ARCHAEOLOGICAL SERVICES WYAS

# A165 Scarborough to Lebberston Diversion North Yorkshire

*Geophysical Survey*

*January 2004*

*Report No. 1208*

CLIENT

BHWB Ltd

# A165 Scarborough to Lebberston Diversion, North Yorkshire.

## Geophysical Survey

### Contents



### *Summary*

*Detailed magnetometer survey covering 3.5 hectares, was carried out at two sites on or adjacent to the proposed route of the A165 Scarborough to Lebberston Diversion. Along the proposed link road corridor west of Osgodby clusters of magnetic anomalies in two well-defined areas are thought to locate the remains of a shrunken medieval village and outlying agricultural activity. Extant ridge and furrow in the block to the east has resulted in extremely strong magnetic anomalies that makes the resolution of any earlier underlying features extremely difficult. However, weak linear anomalies that appear to deviate approaching the ploughed out remains of a presumed round barrow could be indicative of archaeological ditches.*

Authorised for distribution by:

P.A. Mills

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Archaeological Services WYAS
PO Box 30, Nepshaw Lane South, Morley, Leeds LS27 0UG

## 1. Introduction and Archaeological Background

1.1 Archaeological Services WYAS was commissioned by Mr Ed Dennison, of Ed Dennison Archaeological Services Ltd on behalf of BHWB Ltd, to carry out a geophysical (fluxgate gradiometer) evaluation of two sites west and south-east of Osgodby, near Scarborough, North Yorkshire (see Fig. 1), prior to the construction of a bypass.

1.2 Site 1 comprised a corridor, 400m long and 50m wide running broadly from north to south immediately west of Osgodby (centred at NGR TA 0535 8455), that encompasses the route of a proposed link road. The survey corridor crossed predominantly agricultural land (arable and permanent pasture) apart from at the extreme southern end of the corridor where there is a children's play area. Topographically the land rises from approximately 70m Above Ordnance Datum at the southern end of the corridor to about 75m AOD at the highest point on Park Hill.

1.3 Situated approximately 2km to the south-east Site 2, centred at NGR TA 0650 8425, comprised a single pasture field approximately 1.5 hectares in area. The northern field boundary will form the southern edge of the proposed new road and roundabout at the point where it is proposed to link with the existing A165 Filey Road. Topographically the site was relatively flat at about 50m AOD.

1.4 The solid geology comprises sedimentary formations of Upper Jurassic Ampthill and Kimmeridge Clay overlain by chalky till. The soils derived from this material are classified in the Burlingham 2 Soil Association being described as deep fine loamy soils with slowly permeable subsoils and slight seasonal waterlogging.

1.5 No problems were encountered during the fieldwork, which was carried out between January 6th and January 8th 2004. In total 3.5 hectares was surveyed.

1.6 The proposed link road is thought to cross part of a largely destroyed shrunken medieval village complex, to the east of which lies the remains of St. Leonard's Chapel which may be associated with the medieval village. Area 2 lies in a field containing well-preserved ridge and furrow earthworks. At the northern edge of the field a presumed round barrow also survives as a badly plough damaged earthwork.

## 2. Methodology and Presentation

2.1 The general aims of the geophysical evaluation were to establish the presence/absence and character of any archaeological anomalies within the proposed survey areas. The specific objectives were to define the areas of the shrunken medieval village within the link road corridor and to determine whether the barrow contains any burials or is associated with any other barrows in the vicinity.

2.2 The survey methodology and report comply with the recommendations outlined in the English Heritage Guidelines (David 1995) as a minimum standard. All figures reproduced from Ordnance Survey mapping are done so with the permission of the controller of Her Majesty's Stationery Office. © Crown copyright.

2.3 A general site location plan, incorporating the 1:50000 Ordnance Survey mapping, is shown in Figure 1. Figure 2 is a site location plan, showing the processed greyscale gradiometer data, superimposed onto a digital base map supplied by the client, at a scale of 1:5000. The processed data are displayed in greyscale format, at a scale of 1:2500, in Figures 3 and 5 with the accompanying interpretation shown at the same scale in Figures 4, 6. The processed and 'raw' data are presented in greyscale and XY trace plot formats at a scale of 1:500, together with interpretations at the same scale in Figures 7 to 21.

N.b – all the figures with the exception of Figure 1 display the data on a local grid that is aligned with that of the Ordnance Survey.

2.4 Technical information on the equipment used, data processing and magnetic survey methodology are given in Appendix 1. Appendix 2 details the survey location information and Appendix 3 describes the composition and location of the archive.

***The interpretations of the observed anomalies are based on information contained in all parts of the report including the appendices.***

## 3. Results and Discussion

### 3.1 Site 1: The Proposed Link Road Corridor

3.1.1 For descriptive purposes the corridor site has been split up into four separate blocks. However, common across all parts of the corridor are isolated dipolar anomalies ('iron spikes' - see Appendix 1). These 'iron spike' anomalies are indicative of ferrous objects or other magnetic material in the topsoil/subsoil and, although archaeological artefacts may cause them, they are more often caused by modern cultural debris that has been introduced into the topsoil. There is no apparent clustering to these anomalies and consequently they are not considered to be archaeologically significant. Only the strongest of these responses have been shown on the interpretation figures.

### 3.2 Block 1

3.2.1 Block 1 covers the most southerly part of the corridor and comprises three discrete survey areas located to the south of a metalled track. In the most southerly area, currently in use as a children's play area, no archaeological anomalies have been identified. The presence here of numerous 'iron spike' anomalies and larger areas of magnetic disturbance suggests that this area may have undergone landscaping/infilling when the play area was created.

3.2.2 The magnetic background is extremely variable at the southern end of the two survey areas located immediately north of the play area. Within the generally enhanced background vague linear anomalies have been highlighted, on a south-west to north-east alignment, but it is not clear whether these anomalies reflect the continuation of the shrunken medieval village identified to the north (see below) or whether they have a more recent origin. They may be associated with a trackway, shown on the historic Ordnance Survey mapping, that passes through this area on this general alignment (*pers. comm.* E. Dennison). Certainly there are no anomalies in the north-western part of this area where the background (magnetic) noise is minimal.

### 3.3 Block 2

3.3.1 This block encompasses a rectilinear area of intense archaeological activity interpreted as the plough damaged remnants of part of a shrunken medieval village as depicted on the historic Ordnance Survey mapping. Two pairs of parallel linear anomalies, 60m apart and aligned broadly from south-west to north-east, define the extent of the activity. The anomalies defining the north-western edge of the activity are poorly defined and relatively weak and may in fact be caused by a ploughed out bank whilst those defining the south-eastern edge of the activity are well defined, much stronger and are more redolent of the response from an infilled ditch.

3.3.2 The magnetic background in the area between these linear anomalies is uniformly enhanced. Some of the more coherent and prominent areas of enhancement have been identified on the interpretation but it is not clear whether these anomalies are caused by specific archaeological features or whether they reflect the accumulation of culturally enhanced material relating to the abandoned settlement that has been spread around by ploughing. Outside the interpreted settlement area the magnetic background is again very uniform and no other anomalies have been identified.

### 3.4 Block 3

3.4.1 Other than a strong bi-polar linear anomaly aligned from north-west to south east and caused by a ferrous pipe no anomalies have been identified in this block.

### 3.5 Block 4

3.5.1 Further activity associated with the shrunken medieval village has been identified in this block. Throughout the block a series of broad, parallel linear anomalies, aligned from north-west to south-east, indicative of former ridge and furrow ploughing, can be seen. A faint linear trend anomaly defining the north-western edge of the ploughing is probably caused by the headland. None of these anomalies survive as earthworks.

3.5.2 Beyond the areas of ridge and furrow ploughing the magnetic background is again considerably enhanced over most of the block. Where discrete areas can be determined they are marked on the interpretation but where the enhancement is too diffuse a dashed line has been used define its extent. As in Block 2 it is considered likely that these broad areas of enhancement probably do not reflect specific underlying archaeological features but the spread of culturally enhanced material.

3.5.3 Two areas of magnetic disturbance have also been identified. Normally the ferrous material causing these responses would be assumed to be modern in origin but in this case, due to the presence of the shrunken village, an archaeological cause should not be discounted.

### 3.6 Site 2

3.6.1 Very strong linear magnetic anomalies caused by the extant ridge and furrow earthworks predominate. However, two other curvilinear anomalies perpendicular to the ridge and furrow can also be seen, being particularly noticeable on the X-Y trace plot (see Fig. 20). These anomalies appear to be deviating around the plough damaged remains of the barrow on the northern

edge of the site. Also in the vicinity of the barrow several small areas of magnetic enhancement have been identified that may be associated with the earthwork.

3.6.2 Several small areas of magnetic disturbance in the southern half of the site are thought to be modern in origin.

## 4. Conclusions

4.1 The magnetometer survey has located a plethora of magnetic anomalies in two separate locations at Site 1 caused by sub-surface features and deposits associated with the shrunken medieval village at Osgodby. At the more northerly location the results seem to indicate predominantly agricultural activity with evidence of ridge and furrow ploughing regimes. To the south the generally enhanced magnetic background and the presence of linear and other discrete anomalies is more suggestive of occupational activity. It is difficult to interpret individual features as the site has obviously undergone severe truncation by modern ploughing as evidenced by the fact that no earthworks were visible. Consequently it is considered that many of the non-linear anomalies are probably due to the spreading of culturally enhanced material by the plough.

4.2 At Site 2, the presumed round barrow survives as an earthwork though damaged by the subsequent ridge and furrow ploughing. Indeed the strength of the magnetic response from the extant ridge and furrow makes the identification of anomalies caused by earlier features extremely difficult. However, two linear anomalies, which may be caused by infilled ditches, have been identified that appear to deviate to avoid the barrow. It is not possible to ascertain whether these features are contemporary with the barrow or whether they are later features that respect the still upstanding monument. Other small areas of magnetic enhancement adjacent to the barrow could also be archaeologically significant.

***The results and subsequent interpretation of data from geophysical surveys should not be treated as an absolute representation of the underlying archaeological and non-archaeological remains.***

## Bibliography

David, A., 1995. *Geophysical Survey in Archaeological Field Evaluation: Research and Professional Services Guidelines* No. 1. English Heritage

## Acknowledgements

### Project Management

A.Webb BA

### Fieldwork

A. Hancock BSc Pg Dip

T. Schofield HND BSc PIFA

T.S. Harrison BSc

### Report

T. Schofield

A. Webb

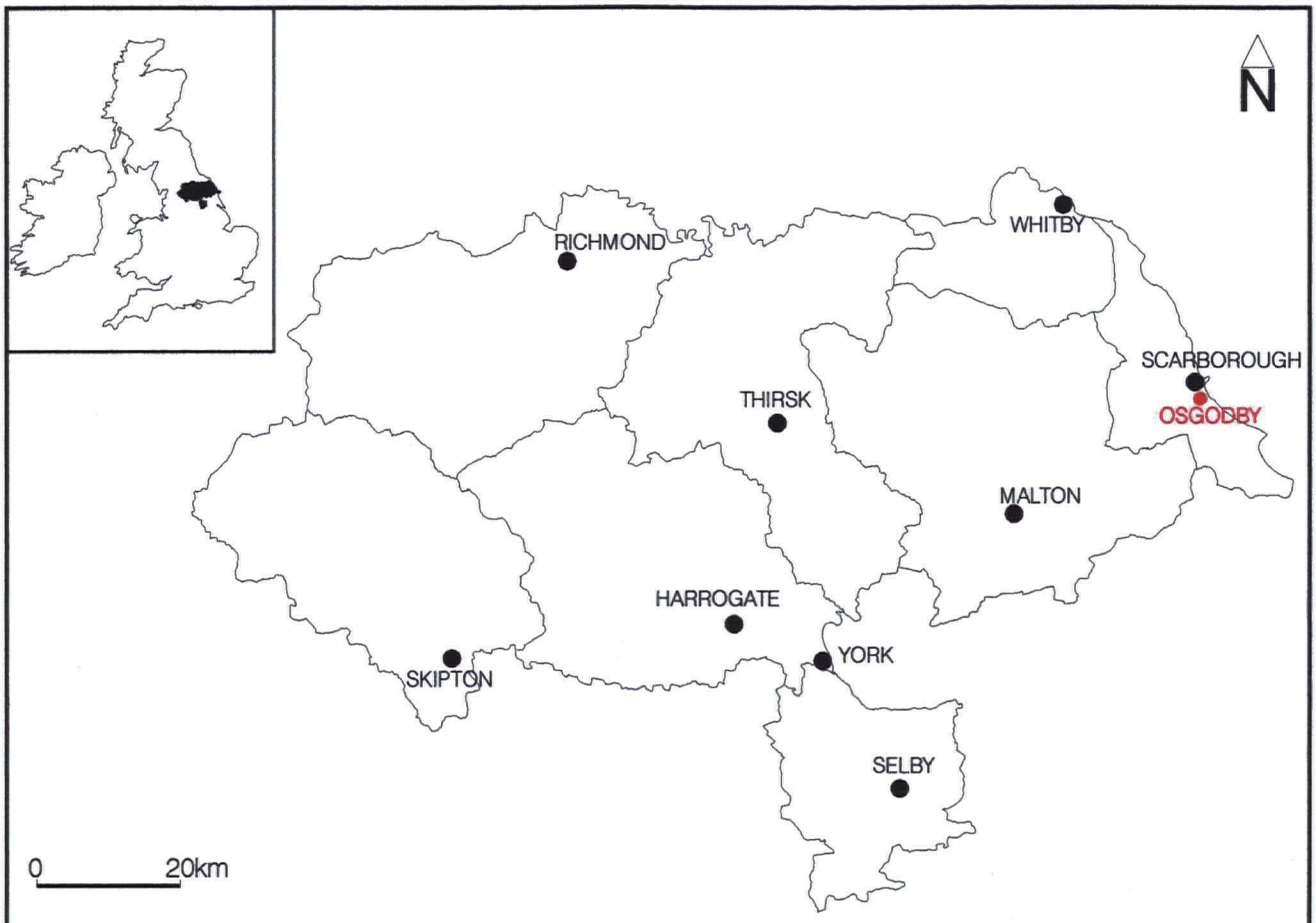
### Graphics

A. Hancock

T. Schofield

## Figures

# Appendices



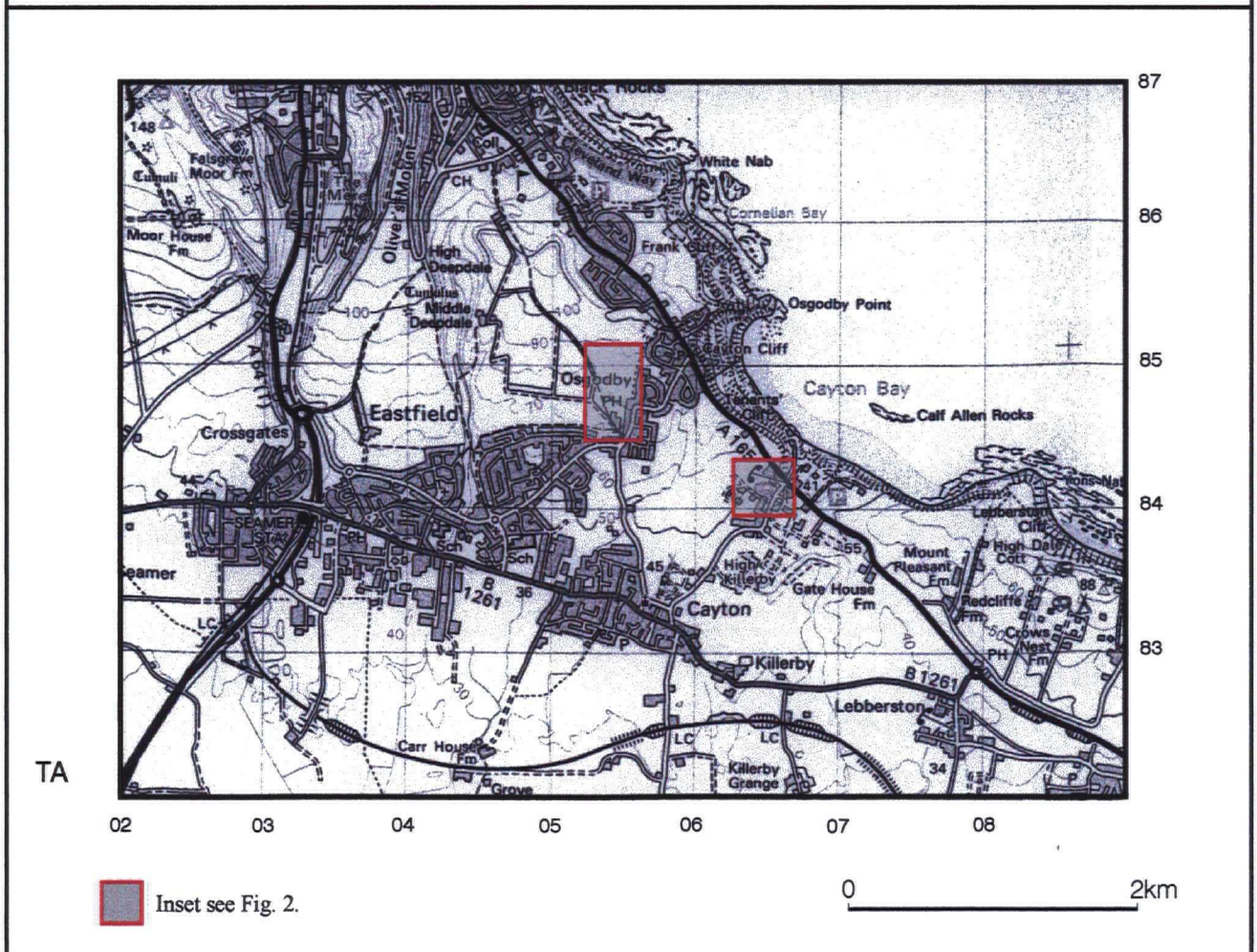




*Fig. 1. Site location*

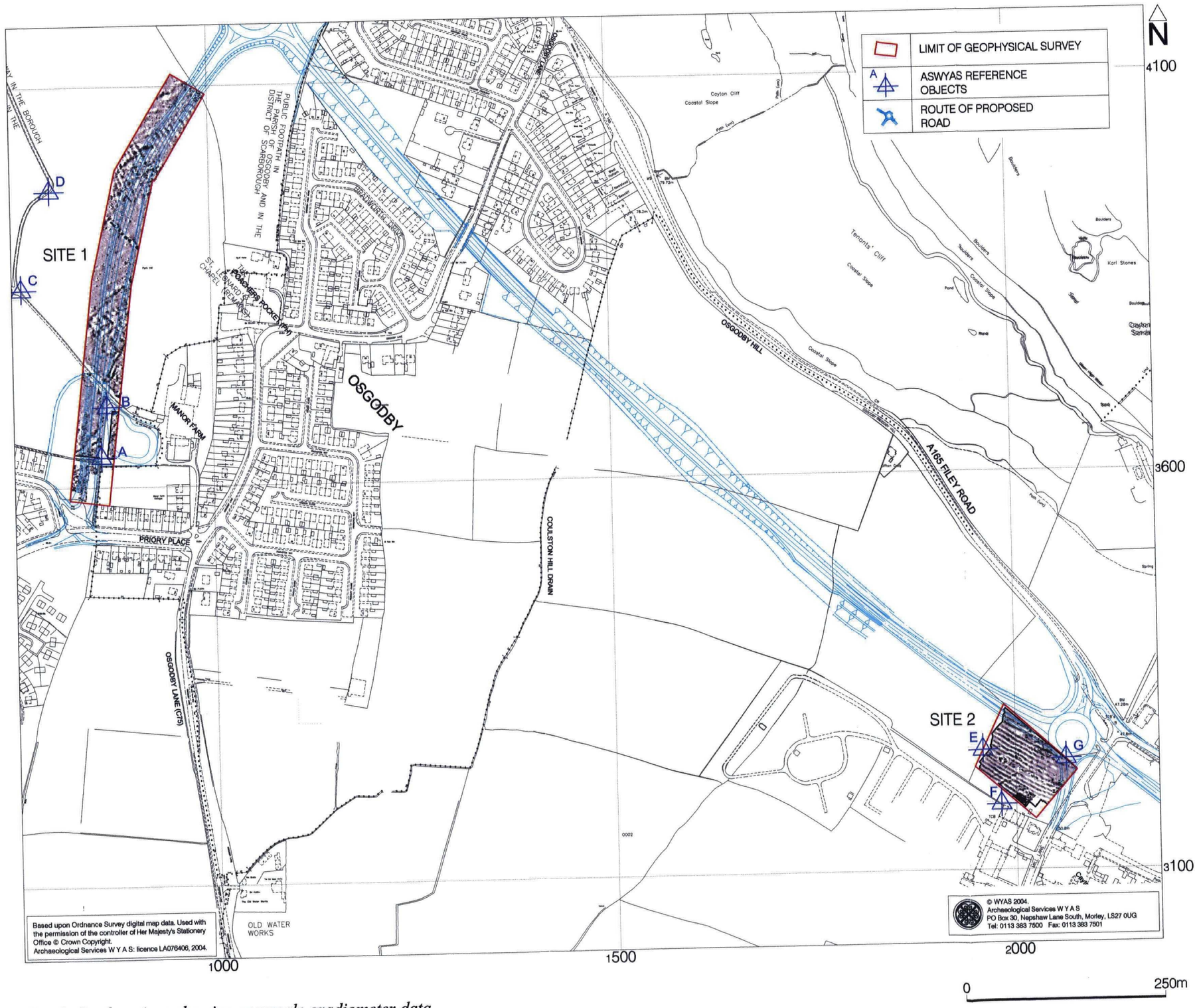



*Fig. 2. Site locations showing greyscale gradiometer data and route of proposed road*