

RPS



**THE WIXAMS
ELSTOW
BEDFORDSHIRE**

EARTHWORK SURVEY AREAS 5 AND 6 (RPS 77/78 AND 83)

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Preface

Every effort has been made in the preparation of this document to provide as complete a summary as possible within the terms of the method statement. All statements and opinions in this document are offered in good faith. Albion Archaeology cannot accept responsibility for errors of fact or opinion resulting from data supplied by a third party, or for any loss or other consequence arising from decisions or actions made upon the basis of facts or opinions expressed in this document.

This report has been prepared by Joanne Archer (Archaeological Supervisor), and edited by Ben Barker (Project Officer). Joan Lightning (CAD Technician) produced the figures and processed the data. The fieldwork was undertaken by Joanne Archer (Archaeological Supervisor), Laura Hill and Lynda O'Sullivan (Archaeological Technicians). Joe Abrams (Project Manager) was responsible for day-to-day management. All Albion projects are under the overall management of Drew Shotliff (Operations Manager).

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Structure of the Report

After the introductory Section 1, a historical map regression focussed on Areas 5 and 6 (Section 2) is presented, followed by the results of the earthwork survey (Section 3). Section 4 presents a synthesis of the results. Section 5 is a bibliography.

Appendix 1 lists the cartographic sources consulted during the project and Appendix 2 contains a table of survey station data.

Key Terms

Throughout this report the following terms or abbreviations are used:

<i>Albion</i>	Albion Archaeology
<i>EDM</i>	Electronic Distance Measurer
<i>HER</i>	Historic Environment Record
<i>BLARS</i>	Bedfordshire and Luton Archives and Records Service



Non-Technical Summary

An earthwork survey was required by the Bedfordshire County Archaeological Officer in order to establish the extent and condition of ridge and furrow earthworks in Archaeology Areas 5 and 6 of The Wixams development area. Albion Archaeology was commissioned by RPS Planning (the Wixams Historic Environment project managers), on behalf of Gallagher Estates, to undertake the survey and prepare a report on the results (this document).

This survey was designed to characterise the remnant ridge and furrow field systems and allow their importance to be assessed.

Areas 5 and 6 lie on the hinterland of known medieval settlement cores at Wilstead and Duck-End. Therefore, it was not unexpected that this land would have formed part of the land exploited for agricultural purposes during that period. The survey has recorded the remnants of medieval ridge and furrow earthworks present in those fields and reviewed the results in the light of extant historical map evidence.



1. INTRODUCTION

1.1 Background

An earthwork survey was required by the County Archaeological Officer in order to establish the extent and condition of ridge and furrow earthworks in Areas 5 and 6 of The Wixams development area. Albion Archaeology was commissioned by RPS Planning, on behalf of Gallagher Estates, to undertake the survey and prepare a report on the results (this document).

This survey was designed to characterise the remnant ridge and furrow field systems and allow their importance to be assessed. The project forms a component of the Wixams development archaeological and historic environment mitigation strategy as set out in RPS Planning 2006 (*Revised Archaeological and Historic Environment Research Design and Outline Mitigation Strategy*; Feb 2006).

1.2 Site Location and Description

1.2.1 Area 5 (RPS 77/78)

Area 5 is located west of the A6, c.977m north-west of Wilstead village. It is centred on grid reference TL 0533 4430. The area is divided into two flat rectangular fields orientated NE-SW measuring 5.20ha in extent.

The site is currently open pasture, apart from a large pond at its south-western end, and a large area of scrub separating two fields to the south-west (Figure 1).

1.2.2 Area 6 (RPS 83)

Area 6 is located east of the A6, c.850m NNW of Wilstead village. It is centred on grid reference TL 0585 4423. It comprises a flat, sub-rectangular field containing open pasture and scrubland, surrounded by high, dense hedgerows.

The southern half of the field had been fenced-off and was covered with long grass and scrub. The density of the vegetation precluded detailed survey within this part of the Area 6. The agreed area of the topographical survey was 1.67ha in extent and was confined to the open pasture in the north of Area 6.

1.3 Landform, Geology and Soils

Both areas lie within the Marston Vale, a low-lying piece of land located between the valley of the Great Ouse and the Greensand Ridge. The underlying geology is predominantly Oxford Clay.

The soils comprise moderate to imperfectly draining non-calcareous gleys of the Rowsham Association.

1.4 Aims and Objectives

The aims and objectives of the survey were defined in a Project Design (Albion Archaeology 2006, Section 1.6); they were to:

- Gain information on the location, extent, integrity and state of preservation of the ridge and furrow earthworks within these land parcels.



The main aim was to provide a measured record of the earthworks that are likely to be partially impacted by the proposals.

2. HISTORICAL MAP REGRESSION

2.1 Introduction

It was required that the earthworks be placed within their historical setting via map regression. In order to complete the historical map regression a search was made of the Bedfordshire and Luton Archives and Records Service (BLARS) and the Bedfordshire Historic Environment (HER).

The following sources were consulted:

- Bedfordshire HER database
- Ordnance Survey maps (1st edition onwards)
- Other maps (e.g. enclosure)

Land-use changes, within (and immediately adjacent to) Areas 5 and 6, which are depicted on these maps have been listed below.

2.2 Results

2.2.1 Enclosure Map (1809), Figure 6

The earliest cartographic evidence comprises the Wilstead enclosure map (MA36 1809).

The enclosure of land occurred between 1750 and 1850 in response to the parliamentary enclosure act. Maps were produced which showed many features of the landscape including open fields, medieval furlongs and trackways. These maps were then used as a base to draw the new straight-sided fields, characteristic of parliamentary enclosure. The only land unlikely to have been altered was the plots associated with homesteads, such as medieval tofts and crofts (Hoskins 1974).

Rectangular enclosures are very apparent around Wilstead, particularly to the north of the village. Two previously open fields, Hill Field and Mill Field (Figure 6), were divided into several rectangular plots (Wilcox 1976). However, enclosures surrounding Wilstead and Duck-End are narrow, and shorter, suggesting they have retained their shape from an earlier (medieval) period of land-use.

Area 5 is marked as a rectangular shaped enclosure running west from Luton Road (the present-day A6). It is recorded as the 1st allotment of John Morris esquire and is shown as being one of eight plots of land originally forming Hill Field, an open field recorded as early as 1607 (parish survey).

Area 6 comprises three small enclosures running east from the edge of Luton Road. On the map, the northern plot is marked as being owned by Hind et



Uxor, whilst the western and eastern plots were owned by Reverend Thomas Hind. It is not certain in which period these field systems originated. However, the presence of surviving ridge and furrow across the three fields suggests they were originally part of a much larger open field. Two ponds are marked on the southern boundary of the area. 1st edition Ordnance Survey Map (1882), Figure 7 A NE-SW orientated trackway now runs down the north-western edge of Area 5. Otherwise, little has changed.

Area 6 has retained the arrangement of three fields. However, a pond now exists on the western boundary of the northern field and trees have been marked along the boundaries of all three enclosures including in the centre of the western plot.

2.2.2 2nd edition Ordnance Survey Map (1901), Figure 8

Not only has Area 5 been divided into three fields, a brick works and associated buildings have been constructed in the south-western corner.

The eastern plot, closest to the A6, has remained untouched apart from a pond in the south-western corner.

Very little has changed in Area 6. The eastern strip has retained its shape, but the western and northern fields have been made into one field.

2.2.3 3rd edition Ordnance Survey Map (1926), Figure 9

The brick works are still marked although apparently no longer in use. The area around the brick works has been enclosed, dividing the area into three plots of land. A sub-square building has been added to the western one, positioned on its eastern boundary, next to the brick works.

Area 6 has remained unchanged from the 2nd edition OS map.

2.2.4 Baseline conditions in March 2006 (Plates 1 – 3)

Within Area 5 the land is now open pasture. The sub-square building shown in the western area on the 3rd edition OS map has gone. Instead, two ponds now exist in that area. The brick works are no longer visible having been demolished.

Area 6 still consists of two fields and is currently used as pasture, with some areas of scrub. An E-W aligned boundary fence now runs through the centre of the area.

2.3 Discussion

2.3.1 Medieval land-use within Areas 5 and 6

Both areas are located close to known medieval settlements at Wilstead (HER 17052) and Duck-End (HER 17053). They would have been on the hinterland of these settlements, and ideally located to become part of the field systems utilised by these settlements.

Given this location, it is not surprising that ridge and furrow earthworks should survive in Areas 5 and 6, and the fields which lie immediately adjacent to them.

In the medieval period, fields were ploughed in strips/ridges, using an asymmetrical mouldboard plough and team of eight oxen (Rackham 1995). The



plough moved in a clockwise spiral which constantly cast soil to the right, creating ridges. This cultivation method is thought to have been deliberately chosen in order to create drainage channels (furrows) and clear demarcations of each owners strip (Hall 1998).

Many changes within Areas 5 and 6 are visible on the cartographic sources. However, given that the changes mostly involve boundary shifts, the survival of ridge and furrow over most of the two areas is not surprising. Moreover, the fields within the study area are fairly small and perhaps would not have been ploughed so intensively as larger, more accessible fields. Apart from the area affected by the brick works, changes within the area have had minimal impact on the survival of the ridge and furrow.



3. EARTHWORK SURVEY

3.1 Introduction

On 6th and 8th March 2006 an earthwork survey was undertaken in order to record the location, condition and alignment of ridge and furrow in Areas 5 and 6 (Figures 2 and 3). The aims of the survey were:

- To accurately locate and plot remnant medieval ridge and furrow and associated features.
- To record the level of preservation.
- To create an accurate plan of the site related to the Ordnance Survey national grid.

3.2 Methodology

The earthwork survey was measured and logged using a TCR705 Leica Electronic Distance Measurer (EDM), version 211.415. Because of the remote location of Areas 5 and 6, the digital survey was based on a local grid system, fixed on two temporary survey stations in each area. Accurate height measurements were assigned to the stations using a known survey station located on the A6. During the processing stage the survey data was correctly located onto the Ordnance grid using AutoDesk civil 3D, version 2006, allowing OS co-ordinates to be assigned to the data.

A digital plan was produced for each field showing the field boundaries, ridge and furrow, headlands and any other landscape information considered to be relevant to the assessment of the earthworks.

Additional data was collected from the earthworks through two detailed transects positioned across each field, perpendicular to the ridge and furrow. A 100m tape measure was laid across the earthworks and measurements were then taken at 0.50m intervals along the tape. This allowed a detailed profile of the ridge and furrow to be created. The results were processed using AutoDesk civil 3D, version 2006 (Figures 4 and 5).

3.3 Results

3.3.1 Area 5 (Figure 2 and 4)

Area 5 consisted of a large NE-SW orientated field, divided down the centre by a tree-lined boundary. The south-western end was dominated by a large pond and marshland; corresponding to former brickworks first recorded on the 1901 2nd edition OS map (Figure 8). A large area of scrub in the centre of the area matches the position of former buildings associated with the brickworks. No traces of ridge and furrow can be seen in either of these areas.

Two separate areas (5a and 5b) of NNW-SSE orientated ridge and furrow and associated headlands were recorded, separated by and respecting the central NNW-SSE field boundary.



The survival of earthworks in Area 5b was relatively poor (a likely result of disturbance caused by the former brickworks). Ridges in this area only survived to a height of 30.742mOD to 31.144mOD and furrows were only visible as slight linear depressions. It is significant, however, that despite the existence of brickworks and associated buildings, the earthworks have not been destroyed totally.

In Area 5a the ridges were far more prominent, surviving to a height of 30.772mOD to 31.197mOD. The alignment of the central field boundary (Field Boundary A) respects the alignment of the ridge and furrow, and the earthworks stop just short of it. The boundary also matches a boundary on the 1809 enclosure map (Figure 6), suggesting that the fields in Area 5 have not significantly changed since the medieval period.

3.3.2 Area 6 (Figure 3 and 5)

Area 6 consisted of two fields separated by a wire fence. The southern half was covered in scrub and long grass so ground visibility was very poor. The northern half was open pasture surrounded by tree-lined boundaries. The remains of five broadly E-W and eight N-S orientated ridges and furrows and associated headlands were recorded in the northern half of Site 6.

In general, the preservation of ridge and furrow and associated features was good. The furrows survived to a height of 31.679m to 32.562m OD and were clearly visible. The only exception was in the area of N-S aligned ridge and furrows, where a later ditch had been cut through them.

This information supports cartographic sources (Section 2.2) which suggest this area had remained undisturbed since the medieval period.

A ditch running across the area (Field Boundary B), parallel with the E-W aligned ridge and furrow, notably defines the southern and northern extents of the two sets of earthworks. Clearly, this field boundary is the one marked on the 1809 enclosure map which delineates the southern extent of the field owned by Hind et Uxor (Figure 6). This evidence suggests that the field in Area 6 has retained its shape from the medieval period.



4. SYNTHESIS

4.1 Discussion

The survey and cartographic analysis has contributed to an understanding of how recent activity in the area has impacted on the earthworks. Moreover, by using survey data in conjunction with cartographic and documentary sources it has been possible to increase our understanding of preserved medieval field systems in the study area.

4.2 Summary

Areas 5 and 6 lie on the hinterland of known medieval settlement cores at Wilstead and Duck-End. Therefore, it was not unexpected that this land would have formed part of the land exploited for agricultural purposes during that period. The survey has recorded the remnants of medieval ridge and furrow earthworks present in those fields and has indicated how elements of the medieval fields have survived parliamentary enclosure.



5. BIBLIOGRAPHY

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Wilcox, M 1976, *Wilstead Parish Survey*, Bedfordshire County Council.

Hall D 1998, *Medieval Fields in their Many Forms*, British Archaeology 33

Rackham O 1995, *The History of the Countryside*, London

RPS Planning 2006 *The Wixams, Elstow. Revised Archaeological and Historic Environment Research design and Outline Mitigation Strategy.*



6. APPENDICES

6.1 Appendix 1, Cartographic Sources

John Speed map	1666	-
Enclosure Map	1809	MA36
1 st edition Ordnance Survey 25"	1882	184
1 st edition Ordnance Survey 25"	1882	169
2nd edition Ordnance Survey 25"	1901	169
2nd edition Ordnance Survey 25"	1901	184
3rd edition Ordnance Survey 25"	1926	184
3rd edition Ordnance Survey 25"	1926	169

6.2 Appendix 2, Station Co-ordinate data

Station	Eastings	Northings	Height	Description
1	505788.053	244224.698	31.945	Area 6 Temporary peg
2	505865.050	244233.853	32.537	Area 6 Temporary peg
3	505503.650	244371.232	31.565	Area 5 Temporary peg
4	505414.405	244369.923	31.362	Area 5 Temporary peg

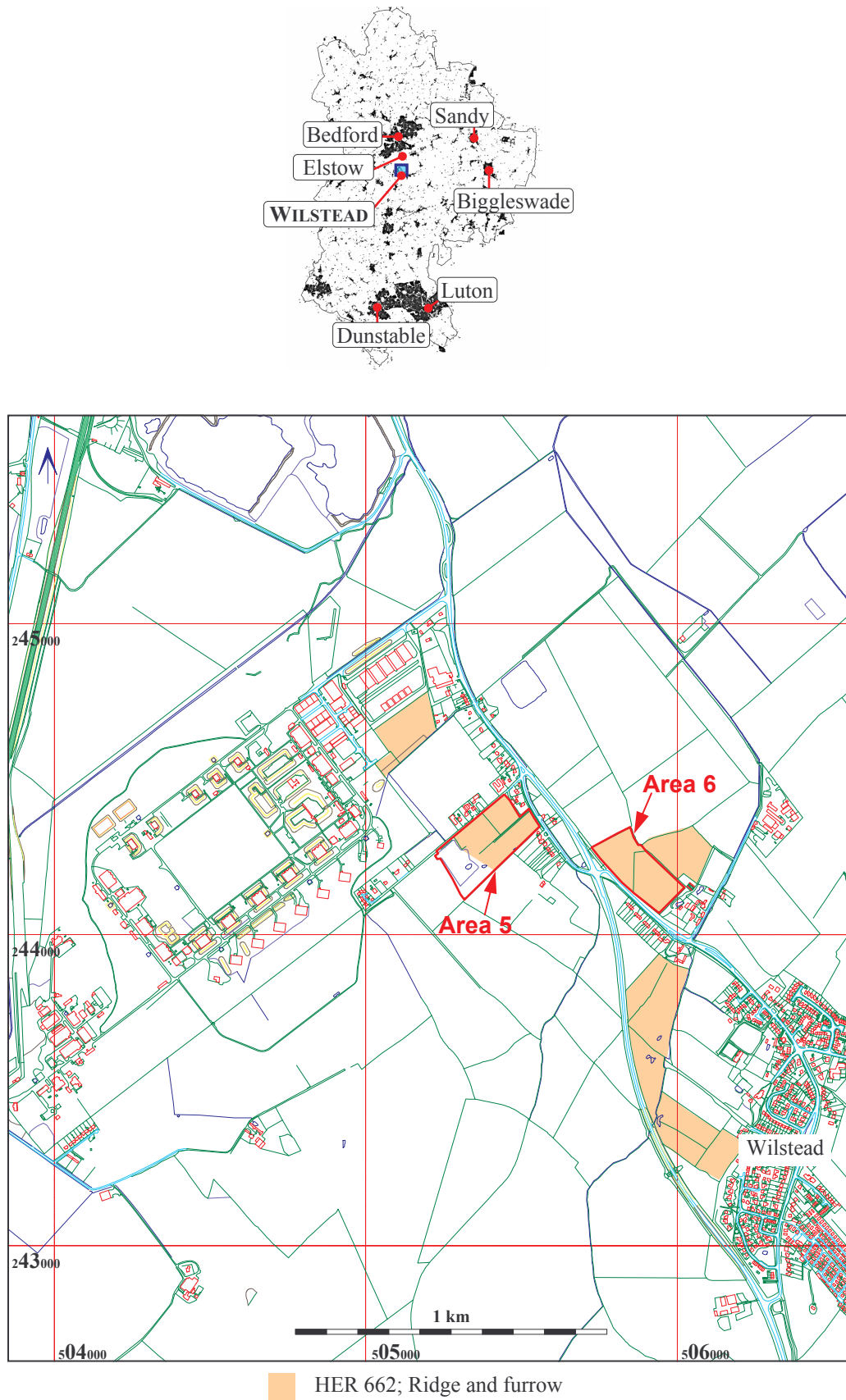


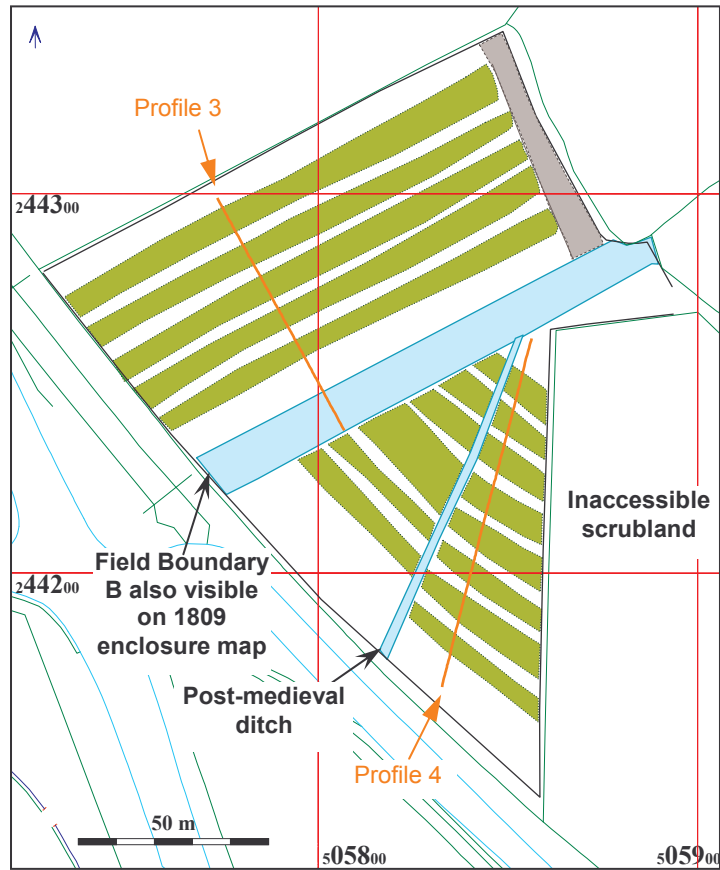
Figure 1: Site location map (with HER references)

Base map reproduced from the Ordnance Survey Land-line Map (2004 PA1), with the permission of the Controller of Her Majesty's Stationery Office, by Bedfordshire County Council, County Hall, Bedford.
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Figure 2: Area 5 plan

Base map reproduced from the Ordnance Survey Land-line Map (2004 PAI), with the permission of the Controller of Her Majesty's Stationery Office, by Bedfordshire County Council, County Hall, Bedford. OS Licence No. 076465(LA). © Crown Copyright.



-  Ridges
-  Headland
-  Ditch

Figure 3: Area 6 plan

Base map reproduced from the Ordnance Survey Land-line Map (2004 PA1), with the permission of the Controller of Her Majesty's Stationery Office, by Bedfordshire County Council, County Hall, Bedford. OS Licence No. 076465(LA). © Crown Copyright.

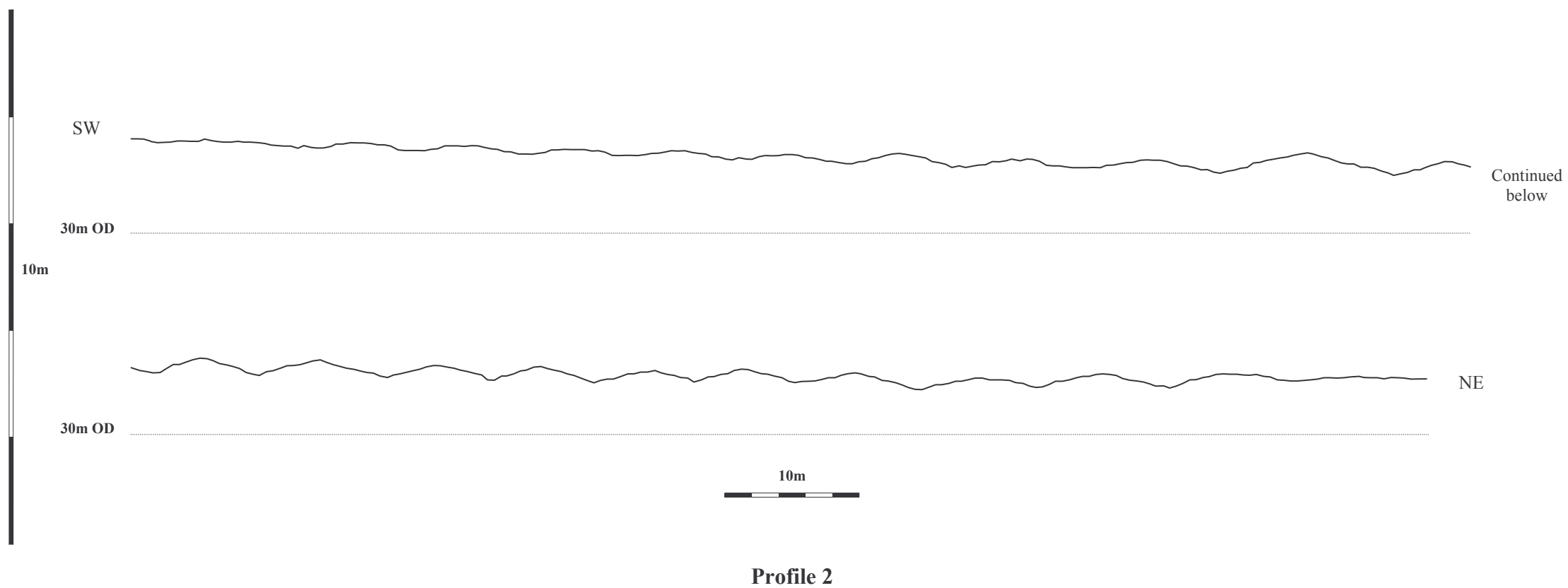
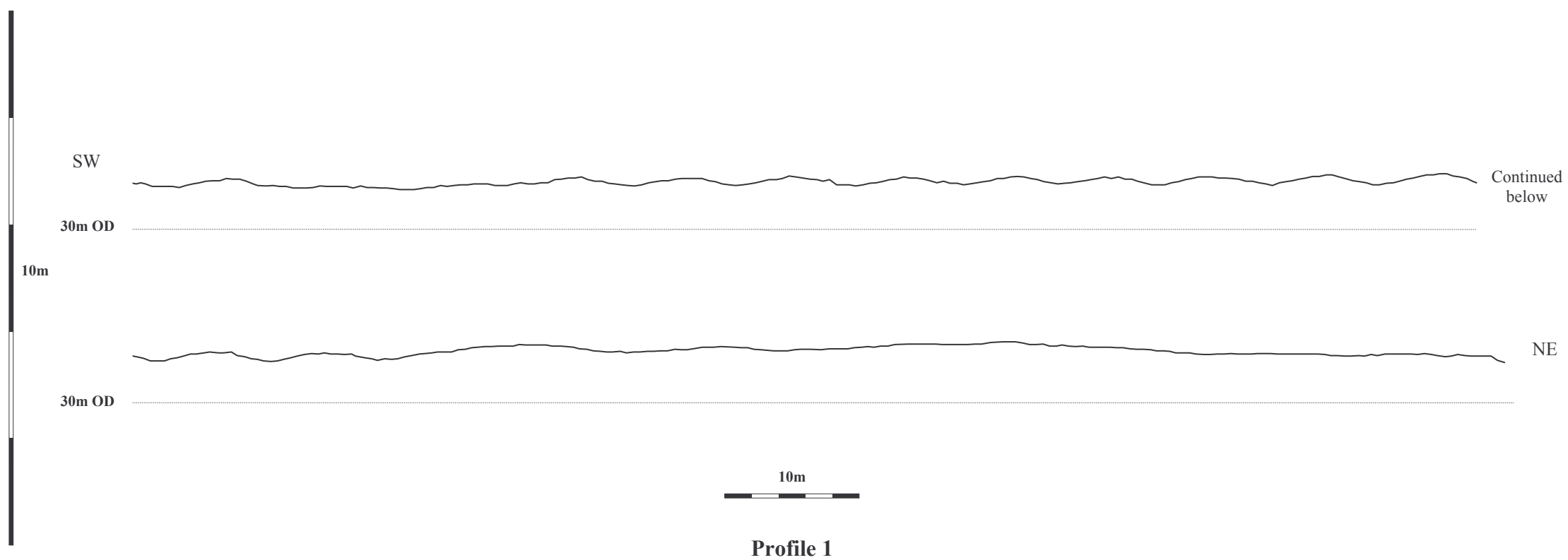


Figure 4: Area 5 profiles
(vertical scale 4 x horizontal to show detail)

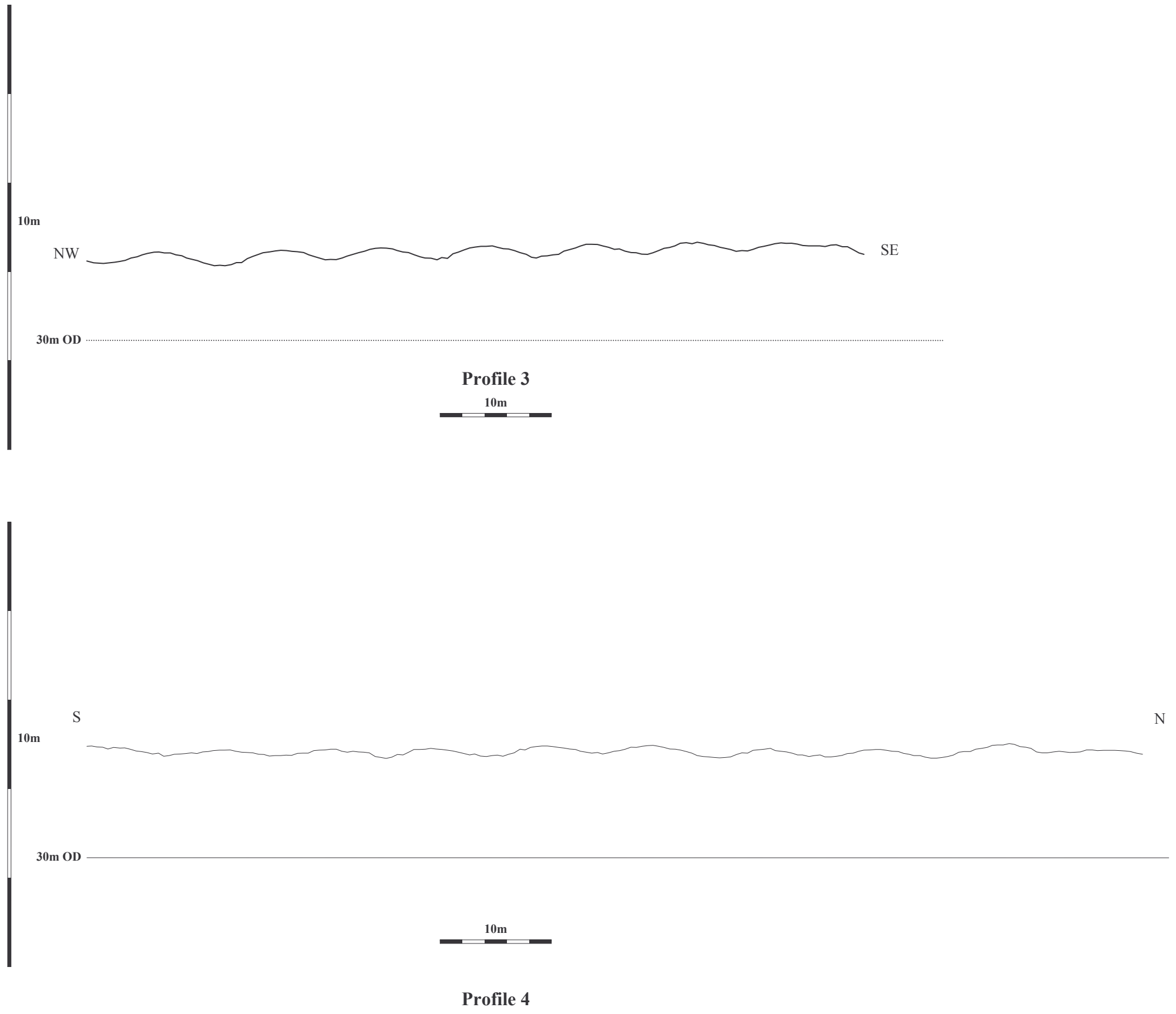


Figure 5: Area 6 profiles
(vertical scale 4 x horizontal to show detail)

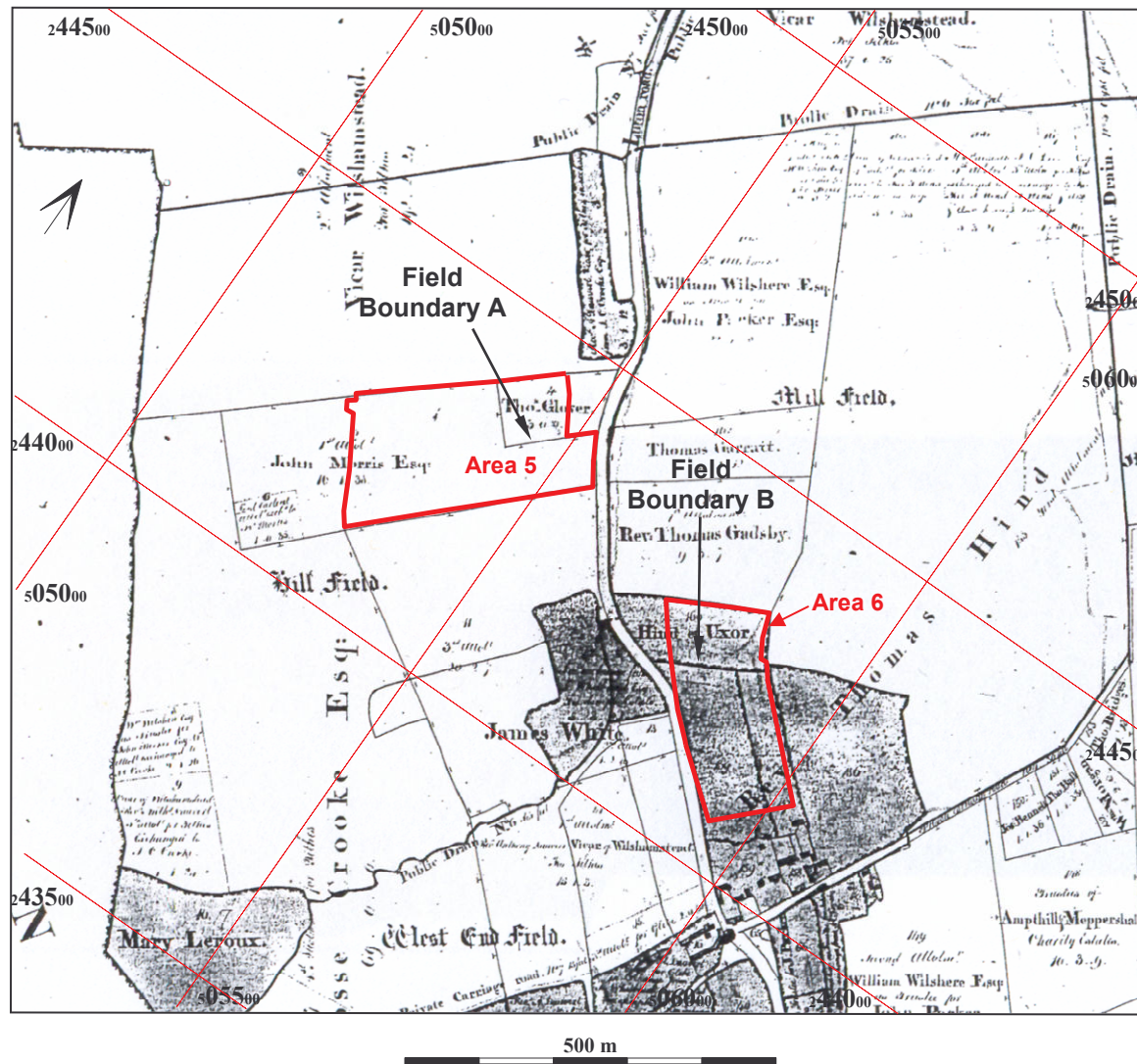


Figure 6: Enclosure map, 1809 (scale and grid lines approximate)

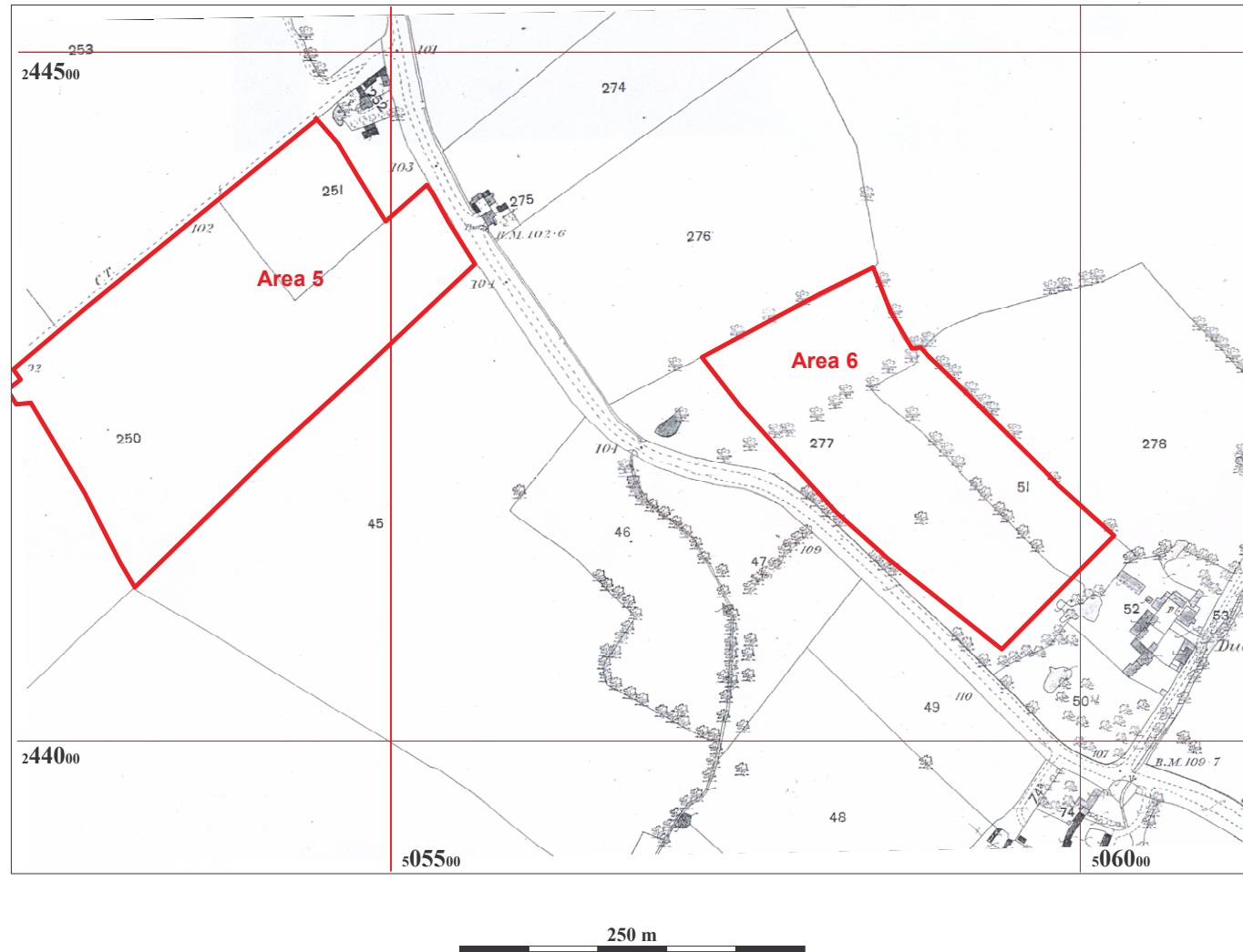


Figure 7: 1st edition Ordnance Survey map 1882 (scale and grid lines approximate)

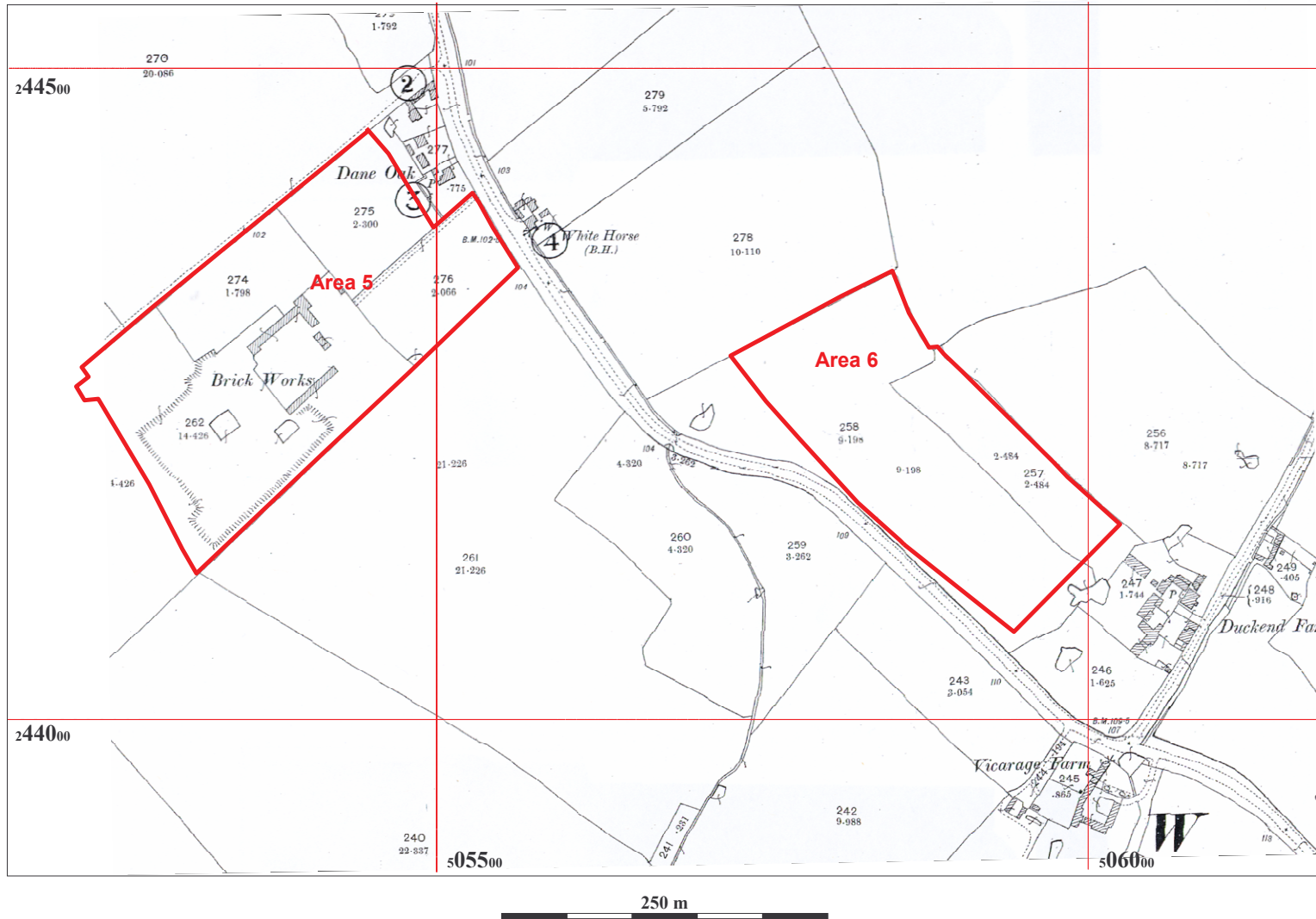


Figure 8: 2nd edition Ordnance Survey map 1901 (scale and grid lines approximate)

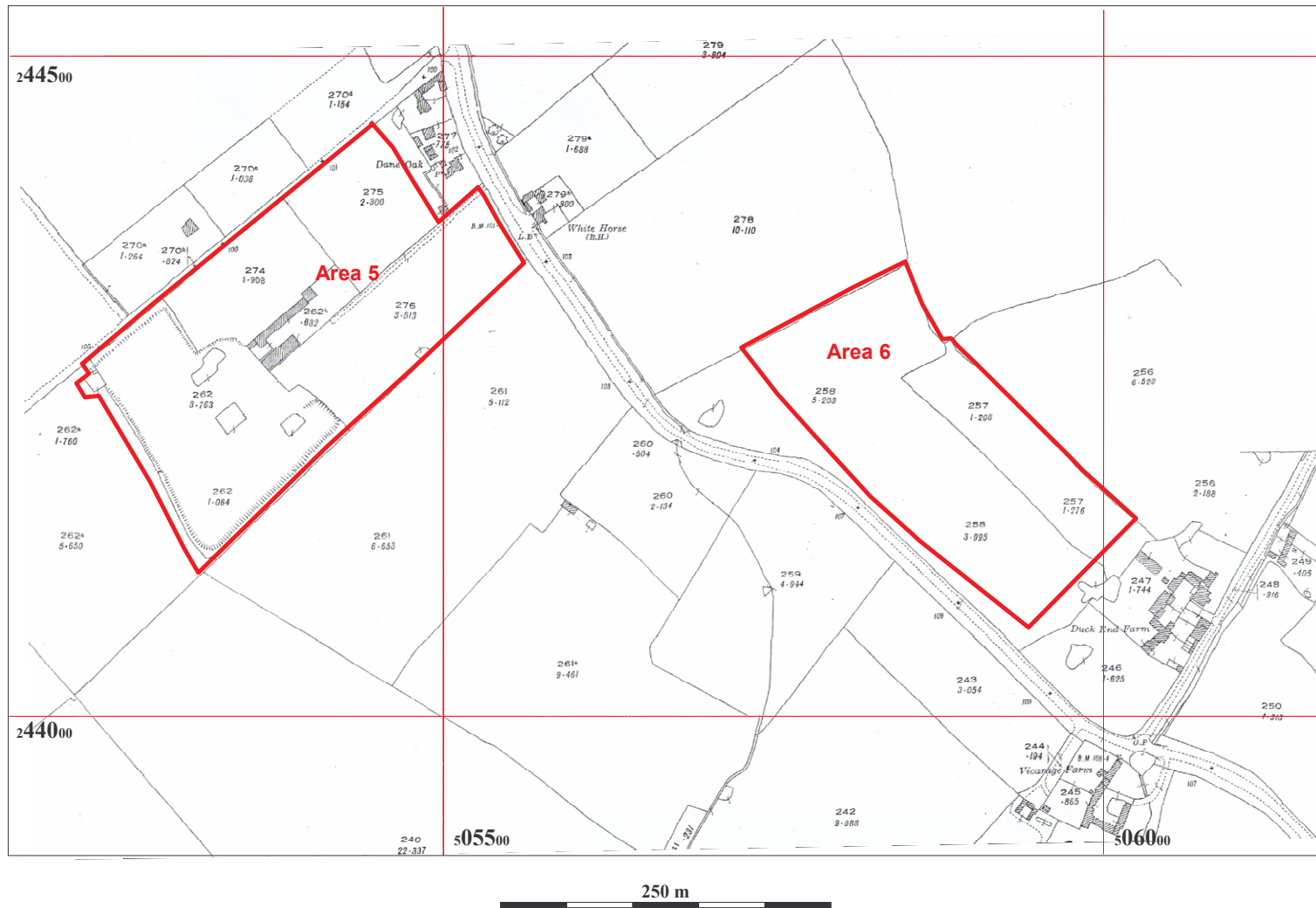


Figure 9: 3rd edition Ordnance Survey map 1926 (scale and grid lines approximate)



Plate 1: Field 5, looking east



Plate 2: Field 6b, looking west



Plate 3: Field 6a, looking east