton of Black & Veatch Limited, on behalf of Anglian Water plc who funded the archaeological work.

The project was managed by John Newman. Rob Atfield, Kieron Heard and Mark Sommers conducted the fieldwork.

Richenda Goffin assessed and reported on the finds, with advice from Colin Pendleton and Cathy Tester. Graphics are by Crane Begg.

10. Bibliography

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Appendix 1. Brief and specification for the evaluation

SUFFOLK COUNTY COUNCIL
ARCHAEOLOGICAL SERVICE - CONSERVATION TEAM

Brief and Specification for a Non-Intrusive Archaeological Evaluation

CEDARS PARK PIPELINE LINK PHASE 1

The commissioning body should be aware that it may have Health & Safety responsibilities.

1. Background

1.1 The route of a pipeline has been proposed by Anglian Water between TM 0654 5812 (north) and TM 0931 5582 (south) (see accompanying plan).

1.2 The 4km route, orientated north-west to south-east, is located on the eastern side of, and over-looking, the Gipping Valley. It is situated principally on calcareous clayey soil, although the southern (0.75km) part of the route is on calcareous loam over chalk, at *c*. 40m OD.

1.3 The proposed route passes through or close to several known archaeological sites recorded in the County Sites and Monuments Record. However, the route has not been subject to systematic archaeological survey. The landscape setting of the route, above the River Gipping, has high archaeological potential, especially for prehistoric sites (which would not be detected by metal detector users). There is high potential for the identification of further sites along the line of the proposed route.

1.4 In order to establish the full archaeological implications of the proposed route, Anglian Water has been advised that an archaeological field evaluation should take place. Further information concerning the location, extent, survival and significance of the known archaeological remains on the site as well as the potential for further archaeological remains to survive is required.

2.0 The nature of the development and archaeological requirements

2.1 The principle ground disturbance will involve stripping associated with the easement believed to be *c*. 10.00m in width, and also the cutting for the pipe trench, believed to be *c*. 0.40m wide.

2.2 In order to inform the route decision, non-intrusive field-walking survey combined with a reassessment of aerial photographic evidence is required along the line of the proposed route as shown on the accompanying plan. Several parts of the pipeline route remain to be confirmed and, therefore, in these areas both possible routes must be surveyed.

These will form part of an integrated evaluation strategy for the pipeline route; trial trenching will be undertaken along those parts of the route where archaeological remains are defined; a separate brief will issued for each stage of the work.

2.3 The surveys will provide information to construct an archaeological conservation strategy, dealing with preservation, the recording of archaeological deposits, working practices, timetables and orders of cost.

2.4 All arrangements for the field-walking, the timing of the work, access to the route, the definition of the precise area of landholding and area for proposed route are to be defined and negotiated with the commissioning body.

2.5 Detailed standards, information and advice to supplement this brief are to be found in *Standards for Field Archaeology in the East of England*, East Anglian Archaeology Occasional Papers 14, 2003.

2.6 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 detailed 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*.

2.7 Before any archaeological site work can commence it is the responsibility of the developer to provide the archaeological contractor with either the contaminated land report for the site or a written statement that there is no contamination.

3. Brief for Archaeological Evaluation

3.1 The field-walking and aerial photographic surveys should aim to determine the location, extent, date, character and significance of any surviving archaeological remains likely to be threatened by the proposed development.

3.2 The results of the surveys should be related to the relevant known archaeological information held in the county SMR.

3.3 The evaluation provide sufficient information to construct an archaeological conservation strategy, dealing with preservation, the recording of archaeological deposits, working practices, timetables and orders of cost.

3.4 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.

3.5 If the approved evaluation design is not carried through in its entirety 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.

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

4. Specification: Requirements

4.1 Field-walking is to be undertaken along the entire route of the pipeline. A pipeline corridor of 100m is considered an appropriate width for the field-walking survey, with the proposed route central within this corridor. The strategy for assessing the artefact content of the topsoil by field-walking must be presented in the Project Design. A scale plan showing the proposed extent of the field survey should be included in the Project Design.

4.2 A reassessment of the aerial photographic evidence and, where relevant, replotting appropriate archaeological and topographical information should be undertaken by a suitably qualified specialist at a scale of 1:2500. A pipeline corridor of 500m is considered an appropriate width for the air photographic survey, with the proposed route central within this corridor.

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. The archaeological contractor will give not less than ten days written notice of the commencement of the work so that arrangements for monitoring the project can be made.

5.2 The composition of the project staff must be detailed and agreed by this office, including any subcontractors/specialists. For the site director and other staff likely to have a major responsibility for the post-excavation processing of this evaluation there must also be a statement of their responsibilities or a CV for post-excavation work on other archaeological sites and publication record.

5.3 It is the archaeological contractor's responsibility to ensure that adequate resources are available to fulfill the Brief.

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

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 recovered by field-walking. 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. Account must be taken of any requirements the County SMR may have regarding the conservation, ordering, organisation, labelling, marking and storage of excavated material and the archive.

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).

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This brief and specification remains valid for 6 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.

Archaeological contractors are strongly advised to forward a detailed Project Design or Written Scheme of Investigation to the Conservation Team of the Archaeological Service of Suffolk County Council for approval before any proposals are submitted to potential clients.

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. Brief and specification for the monitoring

SUFFOLK COUNTY COUNCIL
ARCHAEOLOGICAL SERVICE - CONSERVATION TEAM

Brief and Specification for Archaeological Monitoring of Development

CEDARS PARK ANGLIAN WATER PIPELINE LINK PHASE 1

Although this document is fundamental to the work of the specialist archaeological contractor the developer should be aware that certain of its requirements are likely to impinge upon the working practices of a general building contractor and may have financial implications.

1. Background

1.1 The route of a pipeline has been proposed by Anglian Water between TM 0654 5812 (north) and TM 0931 5582 (south).

1.2 The 4km route, orientated north-west to south-east, is located on the eastern side of, and over-looking, the Gipping Valley. It is situated principally on calcareous clayey soil, although the southern (0.75km) part of the route is on calcareous loam over chalk, at *c*. 40m OD.

1.3 There are a number of recorded archaeological sites close to the line of the proposed route, recorded in the County Sites and Monuments Record: in particular, a Mesolithic flint scatter (CRP 007) *c*. 70m south of the line at TM 0773 5777; a medieval church and churchyard (CRP 004) *c*. 25m to the north at TM 0805 5764; a burnt flint deposit (CRM 026) *c*. 35m to the south of the route at TM 0893 5635. The pipeline route has been also evaluated by fieldwalking and aerial photographic assessment, although this work did not define any further sites along the line of the proposed route. However, the landscape setting of the route, above the River Gipping, has high archaeological potential, especially for prehistoric sites and there is high potential for the identification of further sites along the line of the proposed route during stripping of the easement.

1.4 Assessment of the available archaeological evidence indicates that the known areas of archaeological interest affected by the work can be adequately recorded by archaeological monitoring.

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.

1.6 Before commencing work the project manager must carry out a risk assessment and liase with the site owner, client and the Conservation Team of SCCAS (SCCAS/CT) in ensuring that all potential risks are minimised.

2. Brief for Archaeological Monitoring

2.1 To provide a record of archaeological deposits which are damaged or removed by any development.

2.2 The main academic objective will centre upon the potential of this development to produce evidence for prehistoric, and also later, occupation along the route.

2.3 The principle ground disturbance will involve stripping associated with the easement believed to be *c*. 10.00m in width, and also the cutting for the pipe trench, believed to be *c*. 0.40m wide.

2.4 This project will be carried through in a manner broadly consistent with English Heritage's *Management of Archaeological Projects,* 1991 (*MAP2*). Excavation is to be followed by the preparation of a full archive, and an assessment of potential for analysis. Analysis and final report preparation will follow assessment and will be the subject of a further brief and updated project design.

2.5 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; an important aspect of the PD/WSI will be an assessment of the project in relation to the Regional Research Framework (*East Anglian Archaeology* Occasional Papers 3, 1997, 'Research and Archaeology: A Framework for the Eastern Counties, 1. resource assessment', and 8, 2000, 'Research and Archaeology: A Framework for the Eastern Counties, 2. research agenda and strategy').

3. Arrangements for Monitoring

3.1 To carry out the monitoring work the developer will appoint an archaeologist (the archaeological contractor) who must be approved by SCCAS/CT.

3.2 The developer or his archaeologist will give the SCCAS/CT 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. The method and form of development will also be monitored to ensure that it conforms to previously agreed locations and techniques upon which this brief is based.

3.3 The composition of the project staff must be detailed and agreed by this office, including any subcontractors/specialists. For the site director and other staff likely to have a major responsibility for the post-excavation processing of this evaluation there must also be a statement of their responsibilities or a CV for post-excavation work on other archaeological sites and publication record.

3.4 Allowance must be made to cover archaeological costs incurred in monitoring the development works by the contract archaeologist. The size of the contingency should be estimated by the approved archaeological contractor, based upon the outline works of the Brief and Specification and the building contractor's programme of works and time-table.

3.5 It is the archaeological contractor's responsibility to ensure that adequate resources are available to fulfill the Brief.

3.6 If unexpected remains are encountered SCCAS/CT must be informed immediately. Amendments to this specification may be made to ensure adequate provision for archaeological recording.

4. Specification for Monitoring

4.1 Opportunity must be given to the 'monitoring archaeologist' to hand excavate and record any discrete archaeological features which appear during earth moving operations, retrieve finds and make measured records as necessary. Where it is necessary to see archaeological detail one of the soil faces is to be trowelled clean.

4.2 All features which are, or could be interpreted as, structural must be fully excavated in these areas. Post-holes and pits must be examined in section and then fully excavated. Fabricated surfaces within the excavation area (e.g. yards and floors) must be fully exposed and cleaned.

4.3 All other features must be sufficiently examined to establish, where possible, their date and function. For guidance:

a) A minimum of 50% of the fills of the general features is be excavated.

b) Between 10% and 20% of the fills of substantial linear features (ditches, etc) are to be excavated, the samples must be representative of the available length of the feature and must take into account any variations in the shape or fill of the feature and any concentrations of artefacts.

4.4 Any variation from this process can only be made by agreement [if necessary on site] with SCCAS/CT, and must be confirmed in writing.

4.5 The fills of all archaeological features should be bulk sampled for palaeoenvironmental remains and assessed by an appropriate specialist. The Project Design must provide details of a comprehensive sampling strategy for retrieving and processing biological remains (for palaeoenvironmental and palaeoeconomic investigations and also for absolute dating), and samples of sediments and/or soils (for micromorphological and other pedological/sedimentological analyses. All samples should be retained until their potential has been assessed. Advice on the appropriateness of the proposed strategies will be sought from J. Heathcote, English Heritage Regional Adviser in Archaeological Science (East of England). A guide to sampling archaeological deposits (Murphy, P.L. and Wiltshire, P.E.J., 1994, *A guide to sampling archaeological deposits for environmental analysis*) is available for viewing from SCCAS.

4.6 A finds recovery policy is to be agreed before the project commences. It should be addressed by the Project Design. Use of a metal detector will form an essential part of finds recovery. Sieving of occupation levels and building fills will be expected.

4.7 All ceramic, bone and stone artefacts to be cleaned and processed concurrently with the excavation to allow immediate evaluation and input into decision making.

4.8 Metal artefacts must be stored and managed on site in accordance with *UK Institute of Conservators Guidelines* and evaluated for significant dating and cultural implications before despatch to a conservation laboratory within 4 weeks of excavation.

4.9 Human remains are to be treated at all stages with care and respect, and are to be dealt with in accordance with the law. They must be recorded *in situ* and subsequently lifted, packed and marked to standards compatible with those described in the Institute of Field Archaeologists' *Technical Paper 13: Excavation and post-excavation treatment of Cremated and Inhumed Human Remains*, by McKinley & Roberts. Proposals for the final disposition of remains following study and analysis will be required in the Project Design.

4.10 Plans of the archaeological features on the site should normally 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. All levels should relate to Ordnance Datum. Any variations from this must be agreed with the Conservation Team.

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

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

5. Archive Requirements

5.1 Within four weeks of the end of field-work a timetable for post-excavation work must be produced. Following this a written statement of progress on post -excavation work whether archive, assessment, analysis or final report writing will be required at three monthly intervals.

5.2 An archive of all records and finds is to be prepared consistent with the principle of English Heritage's *Management of Archaeological Projects*, 1991 (*MAP2*), particularly Appendix 3. However, the detail of the archive is to be fuller than that implied in *MAP2* Appendix 3.2.1. The archive is to be sufficiently detailed to allow comprehension and further interpretation of the site should the project not proceed to detailed analysis and final report preparation. It must be adequate to perform the function of a final archive for lodgement in the County SMR or museum.

5.3 The project manager must consult the SMR Officer to obtain an event number for the work. This number will be unique for each project or site and must be clearly marked on any documentation relating to the work.

5.4 A clear statement of the form, intended content, and standards of the archive is to be submitted for approval as an essential requirement of the Project Design.

5.5 The site archive quoted at *MAP2* Appendix 3, must satisfy the standard set by the "Guideline for the preparation of site archives and assessments of all finds other than fired clay vessels" of the Roman Finds Group and the Finds Research Group AD700-1700 (1993).

5.6 Pottery should be recorded and archived to a standard comparable with 6.3 above, i.e. *The Study of Later Prehistoric Pottery: General Policies and Guidelines for Analysis and Publication,* Prehistoric Ceramics Research Group Occ Paper 1 (1991, rev 1997), the *Guidelines for the archiving of Roman Pottery*, Study Group Roman Pottery (ed M G Darling 1994) and the *Guidelines of the Medieval Pottery Group* (in draft).

5.7 All coins must be identified and listed as a minimum archive requirement.

5.8 The data recording methods and conventions used must be consistent with, and approved by, the County Sites and Monuments Record. All record drawings of excavated evidence are to be presented in drawn up form, with overall site plans. All records must be on an archivally stable and suitable base.

5.9 A complete copy of the site record archive must be deposited with the County Sites and Monuments Record within twelve months of the completion of fieldwork. It will then become publicly accessible.

5.10 Finds must be appropriately conserved and stored in accordance with UK Institute Conservators Guidelines.

5.11 Every effort must be made to get the agreement of the landowner/developer to the deposition of the finds with the County SMR or a museum in Suffolk which satisfies Museum and Galleries Commission requirements, as an indissoluble part of the full site archive. If this is not achievable for all or parts of the finds archive then provision must be made for additional recording (e.g. photography, illustration, analysis) as appropriate. If the County SMR is the repository for finds there will be a charge made for storage, and it is presumed that this will also be true for storage of the archive in a museum.

5.12 The project manager should consult the County SMR officer regarding the requirements for the deposition of the archive (conservation, ordering, organisation, labelling, marking and storage) of excavated material and the archive.

6. Report Requirements

6.1 A report on the fieldwork and archive must be provided consistent with the principle of *MAP2*, particularly Appendix 4. The report must be integrated with the archive.

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

6.3 The results of the surveys should be related to the relevant known archaeological information held in the county SMR.

6.4 An important element of the report will be a description of the methodology.

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. Provision should be made to assess the potential of scientific dating techniques for establishing the date range of significant artefact or ecofact assemblages, features or structures.

6.6 The report will give an opinion as to the potential and necessity for further analysis of the excavation data beyond the archive stage, and the suggested requirement for publication; it will refer to the Regional Research Framework (see above, 2.5). Further analysis will not be embarked upon until the primary fieldwork results are assessed and the need for further work is established. Analysis and publication can be neither developed in detail or costed in detail until this brief and specification is satisfied, however, the developer should be aware that there may be a responsibility to provide a publication of the results of the programme of work.

6.7 The assessment report must be presented within six months of the completion of fieldwork unless other arrangements are negotiated with the project sponsor and the SCCAS/CT.

6.8 Where positive conclusions are drawn from a project, 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 journal, must be prepared and included in the project report, or submitted to SCCAS/CT by the end of the calendar year in which the evaluation work takes place, whichever is the sooner.

6.9 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.

6.10 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).

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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 3. Results of the aerial photographic assessment

Rog Palmer MA MIFA

CEDARS PARK PIPELINE LINK PHASE 1,

TM065582 to TM092559,

CREETING ST PETER,
SUFFOLK:

AERIAL PHOTOGRAPHIC ASSESSMENT

SUMMARY

This assessment of aerial photographs examined a 500m wide corridor centred on the route of the pipeline between TM065582 and TM092559 in order to identify and accurately map archaeological, recent and natural features.

The majority of archaeological features were on the chalky soils in the southern part of the corridor. They comprise:

Three ring ditches that probably mark Bronze Age burial sites;
An arc of a possible fourth ring ditch.

A near-square enclosure set within what may be part of a field system has been mapped as 'possible archaeological ditches'.

Revetments and tracks that were part of a munitions store were photographed as earthworks in the 1940s but have since been levelled. These are likely to pre-date the Second World War.

It is suggested that the photographs of this area are likely to provide a good representation of the archaeological features within the corridor.

Original photo interpretation and mapping was at 1:2500 level.

INTRODUCTION

This assessment of aerial photographs was commissioned to examine a 500m wide corridor centred on the route of the pipeline between TM065582 and TM092559 in order to identify and accurately map archaeological, recent and natural features and thus provide a guide for field evaluation. The level of interpretation and mapping was to be at 1:2500.

ARCHAEOLOGICAL AND NATURAL FEATURES FROM AERIAL PHOTOGRAPHS

In suitable cultivated soils, sub-surface features – including archaeological ditches, banks, pits, walls or foundations – may be recorded from the air in different ways in different seasons. In spring and summer these may show through their effect on crops growing above them. Such indications tend to be at their most visible in ripening cereal crops, in June or July in this part of Britain, although their appearance cannot accurately be predicted and their absence cannot be taken to imply evidence of archaeological absence. In winter months, when the soil is bare or crop cover is thin (when viewed from above), features may show by virtue of their different soils. Upstanding remains, which may survive in unploughed grassland, are also best recorded in winter months when vegetation is sparse and the low angle of the sun helps pick out slight differences of height and slope.

Grass sometimes shows sub-surface features through the withering of the plants above them. This may occur towards the end of very dry summers and usually indicates the presence of buried walls or foundations. Such dry summers occurred in Britain in 1949, 1959, 1975, 1976, 1984, 1989 and 1990 (Bewley 1994, 25) and more recently in 1995, 1996 and 2006. This does not imply that every grass field will reveal its buried remains on these dates as local variations in weather and field management will affect parching. However, it does provide a list of years in which photographs taken from, say, mid July to the end of August may prove informative.

Such effects are not confined only to archaeological features. Natural faults and deposits can cause similar differences in crop growth and may also appear as colour differences in bare winter soils. However, within the pipeline corridor there may be little evidence of natural features other than deeper soil and even recently-removed field boundaries may only be visible in certain crops during dry summers.

PHOTO INTERPRETATION AND MAPPING

Photographs examined

The most immediately informative aerial photographs of archaeological subjects tend to be those resulting from observer-directed flights. This activity is usually undertaken by an experienced archaeological observer who will fly at seasons and times of day when optimum results are expected. Oblique photographs, taken using a hand-held camera, are the usual products of such investigation. Although oblique photographs are able to provide a very detailed view, they are biased in providing a record that is mainly of features noticed by the observer, understood, and thought to be of archaeological relevance. To be able to map accurately from these photographs it is necessary that they have been taken from a sufficient height to include surrounding control information.

Vertical photographs cover the whole of Britain and can provide scenes on a series of dates between (usually) 1946-7 and the present. Many of these vertical surveys were not flown at times of year that are best to record the archaeological features sought for this Assessment and may have been taken at inappropriate dates to record crop and soil responses that may be seen above sub-surface features. Vertical photographs are taken by a camera fixed inside an aircraft and with its exposures timed to take a series of overlapping views that can be examined stereoscopically. They are often of relatively small scale and their interpretation requires higher perceptive powers and a more cautious approach than that necessary for examination of obliques. Use of these small-scale images can also lead to errors of location and size when they are rectified or re-scaled to match a larger map scale.

Cover searches were obtained from the Cambridge University Collection of Aerial Photographs (CUCAP) and the National Monuments Record: Air Photographs (NMRAP), Swindon. Additional photographs were loaned from Suffolk County Council. Photographs included those resulting from observer-directed flights and routine vertical surveys.

Photographs consulted are listed in the Appendix to this report.

Base maps
Digital data from original survey at a scale of 1:2500 or greater were provided by the client.

Study area
Photographs were examined within the corridor shown in Figures 1 and 2.

Photo interpretation and mapping
All photographs were examined by eye and under slight (2x) magnification, viewing them as stereoscopic pairs when possible. Scanned digital copies of the most informative were transformed to match the digital data using the specialist program AirPhoto (Scollar 2002). All scanned photographs were enhanced using the default setting in AirPhoto before being examined on screen. Transformed files were set as background layers in AutoCAD Map, where features were overdrawn, making reference to the original prints, using standard conventions. Layers from this final drawing have been used to prepare the figures in this report and have been supplied to the client in digital form.

Accuracy
AirPhoto computes values for mismatches of control points on the photograph and map. In all transformations prepared for this assessment the mean mismatches were less than ±1.50m. These mismatches can be less than the survey accuracy of the base maps themselves and users should be aware of the published figures for the accuracy of large scale maps and thus the need to relate these mismatches to the Expected Accuracy of the Ordnance Survey maps from which control information was taken (OS 2007).

COMMENTARY

Soils
The Soil Survey of England and Wales (SSEW 1983) shows the corridor crosses several different soils that can be summarised as follows. From the north, the corridor crosses clay-based soils: chalky till (soil association 711r: BECCLES 1) and, closer to the River Gipping on the western side of the corridor, boulder clay (soil association 411d: HANSLOPE). A narrow band of river alluvium (soil association 813b: FLADBURY 1) flanks the stream at Creeting St Mary and south of this is a small deposit of chalky drift and chalk (soil association 511e: SWAFFHAM PRIOR) although the A14 and the pipeline may remain on boulder clay.

Of these, crops on the clay-based soils are likely to respond to sub-surface features only at times of extreme drought (but see below) whereas the chalky drift offers a broader prospect for identification of archaeological features.

Local soils and aerial photographs
Aerial photographs examined for this assessment confirm the comments in *Soils* (above) about the visibility of sub-surface features, since all archaeological features identified are lying on the chalky drift/chalk soils. Some of the vertical photographs were taken at what seem to be potentially good dates to record changes in crop growth (5 and 21 July 1975, 15 July 1983, 7 June 1993) even though, of these, only 1975 has been noted as a specially-dry summer. The photographs taken on 5 July 1975 may be a week or two early for a ideal conditions on the clay-based soils as by the 21st crops on the chalky drift/chalk were very responsive to archaeological, natural and recent features. Photographs taken on the 21st did not cover the clay and on the 5th only a few former field boundaries were visible on clay soils so the prospects for (probably smaller) archaeological features seems poor. More field boundaries were apparent on the clay-based soils in July 1983 but there was no suggestion of archaeological features. The photographs taken in June 1993 showed distinct field boundaries on the clay-based soils but there were no archaeological features and the levelled revetments at the former munitions store (see below) were not visible at all.

Summarising this small amount of photographic evidence it is tempting to suggest that there is a genuine lack of archaeological features on the clay-based soils even though this comment is based on only two ‘good’ dates of photography. However it should be pointed out that, based on knowledge of other parts of England, absence of evidence on aerial photographs is not evidence of definite absence under the ground.

Archaeological features (Figure 1)

Prehistoric
Arcs of three ring ditches – probably marking Bronze Age burial sites – have been mapped in the southern part of the corridor. One pair of these is close to the River Gipping and is 'matched' by another pair outside the corridor on the west bank of the river (at TM08565596 and TM08565588. Source photo: OS/75336: 060). The third ring ditch is east of the A14 and appears to lie close to the edge of a soil boundary. South of it is a short length of arc of a possible ring ditch. Photographs show this to be located on what appears to be a small outcrop of different soil and the arc may be a natural fissure in this rather than an archaeological ditch.

At TM085567 is a near-square enclosure set within a larger ditched system that may be part of a contemporary field system. If this assumption is correct, ditches of that field system are likely to continue beyond their presently-mapped limits. Features in this group have been mapped as 'possible archaeological ditches' because it is uncertain whether they may remain from more recent land division. However, they are crossed by (or lie over?) recently-removed field boundaries which may help favour an archaeological origin for them.

Post-medieval
In the extreme western part of the corridor (area TM065579) is a small part of a once more-extensive munitions store that formerly extended to the railway. This is seen at its clearest on the 1946 photographs as a series of square revetted enclosures each approached by a sunken track. In 1946 these had a disused appearance and were partly scrub-covered. It is therefore suggested that they predate the Second World War and may have originally been a store for Prentice's Gun Cotton Factory (http://www.stowmarket-history.co.uk/ILN%20account.htm) and/or have been used during the First World War. Whatever their origin they had been levelled by 1965 and the area converted to arable use. After their levelling, traces of spread soil from the revetments could sometimes be seen in plough soil on air photographs taken in winter months. [SMR CRP 006]

Some field boundaries, now removed, have been visible in crops. Most appear on the Ordnance Survey First Edition Six-inch map (1890).

Non-archaeological features (Figure 1)
Differences in what are likely to be soil types have been mapped in the southern part of the corridor. From comparison with the Soil Survey mapping, the mapped lines are likely to show alluvium on their southern sides and the clay-based or chalky soils on their northern side.

Land use (Figure 2)
Other than land abutting the stream at Creeting St Mary, almost all fields in the corridor are now in arable use. A small number of fields were permanent pasture until converted to arable in the 1960s or more recently. This means that, if they had suitably-responsive crops, the majority of the corridor has been photographed at the 'good' dates noted above.

When the A14 was constructed three small fields on its northern side were used as dumps for overburden and they have since been 'landscaped' and grassed over. These have been indicated in Figure 2 and are likely to be obviously artificial on the ground. Also at the time of the road construction (1975), there was a small area enclosed for storage or a depot. The photographs indicate that topsoil had been stripped from that area prior to this use.

ACKNOWLEDGEMENT

My thanks to John Newman, SCCAS, for loan of vertical and oblique photographs.

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APPENDIX

Aerial photographs examined

Source: Cambridge University Collection of Aerial Photographs

Vertical photographs

RC8-EF 305-307	15 July 1983	1:5000
RC8-EF 308-309	15 July 1983	1:5000
RC8-EF 335-336	15 July 1983	1:5000

Oblique photographs

ZD 47	29 June 1959	
AIZ 101-102	15 June 1964	
BGS 23-24	22 July 1971	[duplicated in Suffolk CC]

Source: National Monuments Record: Air Photographs

Vertical collection

Sortie Number	*Library Number*	*Camera Position*	*Start Frame*	*End Frame*	*NGR Start*	*NGR End*	*Date*	*Scale 01:00*
RAF/3G/TUD/UK/62	186	V	5069	5072	TM086576	TM064578	05-Feb-46	10500
RAF/3G/TUD/UK/62	186	V	5117	5119	TM089573	TM073572	05-Feb-46	10500
RAF/106G/UK/1365	336	V	5201	5202	TM089551	TM096550	03-Apr-46	9800
RAF/106G/UK/1557	386	FS	2201	2204	TM075570	TM100565	07-Jun-46	9800
RAF/106G/UK/1557	386	RS	4199	4203	TM064593	TM092579	07-Jun-46	9800
RAF/106G/UK/1589	408	FP	1277	1280	TM080584	TM064586	21-Jun-46	10000
RAF/106G/UK/1589	408	RP	3121	3126	TM063581	TM095575	21-Jun-46	10000
RAF/106G/UK/1589	408	RV	6125	6128	TM085558	TM103557	21-Jun-46	10000
RAF/CPE/UK/1972	577	RS	4062	4065	TM088587	TM095572	11-Apr-47	10000
RAF/58/189	976	V	5119	5123	TM082571	TM093572	18-Feb-49	5000
RAF/58/189	976	V	5125	5128	TM079578	TM065579	18-Feb-49	5000
RAF/58/189	976	V	5144	5148	TM061586	TM072586	18-Feb-49	5000
RAF/58/115	2991	V	5040	5040	TM089557	TM089557	30-Aug-48	7700
MAL/65095	4168	V	118	121	TM092579	TM063579	06-Nov-65	12000
MAL/65095	4168	V	138	139	TM090560	TM100560	06-Nov-65	12000
RAF/106G/LA/39	8320	RS	4005	4006	TM097556	TM100552	16-Sep-44	10650
OS/66011	11659	V	118	120	TM087559	TM100559	20-Mar-66	7500
OS/66011	11659	V	129	132	TM096570	TM077571	20-Mar-66	7500
OS/66011	11659	V	157	161	TM060584	TM085584	20-Mar-66	7500
OS/73098	11940	V	18	19	TM064578	TM071575	25-Apr-73	7500
OS/75319	12175	V	7	11	TM067589	TM091580	05-Jul-75	7500
OS/75319	12175	V	31	32	TM061584	TM063590	05-Jul-75	7500
OS/75336	12182	V	55	62	TM067591	TM097554	21-Jul-75	7500
OS/93335	14462	V	34	36	TM074594	TM062595	07-Jun-93	7700
OS/93335	14462	V	71	73	TM065580	TM077580	07-Jun-93	7700
OS/93335	14462	V	162	164	TM089556	TM102556	07-Jun-93	7700
MAL/55162	21586	V	22935	22937	TM100559	TM078563	01-Jun-55	12000

Specialist collection

TM0857/1	30 May 1980	[duplicated in Suffolk CC]
TM0955/1-2	4 June 1980	

Source: Suffolk county Council

Vertical photographs
RAF photographs, filed by parish, that duplicate some held at NMRC

HSL/UK/71029: 8136	23 March 1971	1:12000
HSL/UK/71029: 8207	23 March 1971	1:12000
ADAS/716: 206-207	23 October 1996	1:10000
ADAS/716: 250-251	23 October 1996	1:10000

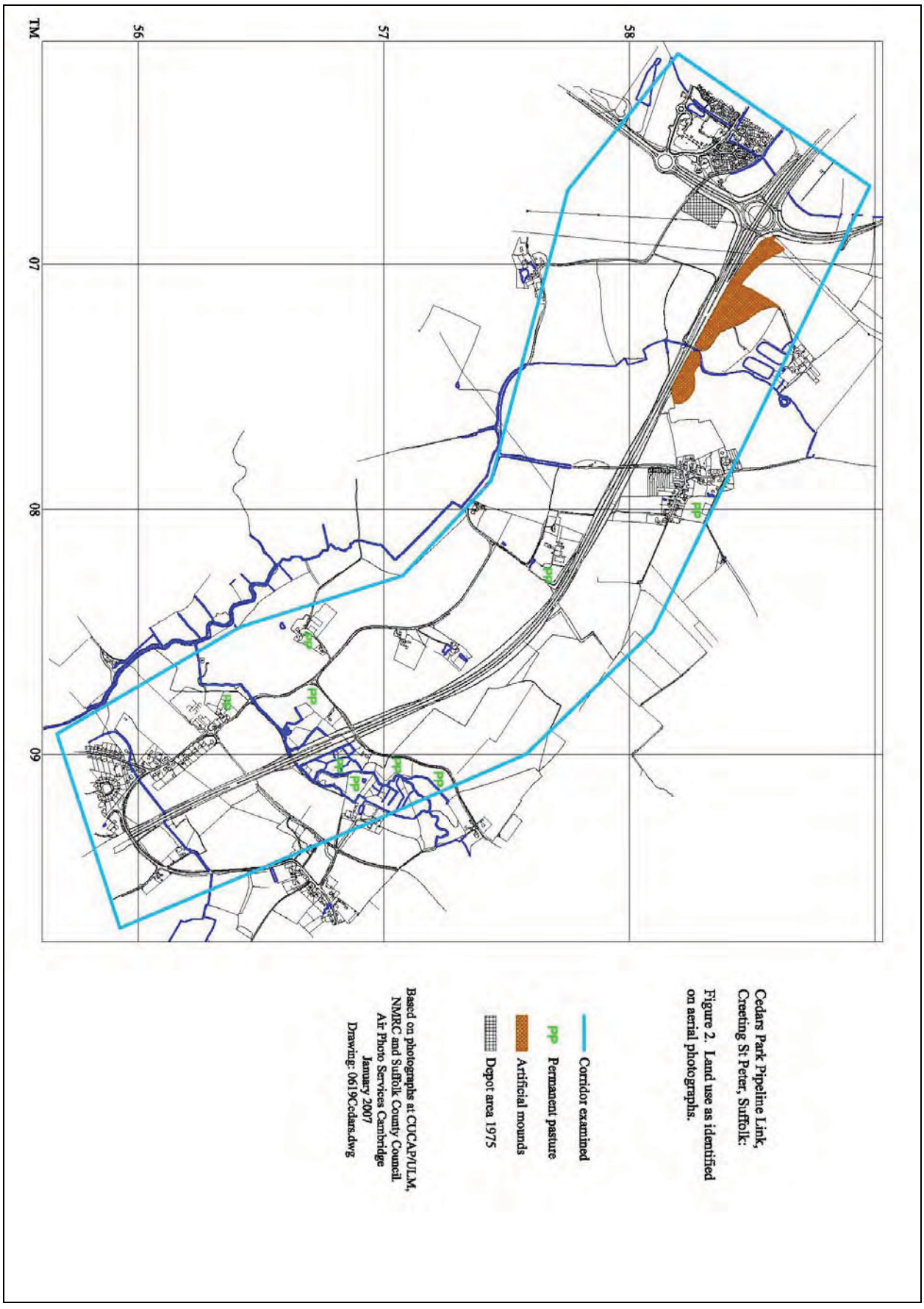
Oblique photographs

BGS 24	22 July 1971	[duplicated in CUCAP]
SAU ALC 12	30 May 1980	[duplicated in NMRC]

Most informative photographs

RAF/3G/TUD/UK/62: 5120
OS/75336: 060
SAU ALC 12
CUCAP BGS 24

Appendix 3 - Figure 1



Appendix 3 - Figure 2

Appendix 4. Finds catalogue

Transect	Pottery No	Pottery Wt (g)	Flint No	Flint Wt (g)	Burnt flint No	Burnt flint Wt (g)	CBM No	CBM Wt (g)	Miscellaneous
0010			1	1					2 frags slag; 16g
0013					1	22			
0016							1	29	
0018					1	21			
0019							2	31	1 frag asbestos
0029							2	3	
0031	1	1							
0032	1	1							
0038			1	16			1	33	
0044							2	49	
0055			1	7					
0060	1	4							
0062	1	2							
0068	1	1							
0078	1	1	1	559					1 frag clay pipe; 1g
0086							1	117	
0087	1	1							
0103									1 fe frag; 113g
0107	3	10							
0108	2	7							1 frag clay pipe; 2g
0111	1	4							
0122	1	25							
0128	1	3	1	5					
0130	1	6							
0151			1	2					
0216							1	53	
0224			1	5					
0241	1	6							
0243							3	110	
0254	2	1					3	29	