ARCHAEOLOGICAL EVALUATION AND EXCAVATION REPORT

EDF, Thetford Grid Substation, Barnham BNH 062

A REPORT ON THE ARCHAEOLOGICAL EVALUATION AND EXCAVATION, 2005

John Duffy
Field Team
Suffolk C.C. Archaeological Service

Lucy Robinson, County Director of Environment and Transport
Endeavour House, Russel Road, Ipswich, IP1 2BX

SCCAS Report No. 2008/098

Contents

List of Figures

List of Tables

List of Contributors

All Suffolk C.C. Archaeological Service unless otherwise stated.

John Duffy	Assistant Project Officer
Richenda Goffin	Finds Manager
Colin Pendleton	Worked Flint Specialist
Val Fryer	Environmental Archaeologist (freelance)

Acknowledgements

This project was funded by EDF Energy and the archaeological work was specified and monitored by Robert Carr (Suffolk County Council Archaeological Service, Conservation Team).

The evaluation and excavation was carried out by John Duffy, James Rolfe, Alan Smith, Andrew Tester, Jonathan Van Jennians, and Anna West, all from Suffolk County Council Archaeological Service, Field Team.

The project was managed by Andrew Tester, who also provided advice during the production of the report.

Finds processing was carried out by Richenda Goffin, Anna West and Gemma Adams, and the specialist finds and environmental reports by Richenda Goffin, Val Fryer and Colin Pendleton. Post excavation assistance was provided by Gemma Adams.

Summary

An evaluation and subsequent excavation on areas to the west and east of the existing substation revealed a series of archaeological features. These included a single Anglo-Saxon Sunken Feature Building (SFB), measuring 3.2m long and 2.9m wide, with two central and internal main posts with four posts from a later structure. Elsewhere on the excavation a sequence of at least two undated boundary ditches was identified cutting through a buried soil.

HER information

Planning application no.	N/A
Date of fieldwork:	November 2005
Grid Reference:	TL 8645 7997
Funding body:	EDF Energy
Oasis reference	suffolkc1-11047

Introduction

A programme of archaeological work was undertaken ahead of the construction of two new transformers at the Thetford Grid Substation, Barnham. The project consisted of an archaeological evaluation followed by an archaeological excavation and was funded by EDF Energy. The brief and specification was prepared by R. Carr (Suffolk County Council Archaeological Service, Conservation Team), who also monitored the work.

The site was located 750m to the north-west of the village of Barnham on land already occupied by the electricity substation between the dismantled Bury St Edmunds to Thetford railway to the west and the A134 to the east. The site lies in an area of deep permeable sandy and peat soils characterised locally by a complex soil pattern with hummock and hollow microrelief (Suffolk Soils Map).

Archaeological work had taken place, in the mid 20th century, less than 100m to the east on the opposite side of the A134 in an area of quarry pitting by Basil Brown (BNH 012 and 014). Evidence recovered from these sites indicate fairly extensive multi-period occupation although the archaeology was undertaken during actual quarry work making identification and recovery difficult. Recorded finds included two Palaeolithic hand-axes, Bronze Age pottery, Iron Age pottery and features (including 51 'hut sites'), Roman pottery and quern stone fragments and Early Saxon pottery. Apart from this work there has been no other reported archaeological sites or findspots within a radius of 750m of the site.

Methodology

Areas 1 and 2 each had a single north to south running evaluation trench, Trenches 1 and 2, excavated using a back-acting JCB fitted with a 1.8m wide toothless ditching bucket. Machine excavation was carried out to the top of the preserved archaeological deposits under the guidance of an experienced archaeologist. Archaeological deposits were then cleaned and sample excavated by hand to assess the nature and extent of the preserved archaeological deposits. A full written, drawn (plans and sections at 1:20) and photographic (black and white film and colour digital) record was made with each deposit given a unique context number starting at 0001.

The evaluation was then followed by an archaeological excavation of the undisturbed ground in Areas 1 and 2. The areas were stripped of all identified overburden using a 360 degree mechanical excavator fitted with a 2m wide toothless ditching bucket and was under constant supervision by an experienced archaeologist. Archaeological deposits were then cleaned and sample excavated by hand to assess the nature and extent of the preserved archaeological deposits. A full written, drawn (plans and sections at 1:20) and photographic (black and white film and colour digital) record was made with each deposit given a unique context number starting at 0010 continuing on from the evaluation. Environmental samples were taken from archaeological deposits, which upon excavation appeared likely to yield positive results.

The site archive and retained finds are kept at Suffolk County Council's Archaeological Store, Shire Hall, Bury St Edmunds under site code BNH 062.

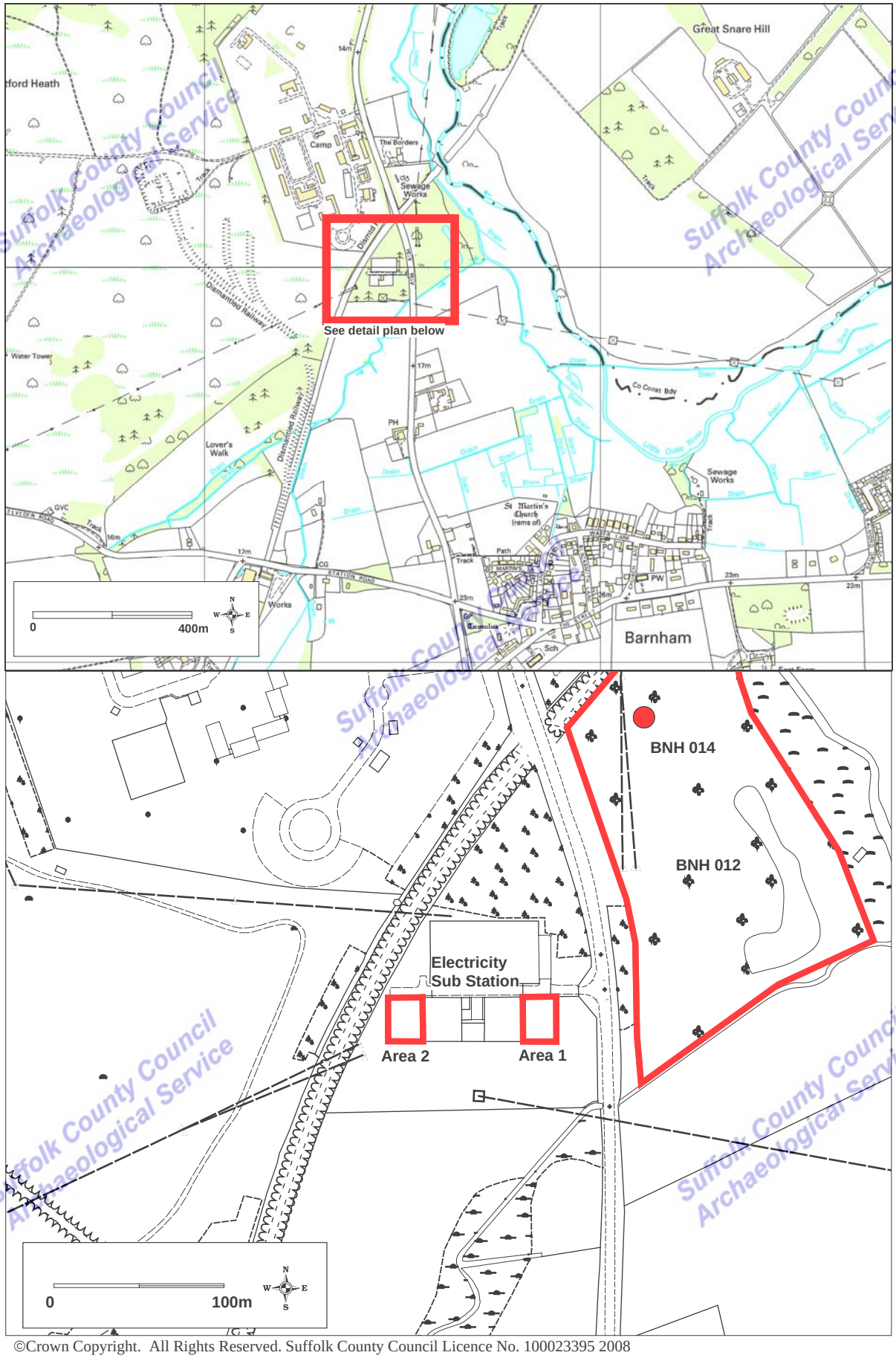

Figure 1. Site location

Results

The evaluation and excavation was conducted in two separate areas either side of the existing substation, Areas 1 and 2 (Figure 1). The results of both phases of work are presented below by Area.

Area 1

Area 1 covered 247sq m which was approximately the northern 50% of the development area on the eastern side of the existing substation. The southern half of the development area was not excavated as Evaluation Trench 1 indicated heavy ground disturbance to a depth below the formation level for the new transformers. The excavation area was machine excavated removing the topsoil and a series of mixed brown sand subsoils, which were over the archaeological deposits. Ahead of excavation the ground was generally level but upon excavation this appeared to be modern levelling with a slight natural slope heading down from west to east surviving below the build-up layers. Archaeological features were identified cutting into a mottled dark and light brown silty sand (0065). Several features were identified including a Sunken Feature Building and a series of ditches with a sequence of buried soils.

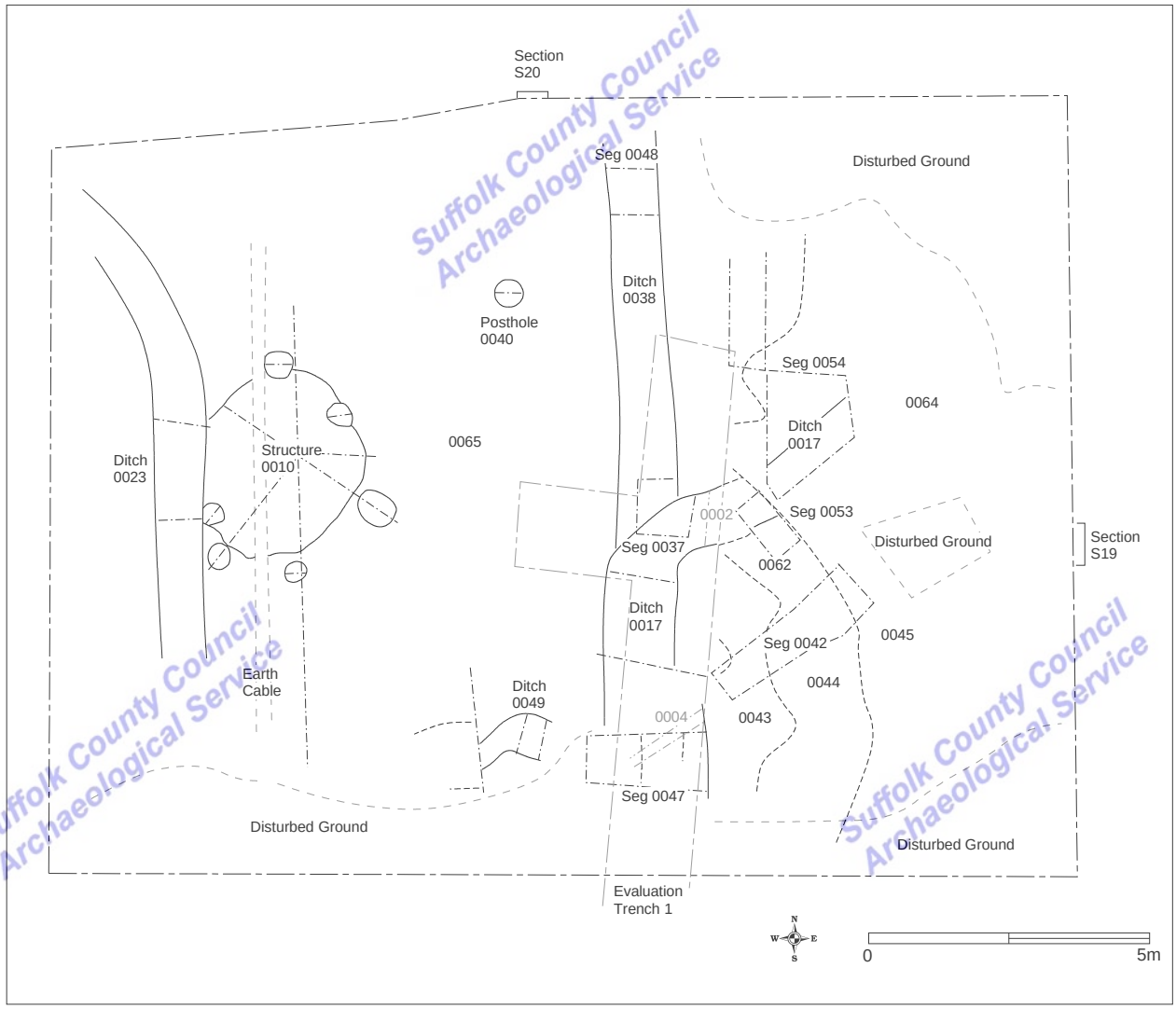

Figure 2. Plan of Area 1 (evaluation in grey).

Early Saxon Sunken Feature Building (SFB)

Located on the western edge of the excavation Area 1 was a single Sunken Feature Building (SFB) aligned approximately north-east to south-west, 0010. The structure consisted of a sub-rectangular pit, 0011, with two internal postholes and a further four around the edge of the pit (Figures 2 and 3). The pit survived to a depth of approximately 0.35m though some damage was caused during machine excavation along its eastern edge. The pit was cut by a later ditch, 0023, along its western edge and an earth cable from the substation ran across the middle of it.

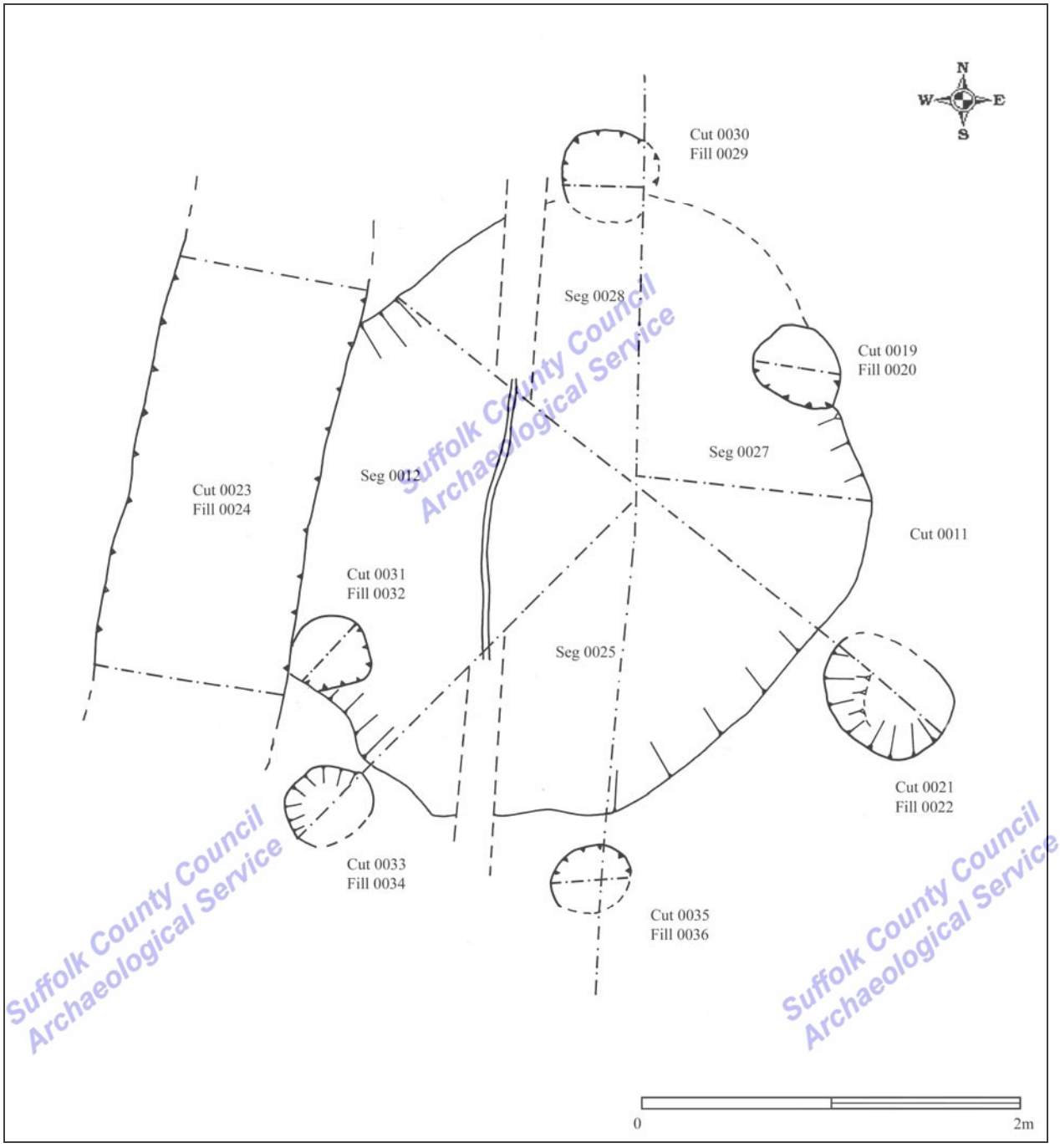

Figure 3. Plan of Structure 0010.

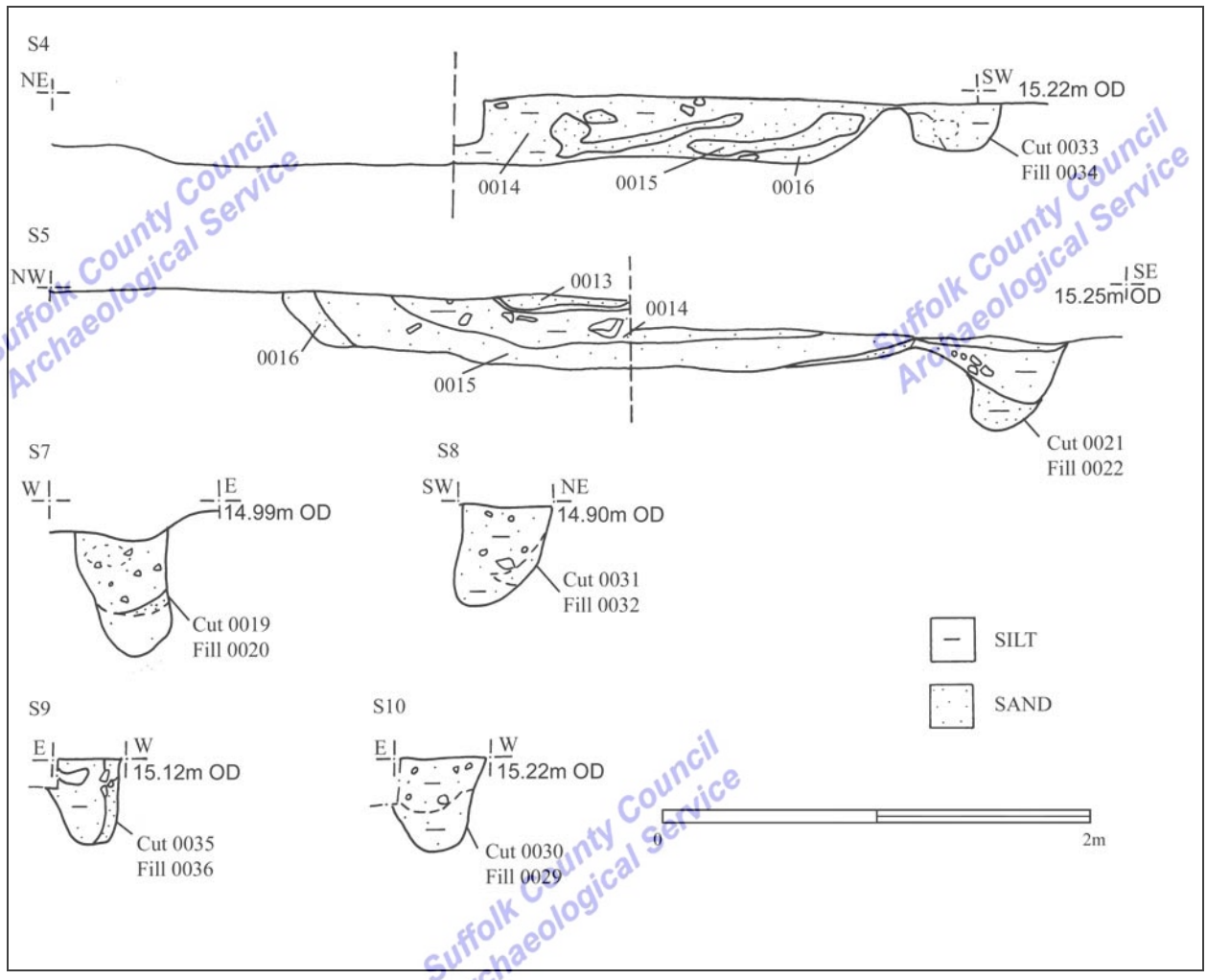

Figure 4. Sections of Structure 0010.

The pit, 0011, was slightly irregular but generally sub-rectangular in plan and measured 3.2m by 2.85m (Figure 3). It was steep-sided and at its deepest point was 0.35m deep with a flat base, which was slightly uneven in places (Figure 4). Four fills were identified during the initial excavation of the pit (0013, 0014, 0015 and 0016) with two fills recorded in segment 0025 (0060 and 0061) (Figure 4). Fill 0013, the uppermost fill, was identified in section S5 and was a thin layer of dark brown silty sand with small fragments of charcoal in the centre of the pit (Figure 4). Immediately below this layer was a mid brown silty sand, 0014, below which was a grey sand, 0015 (Figure 4). Fills 0014 and 0015 made up the majority of the fills of the pit though few finds were identified with only poorly preserved animal bone and some residual Bronze Age worked flint recovered along with some later intrusive finds. A single very small sherd of Early Saxon pottery was also recovered from fill 0015. Around the outer edge of the pit below fill 0015 was a mottled orange and yellow sand with dark brown patches, 0016. This fill is similar to the subsoil into which the pit is cut suggesting the fill is early erosion of the pit edge probably occurring while the structure was still in use. Two fills were recorded during the excavation of Segment 0025, fills 0060 and 0061, which were the same as fills 0014 and 0015 respectively. Fill 0060 contained a single sherd of Early Saxon pottery along with a fragment of burnt flint. Environmental samples taken from fills 0060 and 0061 were indicative of hearth waste and/or domestic detritus and comparative assemblages are known from similar deposits within the eastern region (Fryer this report). Further finds were recovered from the pit but their exact context was not known and they were recorded using context number 0026.

Of the six postholes recorded as part of structure 0010 only two, 0019 and 0031, were definitely part of the building (Figure 3). Postholes 0019 and 0031 were located within the pit cut, 0011, and were only identifiable after the removal of the pit fills. They were circular in plan and measured 0.48m (0019) and 0.40m (0031) in diameter (Figure 3). Posthole 0019 was excavated to a depth of 0.60m at a slight angle, inclined towards the centre of the pit, and was filled by a mid brown sand with some clay (0020) (Figure 4). Several fragments of animal bone were recovered from the fill which included two fragments of ribs (probably bovine) and a phalange from a pig or sheep (Goffin this report). Posthole 0031 was excavated to a depth of 0.45m at a slight angle, inclined towards the centre of the pit, and was filled by a mid brown silty sand with a lens of orange brown sand (0032) (Figure 4).

The four other postholes that were recorded as part of structure 0010 were located around the outside of pit 0011 and one, posthole 0030, cut the northern edge of the pit (Figure 3). Posthole 0030 was circular in plan, 0.50m in diameter, with near-vertical sides and a concave base, 0.44m deep. It was filled by a mid brown silty sand over a mottled orange and brown silty sand (0029) (Figure 4). No finds were recovered from this feature.

Posthole 0021 was located to the east of pit 0011 and was oval in plan, 0.70m by 0.55m, with near-vertical sides and a concave base, 0.45m deep (Figures 3 and 4). It was filled by a mid brown silty sand over a dark brown silty sand (0022). No finds were recovered from this feature.

Posthole 0033 was located to the south-west of pit 0011 and was sub-circular in plan, 0.46m by 0.40m, with near-vertical sides and a concave base, 0.22m deep (Figures 3 and 4). It was filled by a mixed mid brown silty sand and orangeish brown sand (0034). No finds were recovered from this feature.

Posthole 0035 was located to the south of pit 0011 and was sub-circular in plan, 0.42m by 0.36m, with near-vertical sides and a concave base, 0.40m deep (Figures 3 and 4). It was filled by a mid brown silty sand with patches of orangeish brown sand and dark brown sand (0036). No finds were recovered from this feature.

Another posthole, 0040, was identified 3.2m to the north-east of pit 0011 and was circular in plan, 0.50m in diameter, with near-vertical sides and a concave base, 0.40m deep (Figures 2 and 5). It was filled by a mixed mid to dark brown sand (0041) with no finds.

During excavation it was unclear whether or not the four postholes around the outside edge of pit 0011 formed part of the main structure 0010. The two internal posts, 0019 and 0031, identify this as a typical two-post Sunken Feature Building. As posthole 0030 cuts the edge of the pit it was unlikely that these were part of the structure even as repair work. However, it was more likely that these postholes are from a later posthole building replacing the Sunken Feature Building. Posthole 0040 may have also formed part of this structure. Unfortunately as only five postholes were identified it was impossible to understand the form of this structure.

Undated ditches and layers

Located in the eastern half of Area 1 to the east of structure 0010 were two ditches, 0017 and 0038 (Figure 2). Both ditches were identified in the evaluation but due to limited nature of the trench were slightly misinterpreted. The ditches were recorded as a north to south aligned ditch, 0002 (fill 0003), with an east to west ditch running into it, 0004 (fill 0005). During the excavation phase the ditches were fully exposed and the initial misinterpretation was identified. Both excavated sections from the evaluation were excavated through the later ditch, renumbered

as 0017, which ran north to south before turning ninety degrees to the east. To the north a second earlier ditch continued on the north to south alignment, 0038.

Ditch 0017 was excavated in several segments during the excavation phase of the project (segments 0037, 0047, 0053 and 0054) and in two segments in the evaluation, recorded as cuts 0002 and 0004. As already described the ditch ran in a south to north direction and turned east at its northern end where it could be seen cutting ditch 0038. The full extent of ditch 0017 was unknown as to the south it was lost due to heavy ground disturbance and to the east was sealed below a yellow sand layer (0045/0064) which covered the eastern half of the excavation (Figure 2). This layer was left largely intact, with only sample excavations through it, as it was below the level for the development and would be preserved *in situ* along with any archaeological deposits sealed below it. The maximum width of the ditch, 1.8m, was recorded in section S3 (Figure 5) and its depth was 0.7m. It had gently sloping sides that became steeper half way down with a concave base. The profile was only clearly seen in sections S3 (Figure 5) and S6 (Figure 6) as both sections S1 (Figure 5) and S14 (Figure 6) were heavily disturbed. In segments 0053 (S15) and 0054 (S16) the ditch was only partially excavated (Figure 6). It was filled by a mid to dark grey silty sand (0003, 0004 and 0018) with a single late prehistoric, probably Bronze Age, worked flint from fill 0003 and three fragments of burnt flint from fill 0018. In segment 0047 two fills were identified in ditch 0017 with an upper dark grey sand (0051), similar to the fills elsewhere in the ditch, over a mid brown sand, 0052 (S14 Figure 6). Both fills were heavily disturbed and no finds were recovered.

The ditch was identified as cutting a sequence of layers across the eastern half of the site as well as ditch 0038. The uppermost was layer 0063 recorded as layers 0006 and 0008 in the evaluation. It was a thin layer of mixed very dark brown, grey and black sand surviving only in patches (S3 Figure 5). A single Mesolithic microlith (0066) was recovered from layer 0006. Sealed by this layer was a mid to light grey sand recorded as 0007 in the evaluation (S3 Figure 5), as 0044 in segment 0042 (S13 Figure 6) and as 0062 in segments 0053 and 0054 (S15 and S16 Figure). The lowest identified layer (0065) was visible across most of Area 1 and was cut by ditches 0017 and 0038, structure 0010 and was sealed below layer 0062. It was a mottled dark and light brown silty sand, 0.2m deep, and was recorded as 0043 in segment 0042 (S13 Figure 6).

Ditch 0038 was linear in plan ran in a north to south direction on the same alignment as the north to south section of ditch 0017 (Figure 2). The ditch was recorded in segment 0048 and was 0.9m wide and 0.4m deep and was partly excavated in segment 0037 (S11 Figure 6). It was filled by a mid to dark grey sand 0039 (in segment 0037) and 0046 (in segment 0048) with no recovered finds. Both this ditch and ditch 0017 were likely to be boundary ditches with 0017 a later re-cutting and alteration of the boundary.

Ditch 0049 which was only identified in a small area near the southern limit of the excavation area and was heavily truncated by modern ground disturbance (Figure 2). A total length of 1.4m was exposed and it appeared to run in an east to west direction possibly starting to turn south at its western end. In section the ditch was fairly steep-sided with a concave base (S12 Figure 6). It was filled by a mid grey sand (0050) and no finds were recovered.

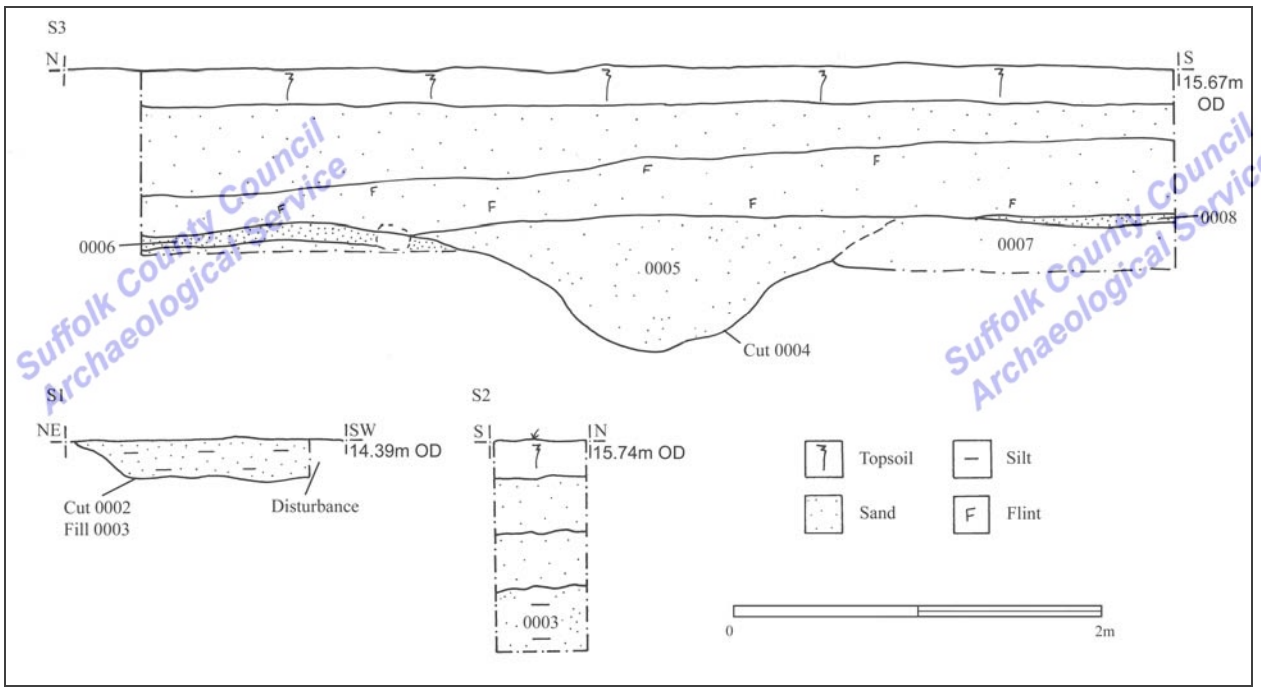

Figure 5. Sections from evaluation.

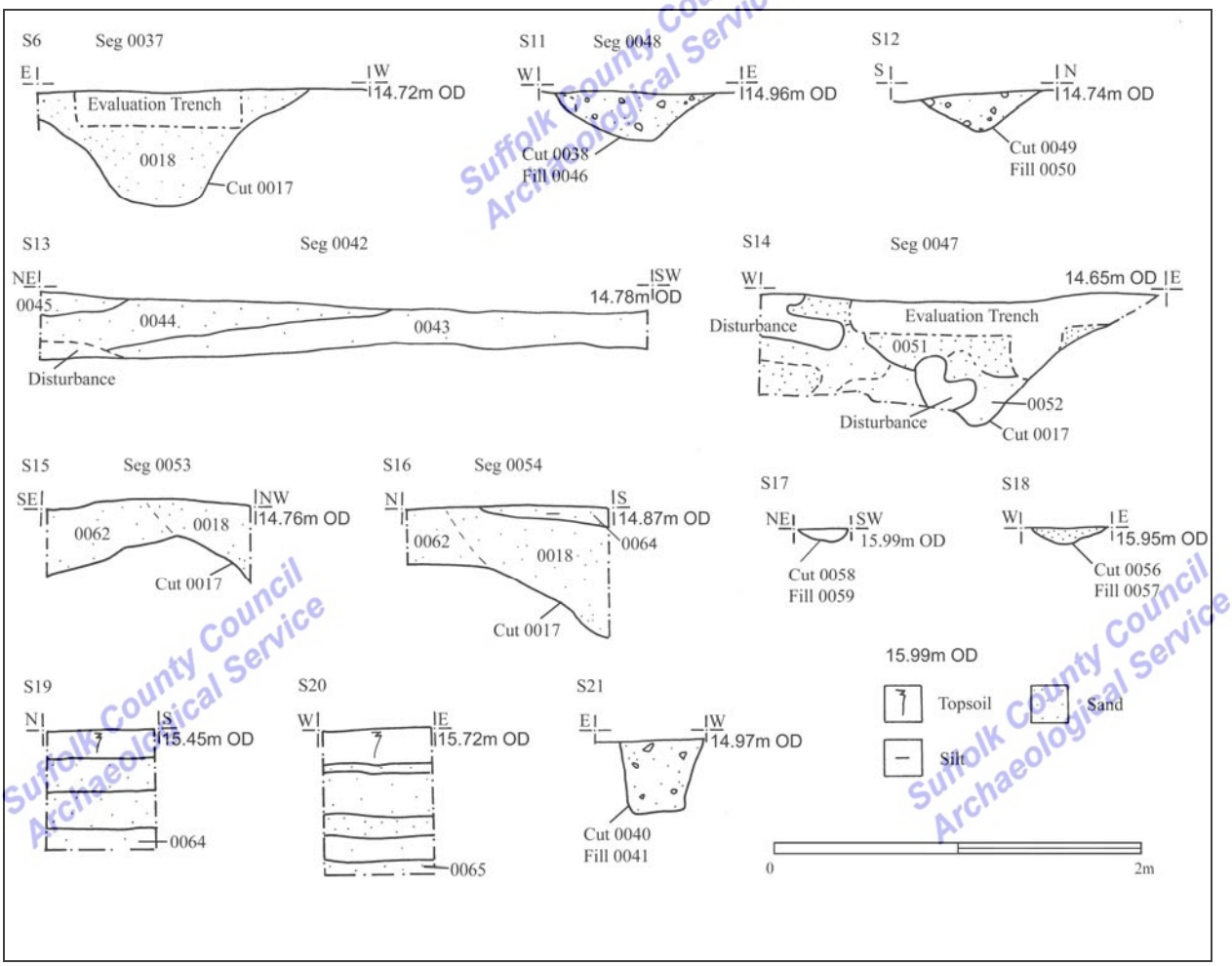

Figure 6. Sections from the excavation.

Area 2

Area 2 covered 473sq m and was the over the entire footprint for the new transformer located to the west of the present substation (Figures 1 and 7). This area was further up the natural slope from Area 1 with no levelling deposits identified and only a shallow topsoil over the natural sand subsoil. Only two features were identified within the stripped area.

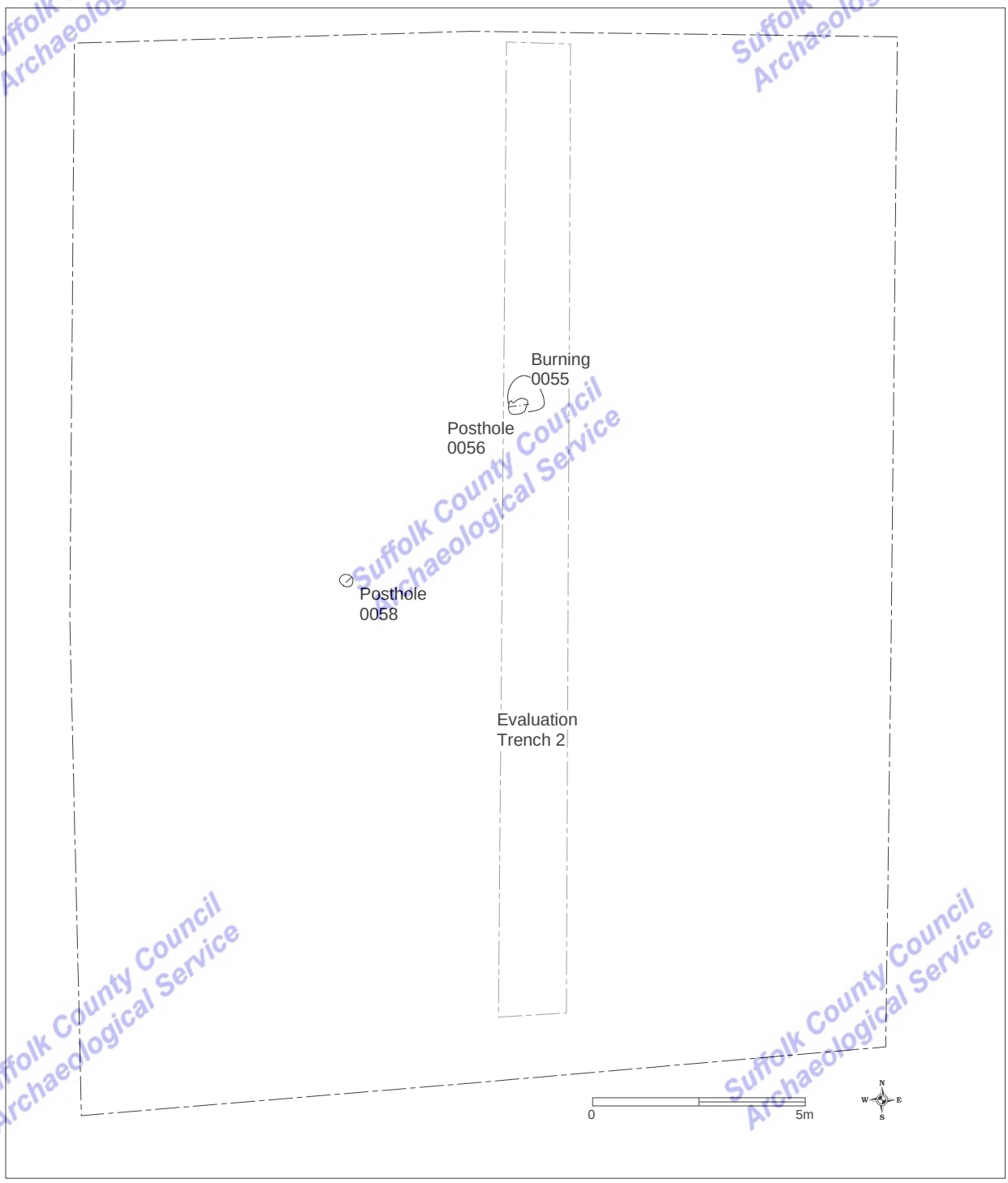

Figure 7. Plan of Area 2.

Posthole 0056 was oval in plan, 0.42m by 0.35m, with shallow sloping sides and a concave base, 0.1m deep (Figures 6 and 7). It was filled by a black sand (0057) and appeared to cut a layer of red (burnt) sand (0055), 0.85m in diameter, which had previously been identified in Evaluation Trench 2 (0009). No finds were recovered from the burnt layer or the posthole.

Located 5.3m to the south-west of 0056 was a second posthole (0058). It was circular in plan, 0.28m in diameter, with shallow sloping sides and a concave base, 0.07m deep (Figures 6 and 7). It was filled by a mid to dark brown sand (0059) with no finds recovered.

Finds and environmental evidence

by Richenda Goffin

Introduction

Finds were collected from 9 contexts, as shown in the table below.

Context	Pottery		Animal Bone		Flint		Burnt Flint		Miscellaneous	Spotdate
	No.	Wt/g	No.	Wt/g	No.	Wt/g	No.	Wt/g		
0003					1	9				Uncertain date
0006					1	3				Uncertain date
0014			8	21	2	203	1	153	Copper alloy 2 (6g)	Finds of mixed date
0015	1	1	2	9	2	13				Early Saxon
0018							3	97		Uncertain date
0020			5	10						Early Saxon
0024					1	66				Modern ditch
0026			2	6	1	7	5	32		Early Saxon
0060	1	15					1	21		Early Saxon
Total	2	16	17	46	8	301	10	303		

Table 1. Finds quantities.

Pottery

Two fragments of Early Saxon pottery were recovered from the evaluation and excavation (16g). A very small body sherd of hand-made sandy ware with some organic tempering (ESO2) was present in the main fill 0015 of the SFB 0010, and a larger fragment containing quartzite and mica (ESQZ) was found in a second fill 0060 of this feature. As both sherds are small and undecorated, it was not possible to refine the dating beyond the Early Saxon period.

Metalwork

Two fragments of copper alloy were found in 0014, a fill within the SFB close to the earth cable and also near to the modern ditch 0023. One of these is made of wires of copper alloy twisted into a single strand. The second is a solid rod, oval in section, and slightly faceted along one edge. Both are post-medieval and intrusive.

Worked flint (Identifications by Colin Pendleton)

Eight fragments of worked flint were recovered from the excavation (301g). The most significant piece is a Mesolithic microlith with obliquely truncated steeply retouched end, which was found in layer 0006, possibly a buried topsoil. It has parallel flake scars on the dorsal face and has possible slight patination.

An unpatinated squat flake with hinge fracture from ditchfill 0003 is late prehistoric in date, probably Bronze Age. A second squat flake with limited amount of retouch/use wear, and a squat flake with severe hinge fracture found in SFB fill 0015 are also of this date. Another squat irregular primary flake recovered from fill 0026 within the SFB also dates to this period. Two large irregular 'quartered' flints from the SFB fill 0014 may have been struck deliberately or accidentally. Another fragment of unpatinated flint from 0024, the fill of a modern ditch, may also be 'quartered'.

Burnt flint

Ten fragments of burnt flint were collected in total (303g). Three flints were recovered from the undated ditchfill 0018, whilst other fragments were found in fills within the SFB.

Animal bone

Seventeen fragments of animal bone were collected in total (46g). The material is in very poor condition as it is soft, crumbly and fragmentary with few of the original surfaces surviving. In nearly all cases this prevented identification. The exception to this is the bone found in the fill 0020 of one of the postholes of the SFB, which is slightly better preserved and includes two fragments of ribs (probably bovine) and a phalange from a pig or sheep.

Macrobotanical and other remains (Val Fryer)

Introduction and method statement

Samples for the retrieval of the plant macrofossil assemblages were taken from the upper and lower fills (samples 0060 and 0061respectively) of the disturbed remains of an isolated sunken featured building of Early Saxon date.

The samples were processed by manual water flotation/washover, and the flots were collected in a 500 micron mesh sieve. The dried flots were scanned under a binocular microscope at magnifications up to x 16, and the plant macrofossils and other remains noted are listed in a table retained in the archive (Table 2). Nomenclature within the table follows Stace (1997). All plant remains were charred. Modern fibrous and woody roots were present in both assemblages.

The non-floating residues were collected in a 1mm mesh sieve and sorted when dry. All artefacts/ecofacts were retained for further specialist analysis.

Results

Both assemblages are extremely small (considerably <0.1 litres in volume), containing mostly small pieces of charcoal and small rounded 'pellets' of burnt or fired clay. However, small fragments of charred heather (Ericaceae) stem are also present along with pieces of burnt bone.

Conclusions

Although the density of material present is very low, it is, perhaps, most likely that both assemblages are derived from small quantities of hearth waste and/or domestic detritus, which may have fallen through gaps in the raised floor of the structure into the space below. Such assemblages are known from other similar contexts within the eastern region.

Discussion of the finds evidence

Only a small quantity of finds and animal bone was recovered from the fills of the SFB. These truncated deposits were disturbed by the insertion of the earth cable, and by the late ditch 0023. None of the deposits inside this feature were fully sealed and were open to contamination, as reflected by the metal finds recovered from 0014. Since only limited fieldwalking and archaeological investigation has taken place in this part of the parish, the presence of this building is of interest, although it may be an isolated example. The Early Saxon pottery provides some evidence for the date of this feature, although it was only present in very small quantities.

Fragments of worked flint dating to the Mesolithic and later prehistoric periods were recovered from ditchfill 0003 and layer 0006. These features do not appear to be related to the SFB, and they may be of an earlier, prehistoric date. The flint microlith is particularly significant, as such finds are rare in the county of Suffolk (Colin Pendleton, pers.comm).

General Discussion

The archaeological work on the site identified a series of well preserved deposits especially in Area 1 where they were sealed by a deep soil overburden. Evidence was recovered for a sequence of boundary ditches, a Sunken Feature Building and a possible later posthole building. The excavation also identified the natural slope running down from west to east with later levelling of the ground probably during the construction of the substation. Heavy disturbance was also recorded in Trench 1 and Area 1 and again this was probably associated with the construction of the substation.

The most notable and only securely dated feature was the Early Saxon two post Sunken Feature Building (0010). It was succeeded by a possible posthole structure though very little of this survived making it impossible to clearly define the form of the structure itself.

The three ditches (0017, 0038 and 0049) were not clearly dated with only one late prehistoric worked flint and three burnt flints recovered from the fills. Worked flint was also recovered from a buried soil (0006) and the Sunken Feature Building (0010). This suggested that prehistoric finds were spread across the area of the site and the worked flint from ditch 0017 may be residual as with those in the Sunken Feature Building (0010). However, the ditches appeared unrelated to the Sunken Feature Building and could be earlier in date and maybe prehistoric.

A clear sequence of buried soils was identified in the eastern half of Area 1 and was preserved at the bottom of the natural slope with the deepest overburden. Only limited excavation through these soils was undertaken as they were below the foundation level for the transformers. These layers and the continuation of ditch 0017 to the east should have remained preserved *in situ* under the development.

Conclusions

The evaluation and excavation indicated a good level of preservation of archaeological features especially at the eastern end of the site where the ground level appeared to have been built-up. However, there was still extensive ground disturbance probably associated with the construction of the existing substation as well as extensive animal disturbance. Although the archaeological deposits remained fairly well intact there was only minimal finds recovered with the poor condition of the animal bone showing poor preservation of organic material in the acidic sandy soils.

Evidence of prehistoric and Early Saxon activity on the site can be added to the multi-period activity identified to the east on the opposite side of the A134 (BNH 012 and 014). Although the sites to the east were largely in the form of recovered artefacts, with features dated to the Iron Age, they indicated multi-period occupation, Palaeolithic to Early Saxon. The evidence from the Thetford Grid Substation site has supported this idea of multi-period occupation. However, the areas under investigation during this development were limited but indicate the potential for other sites within this area to the north of Barnham village.

References

Stace, C., 1997, *New Flora of the British Isles*. Second edition. Cambridge University Press

Appendix 1 – Brief and Specification

SUFFOLK COUNTY COUNCIL
ARCHAEOLOGICAL SERVICE - CONSERVATION TEAM

Brief and Specification for an Archaeological Evaluation

TRANSFORMER REPLACEMENT, THETFORD GRID SUBSTATION, BARNHAM

This is the brief for the first part of a programme of archaeological work. There is likely to be a requirement for additional work, this will be the subject of another brief.

The commissioning body should be aware that it may have Health & Safety and other responsibilities, see paragraphs 1.7 & 1.8.

1. Background

1.1 Proposals have been made by EDF to extend the compound and add new transformers.

1.2 In order to establish the full archaeological implications of this proposal, EDF have been advised that an archaeological evaluation should be undertaken as the first part of a programme of archaeological work.

Decisions on the need for, and scope of, any further work will be based upon the results of the evaluation and will be the subject of additional briefs..

1.3 The development area lies immediately adjacent to an area of dense archaeology defined by artefacts recovered from quarrying (County Sites and Monuments Record No NH 012); the date range is Palaeolithic, Bronze Age, Roman & Saxon; all within 250m of the proposal area.

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 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.

1.6 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 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.

Appendix 1

1.7 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. The developer should be aware that investigative sampling to test for contamination is likely to have an impact on any archaeological deposit which exists; proposals for sampling should be discussed with this office before execution.

1.8 The responsibility for identifying any restraints on field-work (e.g. Scheduled Monument status, Listed Building status, public utilities or other services, tree preservation orders, SSSIs, wildlife sites &c.) rests with the commissioning body and its archaeological contractor. The existence and content of the archaeological brief does not over-ride such restraints or imply that the target area is freely available.

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 *in situ* [at the discretion of the developer].

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 natural soil processes. Define the potential for existing damage to archaeological deposits. Define the potential for colluvial/alluvial deposits, their impact and potential to mask any archaeological deposit. Define the potential for artificial soil deposits and their impact on any archaeological deposit.

2.4 Establish the potential for waterlogged organic deposits in the proposal area. Define the location and level of such deposits and their vulnerability to damage by development where this is defined.

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 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.

Appendix 1

2.7 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.

2.8 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.

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

3. **Specification: Field Evaluation**

3.1 Trial trenches are to be excavated to cover a minimum 5% by area of the development area 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' must be used. The trench design must be approved by the Conservation Team of the Archaeological Service before field work begins. A possible trench layout for discussion is attached as Figure 1.

3.2 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.

3.3 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.

3.4 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.

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

3.6 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.

Appendix 1

3.7 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.

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

3.9 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).

3.10 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.

3.11 Plans of any 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.

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

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

4. **General Management**

4.1 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.

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

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

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

4.5 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.

Appendix 1

5. Report Requirements

5.1 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).

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

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

5.4 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

5.5 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.

5.6 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).

5.7 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.

5.8 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.

5. 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.

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

5.11 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.

Appendix 1

5.12 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: R D Carr

Suffolk County Council
Archaeological Service Conservation Team
Environment and Transport Department
Shire Hall
Bury St Edmunds
Suffolk IP33 2AR

Tel: 01284 352441

Date: 4 October 2005

Reference: /ThetfordGridSubstation10

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 list

Context	Feature	Group	Segment	Trench	Identifier	Type	Description	Same As	Cuts	Cut By	Under	Over
0001					Finds		Unstratified finds from across the site.					
0002	0002			1	Ditch	Cut	Cut of ditch running approximately N-S along northern enc of Trench 1. Heavily disturbed to south and collapsing trench made identification difficult. Approximately 45 degree regular and straight slope. Flat base.		0006	0004		
0003	0002			1	Ditch	Fill	Mid to dark grey silty sand with occasional small flint.			0004		
0004	0004			1	Ditch	Cut	Cut of ditch running approximately E-W. Appears on surface to cut ditch 0002. Gentle sloping sides becoming steep towards the base. Concave base.		0002 0006			
0005	0004			1	Ditch	Fill	Mid to dark grey sand with occasional small flint.					
0006				1	Layer		Black sand layer located at the northern end of Trench 1.	0008		0002 0004		
0007				1	Layer		Light grey sand with occasional flint. Located directly on top of a dark orange coarse sand natural.			0002 0004	0008	Natural
0008				1	Layer		Black/very dark grey sand located to south of ditch 0004 and east of ditch 0002.	0006		0002 0004		0007
0009				2	Layer		Area of burnt sand. Orange and black in colour. Burnt flint and charcoal present.					
0010		0010		Area 1	Structure		Structure number for SFB including pit and postholes.					
0011	0011	0010		Area 1	Pit	Cut	Cut of pit. Sub-rectangular pit with rounded corners. The sides are gently sloping in the western segments and slope more steeply in the eastern segments. The base is flat but slightly uneven.			0023		
0012	0011	0010	0012	Area 1	Segment		Western quadrant of 0010 and modern ditch 0023.					
0013	0011	0010	0012	Area 1	Pit	Fill	Dark brown black silty sand containing small fragments of charcoal, area of dark staining between 0013 and 0014.					0014

Context	Feature	Group	Segment	Trench	Identifier	Type	Description	Same As	Cuts	Cut By	Under	Over
0014	0011	0010	0012	Area 1	Pit	Fill	Mid brown silty sand. Loose soft sand containing few inclusions of stones. Worked flint and animal bone found within.				0013	0015
0015	0011	0010	0012	Area 1	Pit	Fill	Silvery grey sand, very fine loose fill containing very few inclusions of stones, worked flint and animal bone.				0014	0016
0016	0011	0010	0012	Area 1	Pit	Fill	Mottled orange yellow sand with darker brown patches. Transition between fill 0015 and the natural blotchy orange sand.				0015	
0017	0017		0037	Area 1	Ditch	Cut	In plan curvilinear. Sides slope 75-80 degrees straight and regular with flat base. Photo under 0017 and 0037. Same as ditch 0004 excavated in the evaluation. Also probably same as 0002 from evaluation. Filled with 0018.	0004 0002	0039			
0018	0017		0037	Area 1	Ditch	Fill	Single homogenous fill of ditch. Mid-dark grey loose friable sand. Less than 1% flint. Animal disturbance throughout the whole of the intervention.					
0019	0019	0010		Area 1	Posthole	Cut	Cut of posthole at NE end of structure 0010. Steep sided (near-vertical) regular/straight sides. Concave base. Posthole located at NE end of possible SFB 0010. Only visible after remaoval of pit fill 0026.					
0020	0019	0010		Area 1	Posthole	Fill	Fill of posthole 0019. Mid brown sand with moderate small medium subangular flint. Unfired clay present.					
0021	0021	0010		Area 1	Posthole	Cut	Cut of posthole located on eastern edge of pit 0011. Steep (near-vertical) sides with concave base.					
0022	0021	0010		Area 1	Posthole	Fill	Fill of posthole 0021. Mid brown silty sand with moderate small to medium flint over a dark brown silty sand with occasional small flint.					
0023	0023		0012	Area 1	Ditch	Cut	Modern ditch. Cut of steep sided ditch running N-S across the site. Cuts 0011 on western side of pit. Flat base.		0011			
0024	0023		0012	Area 1	Ditch	Fill	Modern ditch. Fill of ditch 0023. Mid brown silty sand with frequent medium and small flint. Finds recovered but appears modern.Remains of a modern fence post in fill (not kept).					
0025		0010	0025	Area 1	Segment		South segment of 0010.					

Context	Feature	Group	Segment	Trench	Identifier	Type	Description	Same As	Cuts	Cut By	Under	Over
0026	0011	0010	0025 0027 0028	Area 1	Pit	Fill	Fill of pit 0011 in segment 0025, 0027 and 0028. Mixed finds from fills excavated in segments 0025, 0027 and 0028.					
0027		0010	0027	Area 1	Segment		East segment of 0010.					
0028		0010	0028	Area 1	Segment		North segment of 0010.					
0029	0030	0010		Area 1	Posthole	Fill	Fill of posthole 0030. Mid brown silty sand with occasiona small flints over a mottled orange brown silty sand.					
0030	0030	0010		Area 1	Posthole	Cut	Cut of posthole located at northern limit of pit 0011. Near-vertical sides with a concave base. Possibly overcut into natural (see lower part of fill on context sheet 0029 and section).					
0031	0031	0010		Area 1	Posthole	Cut	Cut of posthole located within pit 0011 in SW corner. Steep (near-vertical) sides with possible undecut on SW side. Concave base.					
0032	0031	0010		Area 1	Posthole	Fill	Fill of posthole 0031. Mid brown silty sand with occasiona small flints with a lens of orange brown sand.					
0033	0033	0010		Area 1	Posthole	Cut	Cut of posthole located on outside of pit 0011 on its SW limit. Steep (near-veritcal) sides with concave base. Appears shallower than other postholes associated with pit 0011.					
0034	0033	0010		Area 1	Posthole	Fill	Fill of posthole 0033. Mid brown silty sand and orange brown sand with animal disturbance.					
0035	0035	0010		Area 1	Posthole	Cut	Cut of posthole to south of pit 0011. Steep sided (near-vertical) with concave base.					
0036	0035	0010		Area 1	Posthole	Fill	Fill of posthole 0035. Mid brown silty sand with patches of orange brown sand and dark brown sand.					
0037	0017 0038		0037	Area 1	Segment		Segment through ditches 0017 and 0038.					
0038	0038		0037 0048	Area 1	Ditch	Cut	Linear N-S. Sides slope 50 degrees straight and regular. Base flat.			0017		
0039	0038		0037	Area 1	Ditch	Fill	Mid-dark grey loose friable sand. Heavily disturbed with animal activity. Fill of ditch 0038 in segment 0037.			0017		

Context	Feature	Group	Segment	Trench	Identifier	Type	Description	Same As	Cuts	Cut By	Under	Over
0040	0040			Area 1	Posthole	Cut	Cut of posthole located to west of ditch 0038 at north end of site. Near vertical sides and concave base.					
0041	0040			Area 1	Posthole	Fill	Fill of posthole 0040. Mixed mid to dark brown sand with occasional small flint. Some root disturbance.					
0042			0042	Area 1	Segment		NE/SW section through layers 0043, 0044 and 0045.					
0043			0042	Area 1	Layer		Pale light brown sand with mid brown sand patches.	0065			0044	
0044			0042	Area 1	Layer		Mid grey sand.	0062			0045	0043
0045			0042	Area 1	Layer		Mid yellow loose sand.	0064				0044
0046	0038		0048	Area 1	Ditch	Fill	Fill of ditch 0038 in segment 0048. Mid to dark grey sand with moderate small flints.					
0047	0017		0047	Area 1	Segment		2.2m long excavated segment through ditch 0017 south of segment 0037. Shows ditch 0017 (probably) with two fills but it is possible these two fills are in fact different ditches. Heavy animal and evaluation trench disturbance makes it difficult to be sure.					
0048	0038		0048	Area 1	Segment		Segment excavated through ditch 0038 at north end of site.					
0049	0049			Area 1	Ditch	Cut	Cut of ditch running approximately E-W across part of south end of site. Heavily disturbed to south and east. Possibly curving to south as it heads west. Unclear in plan. South edge fairly steep and north edge much shallower slope. Concave base.					
0050	0049			Area 1	Ditch	Fill	Fill of ditch 0049. Mid grey sand with occasional small flint and patches of light brown sand. Some animal and roo disturbance. No finds.					
0051	0017		0047	Area 1	Ditch	Fill	Upper fill of ditch 0017 within segment 0047. Dark grey sand. No finds. Heavy animal and modern disturbance.					0052
0052	0017		0047	Area 1	Ditch	Fill	Lower fill of ditch 0017 within segment 0047. Mid brown sand becoming lighter/paler towards base. Some animal disturbance. No finds.				0051	
0053			0053	Area 1	Segment		Segment through layer 0062 and ditch 0017.					

Context	Feature	Group	Segment	Trench	Identifier	Type	Description	Same As	Cuts	Cut By	Under	Over
0054			0054	Area 1	Segment		Segment through layers 0062 and 0063 and ditch 0017.					
0055	0055			Area 2	Layer		Layer of burning in western excavation area. First identifie in evaluation. Red (burnt) sand. Possible posthole 0056 cuts layer 0055. Same as 0009 from evaluation trench 2.	0009		0056		
0056	0056			Area 2	Posthole	Cut	Cut of possible posthole in western excavation area. Cuts into burning layer 0055. Shallow sides with concave base. Oval in plan.		0055			
0057	0056			Area 2	Posthole	Fill	Fill of posthole 0056. Black sand with very occasional very small flint.					
0058	0058			Area 2	Posthole	Cut	Cut of small circular posthole in western excavation area. U shaped section with regular sides and concave base.					
0059	0058			Area 2	Posthole	Fill	Mid to dark brown sand with very occasional very small flint. No finds. Fill of posthole 0058.					
0060	0011	0010	0025	Area 1	Pit	Fill	Upper fill of segment 0025 of pit 0011. Mid to light grey sand with moderate flint.	0014				0061
0061	0011	0010	0025	Area 1	Pit	Fill	Lower fill in segment 0025 of pit 0011. Dark to mid grey silty sand with occasional flint. No finds.	0015			0060	
0062				Area 1	Layer		Light grey sand with occasional small flint. Across eastern half of Area 1. Buried soil. Features 0017 and 0038 cut into this layer. Lies over natural yellow orange sand. No finds. Same as 0007 from evaluation.	0044 0007		0017 0038	0063	Natural
0063				Area 1	Layer		Dark brown silty sand layer with occasional flint. Lies over 0062. Buried soil. No finds. Same as 0006 and 0008 from evaluation.	0006 0008		0017	0064	0062
0064				Area 1	Layer		Yellow sand with moderate flint. Covers eastern half of Area 1. Possible dump sand/build up. Covers layers 0062 and 0063.	0045				0062 0063 0017
0065				Area 1	Layer		Mottled dark brown silty sand layer. Covers western half o Area 1. Disturbed natural layer over cleaner dark yellow brown sand. Cut by 0010, 0038 and 0017.	0043		0010 0038 0017		
0066	0006						Flint microlith (small find number)					
0067	0014						Copper alloy twist (s find no)					

Context	Feature	Group	Segment	Trench	Identifier	Type	Description	Same As	Cuts	Cut By	Under	Over
0068	0014						Copper alloy frag (s find no)					