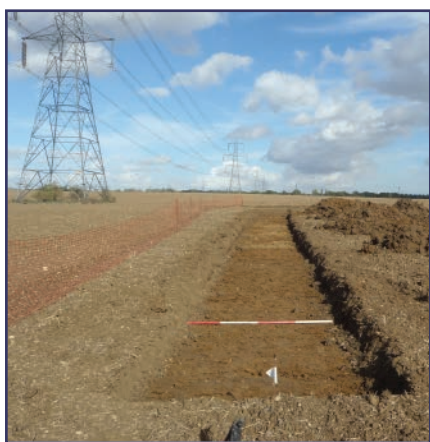


Bull's Lodge 400KV Substation Boreham, Essex



Archaeological Evaluation Report



November 2016

**Client: Arcadis Consulting (UK) Ltd
on behalf of National Grid**

OA East Report No: 2003
OASIS No: oxfordar3-266507
NGR: TL 7508 1054

Bull's Lodge 400KV Substation, Boreham, Essex

Archaeological Evaluation

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Report Date: November 2016

Report Number: 2003
Site Name: Bull's Lodge 400kV Substation
HER Event No:
Date of Works: October 2016
Client Name: Arcadis Consulting (UK) Ltd on behalf of National Grid
Client Ref: NA
Planning Ref: 15/01581/FUL
Grid Ref: TL 7508 1054
Site Code: BOBLS16
Finance Code: XEXBLB16
OASIS number: oxfordar3-266507
Receiving Body: Chelmsford Museum (accession no. TBC)

Prepared by: Anthony Haskins
Position: Fieldwork Project Officer
Date: 27/10/16

Checked by: Matt Brudenell
Position: Senior Project Manager
Date: 03/11/16
Signed:

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Summary

Between 17th and 19th October 2016 Oxford Archaeology East conducted an archaeological evaluation consisting of six linear trial trenches at Bull's Lodge, Boreham, Essex (centred TL 7508 1054). No archaeological features, deposits or artefacts were found.

1 INTRODUCTION

1.1 Location and scope of work

- 1.1.1 An archaeological evaluation was conducted at the proposed Bull's Lodge 400kV Substation site, on land off Generals Lane, Boreham, Essex (centred TL 75080 10540; Fig. 1).
- 1.1.2 This archaeological evaluation was undertaken in accordance with a Brief issued by Alison Bennet of Essex County Council (ECC; Planning Application 15/01581/FUL), and an approved Written Scheme of Investigation prepared by Arcadis Consulting Ltd (Gidman 2016).
- 1.1.3 The work was designed to assist in defining the character and extent of any archaeological remains within the proposed redevelopment area, in accordance with the guidelines set out in *National Planning Policy Framework* (Department for Communities and Local Government March 2012). The results will enable decisions to be made by CCC, on behalf of the Local Planning Authority, with regard to the treatment of any archaeological remains found.
- 1.1.4 The site archive is currently held by OA East and will be deposited with the appropriate county stores in due course.

1.2 Geology and topography

- 1.2.1 The site is on a south-east facing gentle slope at 29m to 33m OD. The site is on a bedrock of London Clay formation with superficial deposits of Lowestoft formation diamicton. The field is currently under arable production and is situated 300m north of Boreham and immediately north of the A12.
- 1.2.2 It is bordered to the south by the access track to Brick House Farm, woodland to the west and arable fields to the north and east.

1.3 Archaeological background

- 1.3.1 The following sections summarise information from a Cultural Heritage Desk-based Assessment of the site produced by Arcadis Consulting (UK) Limited (Gidman 2015), based on information obtained from the Essex Historic Environment Record (EHER). The site was also subject to a magnetometer survey (Webb 2015; Fig. 2) which revealed traces of a former (recent) field boundary, but no anomalies of obvious archaeological origin.

Prehistoric

- 1.3.2 Various finds of prehistoric date have been found in the landscape surrounding the site. Around 700m to the south, in Boreham, Neolithic to Bronze Age worked flints (EHER 6181; 46215) have been found as well a Late Bronze Age hoard (EHER 6179; 6180), a Bronze Age spear head (EHER 13395) and sherds of Iron Age pottery (EHER 14595). To the west of the site scatters of Neolithic and Bronze Age flint have been recorded along the Boreham Brook (EHER 47632), whilst to the north-east, in the vicinity of Bull's Lodge Quarry, archaeological investigations have uncovered scatters of works flint through fieldwalking (EHER 18649), with excavation revealing Late Iron Age rectangular enclosures and residual sherds of Late Bronze Age/Early Iron Age pottery and Middle Iron Age pottery (EHER 1647). Further west, a large swathe of dispersed prehistoric settlement remains spanning the Middle Bronze Age to Middle Iron Age has been encountered during the ongoing archaeological investigations in advance of the Beaulieu Housing development (EHER 47635; R. Mortimer pers. Comm.).

Roman

- 1.3.3 Although a Roman road from Chelmsford to Witham is believed to be located c.800m south of the site (EHER 5568 - the line being largely conjectural with no surface evidence), the main focus of activity in the immediately vicinity is c. 600m to the north-west. A fieldwalking and metal detector survey around Bull's Lodge Quarry identified a large concentration of Roman tile and brick (EHER 18649; 14361). Subsequent excavation revealed a significant 3rd and 4th century settlement with ditched enclosures, pits and two buildings with substantial masonry foundations; one an aisled hall with an apse (EHER 18648). The building is interpreted as a 'principia', with a hall, apse and chambers used for an official use.

Medieval and post-medieval

- 1.3.4 The only medieval finds from the vicinity comprise a sherd of pottery and a copper alloy artefact recovered in fields surrounding Bull's Lodge Quarry (EHER 14630; 50407). In the early post-medieval period, the site lay to the east of Red Deer Park (NHER 47228), one of four parks (Great or Old Park, the New or Little Park, the Red Deer Park and Dukes Park) surrounding New Hall. Combined, these parks totalled approximately 1,500 acres, with each park having its own park-keeper' lodge: New Lodge, Old Lodge, Bulls lodge and Dukes Lodge. A former fishpond and Tudor earthwork (probably a dam) associated with the park is located c.850m west of the site (EHER 6115; 13400).
- 1.3.5 Eighteenth and 19th century maps of the area show the site in agricultural use. The Ordnance Survey historic map series shows the field in which the site is located divided by a series of field boundaries that were removed in mid 1950s. One of these north-east to south-west aligned field divisions registered as a faint anomaly in the geophysical survey (Webb 2015; Fig. 2).

Undated

- 1.3.6 A series of undated cropmarks have been recorded to the north of the site (EHER 9856). These include linear features, rectangular and rectilinear enclosures and an oval enclosure together with some possible pits.

1.4 Acknowledgements

- 1.4.1 The author would like to thank James Gidman of Arcadis Consulting (UK) Ltd who commissioned the project on behalf of National Grid. The author would also like to thank Alison Bennett who monitored the work for Essex County Council. Further thanks go to Dave Brown, who carried out the site survey and Gillian Greer who produced the graphics within this report. The site was excavated by the author with assistance from Toby Knight. Matt Brudenell managed the project.

2 AIMS AND METHODOLOGY

2.1 Aims

- 2.1.1 The objective of this evaluation was to determine as far as reasonably possible the presence/absence, location, nature, extent, date, quality, condition and significance of any surviving archaeological deposits within the development area.
- 2.1.2 Further aims were identified in the Written Scheme of Investigation (Gidman 2016)
- To ground truth the results of the archaeological geophysical survey;
 - To determine the existence or absence of archaeological remains, and where these exist, to establish the character and complexity of any remains by sample excavation;
 - To attempt to establish the date of the deposits encountered through recovery of artefacts;
 - To establish the environmental significance of deposits with evidence of potential by targeted environmental sampling, processing and assessment;
 - To place any archaeological discoveries into the local and, where appropriate, regional/national context, and to assess the implications of any such discoveries for our current understanding of the development of settlement in the area;
 - On the basis of the evaluation results, to inform the need for further archaeological mitigation of all or part of the evaluated areas.

2.2 Methodology

- 2.2.1 The Brief required that six 30m-long linear trenches be excavated across the site.
- 2.2.2 Machine excavation was carried out under constant archaeological supervision with a 360-type excavator using a toothless ditching bucket.
- 2.2.3 The site survey was carried out using a Leica GS08 with SmartNet live correctional datafeed.
- 2.2.4 Spoil, exposed surfaces and features were scanned with a metal detector. All metal-detected and hand-collected finds were retained for inspection, other than those which were obviously modern.
- 2.2.5 All archaeological features and deposits were recorded using OA East's *pro-forma* sheets. Trench locations, plans and sections were recorded at appropriate scales and colour and monochrome photographs were taken of all relevant features and deposits.
- 2.2.6 The site was excavated in dry weather with good light.

3 RESULTS

- 3.1.1 No archaeological features were identified within any of the six trenches (Plates 1-6), and no finds were recovered. Table 1 shows the basic soil depths for each of the trenches and a more detailed trench description can be found in Appendix A.
- 3.1.2 The natural was a mix of mid yellowish-brown sandy clay with frequent flint gravel inclusions and reddish-brown and greyish-brown clay. A single patch of chalky gravel natural was exposed in Trench 3. The natural was sealed by an overlying subsoil of dark reddish-brown sandy silt. The topsoil was a greyish brown sandy-clay.

Trench	Topsoil Depth (m)	Subsoil Depth (m)
1	0.3	0.1
2	0.3	0.15
3	0.3	0.1
4	0.35	0.2
5	0.3	0.1
6	0.3	0.1

Table 1: Excavated topsoil and subsoil depths

3.2 Finds Summary

- 3.2.1 No archaeological material was recovered.

3.3 Environmental Summary

- 3.3.1 No environmental material was recovered.

4 DISCUSSION AND CONCLUSION

4.1 Conclusion

4.1.1 The evaluation revealed no archaeological features, deposits or finds, suggesting that the proposed Substation site lies outside of known areas of activity and occupation in the surrounding landscape. The negative results broadly corroborate those of the geophysical survey (Webb 2015).

4.2 Recommendations

Recommendations for any future work based upon this report will be made by the County Archaeology Office.

APPENDIX A. TRENCH DESCRIPTIONS AND CONTEXT INVENTORY

Trench 1						
General description				Orientation	NE-SW	
Trench devoid of archaeology. Consists of topsoil and subsoil overlying a natural of clay and gravels.				Avg. depth (m)	0.4	
				Width (m)	2	
				Length (m)	30	
Contexts						
context no	type	Width (m)	Depth (m)	comment	finds	date
1	Layer	-	0.3	Topsoil	-	-
2	Layer	-	0.1	Subsoil	-	-
Trench 2						
General description				Orientation	NE-SW	
Trench devoid of archaeology. Consists of topsoil and subsoil overlying a natural of clay and gravels.				Avg. depth (m)	0.45	
				Width (m)	2	
				Length (m)	30	
Contexts						
context no	type	Width (m)	Depth (m)	comment	finds	date
1	Layer	-	0.3	Topsoil	-	-
2	Layer	-	0.15	Subsoil	-	-
3	Layer	-	0.3	Colluvium/Subsoil	-	-
4	Layer	-	-	Natural gravel	-	-
Trench 3						
General description				Orientation	NE-SW	
Trench devoid of archaeology. Consists of topsoil and subsoil overlying a natural of clay and gravels.				Avg. depth (m)	0.4	
				Width (m)	2	
				Length (m)	30	
Contexts						
context no	type	Width (m)	Depth (m)	comment	finds	date
1	Layer	-	0.3	Topsoil	-	-
2	Layer	-	0.1	Subsoil	-	-
Trench 4						
General description				Orientation	NW-SE	
Trench devoid of archaeology. Consists of topsoil and subsoil overlying a natural of clay and gravels.				Avg. depth (m)	0.45	
				Width (m)	2	
				Length (m)	30	
Contexts						

context no	type	Width (m)	Depth (m)	comment	finds	date
1	Layer	-	0.35	Topsoil	-	-
2	Layer	-	0.2	Subsoil	-	-
Trench 5						
General description					Orientation	NW-SE
Trench devoid of archaeology. Consists of topsoil and subsoil overlying a natural of clay and gravels.					Avg. depth (m)	0.4
					Width (m)	2
					Length (m)	30
Contexts						
context no	type	Width (m)	Depth (m)	comment	finds	date
1	Layer	-	0.3	Topsoil	-	-
2	Layer	-	0.1	Subsoil	-	-
Trench 6						
General description					Orientation	NW-SE
Trench devoid of archaeology. Consists of topsoil and subsoil overlying a natural of clay and gravels.					Avg. depth (m)	0.4
					Width (m)	2
					Length (m)	30
Contexts						
context no	type	Width (m)	Depth (m)	comment	finds	date
1	Layer	-	0.3	Topsoil	-	-
2	Layer	-	0.1	Subsoil	-	-

APPENDIX B. BIBLIOGRAPHY

Gidman, J. 2016 *Bull's Lodge 400kV Substation: Archaeological Trial Trench Evaluation Written Scheme of investigation*. Arcadis Consulting (UK) Ltd Report

Gidman, J. 2015 *Bull's Lodge 400kV Substation: Cultural Heritage Desk Based Assessment*. Hydeer Consulting (UK) Ltd Report

Webb, A. 2015 *Bull's Lodge 400kV Substation, Chelmsford, Essex Geophysical Survey*. Headland Archaeology Report BLCE/01

APPENDIX C. OASIS REPORT FORM

All fields are required unless they are not applicable.

Project Details

OASIS Number	<input type="text"/>		
Project Name	<input type="text"/>		
Project Dates (fieldwork) Start	<input type="text"/>	Finish	<input type="text"/>
Previous Work (by OA East)	<input type="text"/>	Future Work	<input type="text"/>

Project Reference Codes

Site Code	<input type="text"/>	Planning App. No.	<input type="text"/>
HER No.	<input type="text"/>	Related HER/OASIS No.	<input type="text"/>

Type of Project/Techniques Used

Prompt

Development Type

Please select all techniques used:

<input type="checkbox"/> Aerial Photography - interpretation	<input type="checkbox"/> Grab-Sampling	<input type="checkbox"/> Remote Operated Vehicle Survey
<input type="checkbox"/> Aerial Photography - new	<input type="checkbox"/> Gravity-Core	<input type="checkbox"/> Sample Trenches
<input type="checkbox"/> Annotated Sketch	<input type="checkbox"/> Laser Scanning	<input type="checkbox"/> Survey/Recording Of Fabric/Structure
<input type="checkbox"/> Augering	<input type="checkbox"/> Measured Survey	<input type="checkbox"/> Targeted Trenches
<input type="checkbox"/> Dendrochronological Survey	<input type="checkbox"/> Metal Detectors	<input type="checkbox"/> Test Pits
<input type="checkbox"/> Documentary Search	<input type="checkbox"/> Phosphate Survey	<input type="checkbox"/> Topographic Survey
<input type="checkbox"/> Environmental Sampling	<input type="checkbox"/> Photogrammetric Survey	<input type="checkbox"/> Vibro-core
<input type="checkbox"/> Fieldwalking	<input type="checkbox"/> Photographic Survey	<input type="checkbox"/> Visual Inspection (Initial Site Visit)
<input type="checkbox"/> Geophysical Survey	<input type="checkbox"/> Rectified Photography	

Monument Types/Significant Finds & Their Periods

List feature types using the [NMR Monument Type Thesaurus](#) and significant finds using the [MDA Object type Thesaurus](#) together with their respective periods. If no features/finds were found, please state "none".

Monument	Period	Object	Period
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<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>

Project Location

County	<input type="text"/>	Site Address (including postcode if possible)
District	<input type="text"/>	<input type="text"/>
Parish	<input type="text"/>	
HER	<input type="text"/>	
Study Area	<input type="text"/>	National Grid Reference <input type="text"/>

Project Originators

Organisation	<input type="text"/>
Project Brief Originator	<input type="text"/>
Project Design Originator	<input type="text"/>
Project Manager	<input type="text"/>
Supervisor	<input type="text"/>

Project Archives

Physical Archive	Digital Archive	Paper Archive
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Archive Contents/Media

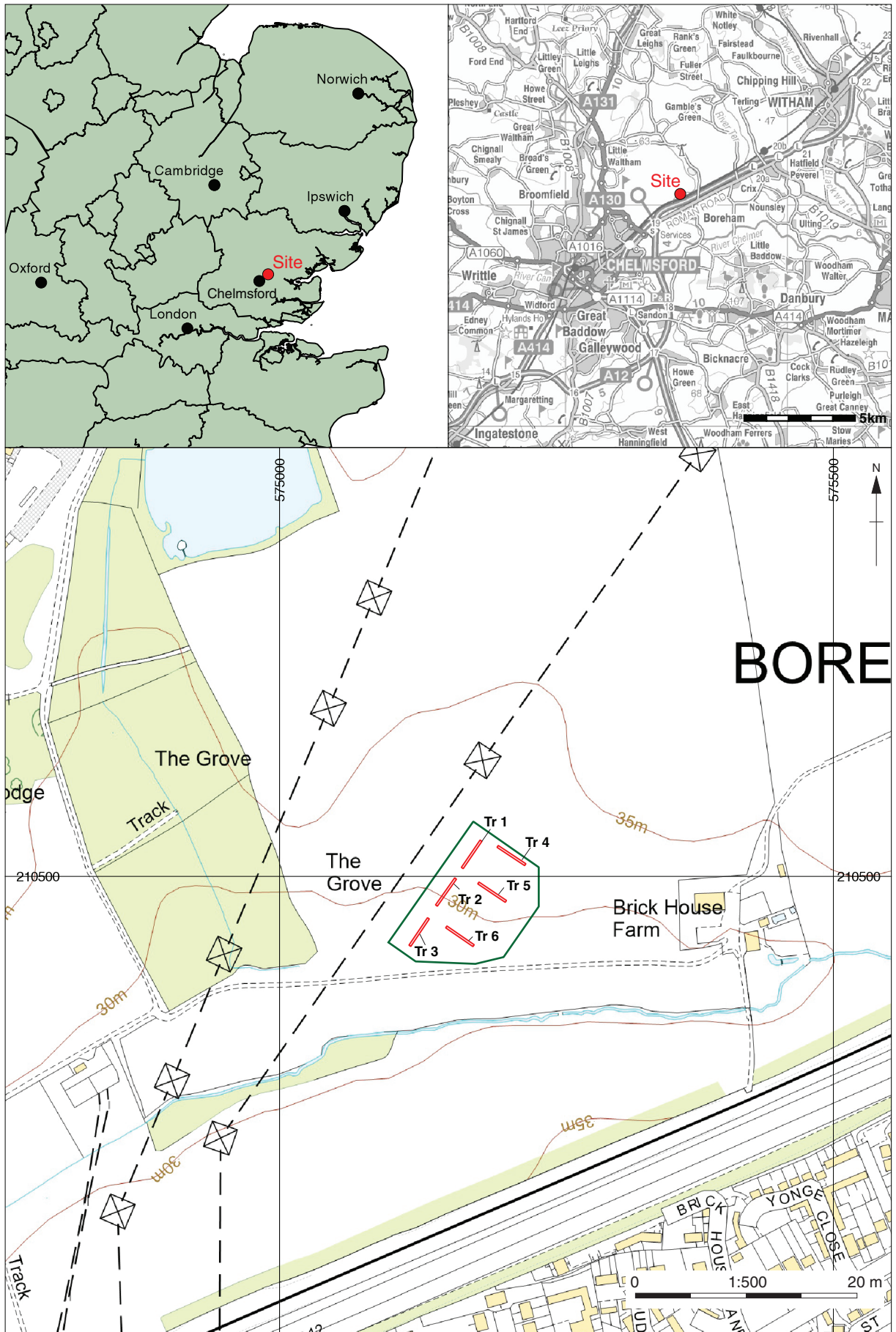
	Physical Contents	Digital Contents	Paper Contents
Animal Bones	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Ceramics	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Environmental	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Glass	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Human Bones	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Industrial	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Leather	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Metal	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Stratigraphic		<input type="checkbox"/>	<input type="checkbox"/>
Survey		<input type="checkbox"/>	<input type="checkbox"/>
Textiles	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Wood	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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Worked Stone/Lithic	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
None	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Other	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Digital Media	Paper Media
<input type="checkbox"/> Database	<input type="checkbox"/> Aerial Photos
<input type="checkbox"/> GIS	<input type="checkbox"/> Context Sheet
<input type="checkbox"/> Geophysics	<input type="checkbox"/> Correspondence
<input type="checkbox"/> Images	<input type="checkbox"/> Diary
<input type="checkbox"/> Illustrations	<input type="checkbox"/> Drawing
<input type="checkbox"/> Moving Image	<input type="checkbox"/> Manuscript
<input type="checkbox"/> Spreadsheets	<input type="checkbox"/> Map
<input type="checkbox"/> Survey	<input type="checkbox"/> Matrices
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<input type="checkbox"/> Virtual Reality	<input type="checkbox"/> Misc.
	<input type="checkbox"/> Research/Notes
	<input type="checkbox"/> Photos
	<input type="checkbox"/> Plans
	<input type="checkbox"/> Report
	<input type="checkbox"/> Sections
	<input type="checkbox"/> Survey

Notes:

APPENDIX D. COPY OF ESSEX HISTORIC ENVIRONMENT RECORD SUMMARY SHEET

Site name/Address: Bull's Lodge 400KV Substation, Boreham, Essex	
Parish: Boreham	District: Chelmsford
NGR: TL 7508 1054	Site Code: BOBLS16
Type of Work: Trial trench evaluation	Site Director/Group Anthony Haskins, Oxford Archaeology East
Date of Work: 17th-19th October 2016	Size of Area Investigated: 10200m ²
Location of Finds/Curating Museum: Chelmsford Museum	Funding source: Developer funded, National Grid
Further Seasons Anticipated?: No	Related HER Nos: NA
Final Report: Haskins, A. 2016. Bull's Lodge 400KV Substation, Boreham, Essex. Archaeological Evaluation. Oxford Archaeology East Report no. 2003.	
Periods Represented: None	
SUMMARY OF FIELDWORK RESULTS: Between 17th and 19th October 2016 Oxford Archaeology East conducted an archaeological evaluation consisting of six linear trial trenches at Bull's Lodge, Boreham, Essex (centred TL 7508 1054). No archaeological features, deposits or artefacts were found.	
Previous Summaries/Reports: NA	
Author of Summary: Matt Brudenell	Date of Summary: 01/11/2016



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Figure 1: Site location showing archaeological trenches (red) in proposed substation area (green)

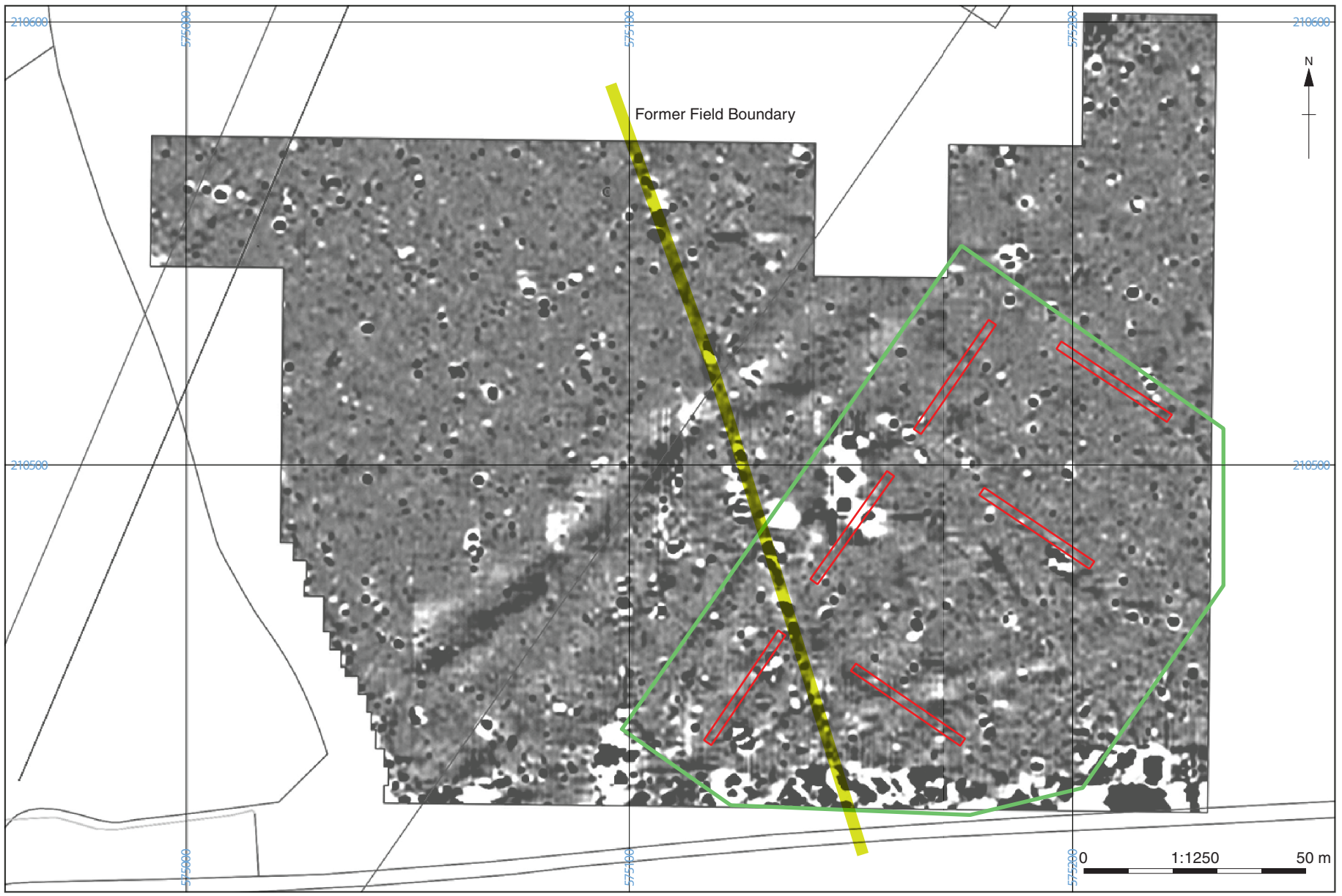


Figure 2: Trenches overlain with geophysics results (Reproduced from Webb 2015, III 4.



Plate 1: Trench 1 from south-west



Plate 2: Trench 2 from south-west



Plate 3: Trench 3 from south-west



Plate 4: Trench 4 from north-west



Plate 5: Trench 5 from south-east



Plate 6: Trench 6 from south-east



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