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**NON-INTRUSIVE  
ARCHAEOLOGICAL SURVEY  
ON THE ROUTE OF THE  
LINCOLN EASTERN BYPASS  
LINCOLNSHIRE  
(LNEB08)**

**DRAFT**

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Work Undertaken For  
Jacobs



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**ARCHAEOLOGICAL  
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## 1. SUMMARY

*An Environmental Statement is to be submitted for a revised alignment of the proposed Lincoln Eastern Bypass. A programme of archaeological works is required to contribute to the ES. In the first instance this comprised non-intrusive surveys, specifically fieldwalking and metal detecting and geophysical survey.*

*This document presents the findings of these surveys along the proposed route. For the purposes of archaeological survey, the route was broken down into parcels corresponding to the current field layout.*

*A mixed assemblage of 94 artefacts was retrieved, including prehistoric worked flints, Bronze Age to early Iron Age pottery, Roman and medieval pottery and ceramic building materials, in addition to a range of post-medieval artefacts.*

*Bronze Age to early Iron Age pottery retrieved from Parcel U, may indicate the presence of buried remains of this date.*

*Roman and possible late Iron Age to Roman pottery retrieved from Parcel Q may be associated with a known cropmark enclosure. Three Roman sherds retrieved from Parcel V, close to the location of a Romano-British pit and gully, indicate that cut features of this date might extend into the study area.*

*Three Roman pottery sherds were retrieved from Parcel L, in moderate proximity to one another, and may reflect the presence of further Roman remains in this area.*

*Medieval pottery and ceramic building materials were retrieved, although these are more likely to derive from manuring scatter than buried features. Slight concentrations of medieval material were noted in parts of Parcels A1, U and P, perhaps due to their location adjacent to roads, where manure may have been*

*unloaded from carts.*

*Post-medieval metal finds were retrieved along the route, but are of limited potential and significance, and probably reflect manuring and other agricultural activities in the area.*

*The geophysical survey identified a number of features of a possible archaeological origin. Positive anomalies indicate the presence of cut features such as ditches and negative anomalies represent possible former earthworks. Discrete positive anomalies have been interpreted as being related to pits of a possible archaeological origin.*

## 2. INTRODUCTION

### 2.1 Planning Background

An Environmental Statement is to be submitted for a revised alignment of the proposed Lincoln Eastern Bypass. A programme of archaeological works is required to contribute to the ES. In the first instance this comprised non-intrusive surveys, specifically fieldwalking, metal-detecting and geophysical survey. This report represents the findings of these surveys. Geophysical survey was undertaken between 27<sup>th</sup> October and 6<sup>th</sup> November. The fieldwalking and metal detecting was carried out between the 3<sup>rd</sup> and 7<sup>th</sup> November 2008 in accordance with a written scheme of investigation prepared by Jacobs and a method statement prepared by Archaeological Project Services (Appendix 1) and approved by the Historic Environment Team Leader, Lincolnshire County Council.

### 2.2 Topography and Geology

The study site is located to the east and southeast of Lincoln (Figure 1).

The proposed route consists of approximately 8km of dual carriageway

between the A15/A158 Wragby Road roundabout running southwards to cross the Witham valley and then climbing again onto the valley side to join the A15 Sleaford Road (Figure 2). A previous route option has already been the subject of archaeological study. The present route diverges westwards south of Washingborough Road, rejoining the previous scheme at the southern end. The redesigned portion of the scheme is 4.5km long and is the subject of the currently proposed archaeological studies.

The revised route is confined to the rising ground of the valley side from about 10m to 65m O.D. up onto the dip-slope of the Limestone escarpment. Soils are well drained brashy calcareous fine loamy soils of the Elmtun 1 Association developed on the Jurassic limestone (Hodge *et al* 1983, 179).

### 2.3 Archaeological and Historical Background

Many of the known archaeological sites in the area are of prehistoric date with artefact scatters identified by fieldwalking representing domestic/economic activity from the Neolithic to the late Bronze Age. A large barrow cemetery lies just to the north of the new alignment. Other sites identified by previous geophysical survey may represent field systems or settlements. The River Witham valley bottom was a major focus of prehistoric and later ritual activity and is famous for numerous finds of high status metal artefacts deposited as votive offerings.

The establishment of the Roman legionary fortress and subsequent *colonia* at Lincoln exerted an influence over a substantial rural hinterland containing a number of important villas, rural settlements, farmsteads and field systems. Sites of Roman date within 200m of the new alignment include several artefact scatters, individual findspots and a small number of features identified in previous trial trenching.

Lincoln ceased to be the centre of a large urban population in the post-Roman and early Anglo-Saxon period and evidence for continuing settlement in the hinterlands is sparse. By the mid-10<sup>th</sup> century the town was once again of national importance and archaeological evidence suggests that many of the nucleated villages around the town were established in this period with most major settlements in existence by the 11<sup>th</sup> or 12<sup>th</sup> centuries.

### 3. AIMS AND OBJECTIVES

The aim of the work was to identify the extent and character of known and unknown archaeological remains in order to inform the Environmental Statement (ES) to enable an assessment of the significance of the impact of the scheme on any archaeological remains present and to allow further evaluation and/or mitigation measures to be designed.

Specific aims for the various elements of non-intrusive survey were as follows.

#### *Surface Artefact Collection:*

- to identify and interpret any possible surface concentrations of artefacts to the extent possible by the methods put forward in the Specification;
- to determine the condition, nature, character, quality and date of any finds recovered; and,
- to provide information about the nature and possible interpretation of any finds or concentrations of artefacts identified by the survey.

#### *Metal Detector Survey:*

- to identify any possible concentrations of metallic artefacts on the ground surface or within the topsoil to the extent possible by the methods put forward in the Specification;

- to determine the extent, condition, nature, character, quality and date of any finds recovered;
- to identify any part of the survey area which was not responsive to this survey technique and in which the application of other evaluation methods would be appropriate; and,
- to provide information about the nature and possible interpretation of any finds or concentrations of artefacts identified by the survey.

*Geophysical Survey:*

- to determine (so far as possible) the presence or absence of buried archaeological remains in the survey area;
- to clarify the extent and layout of Sites 202, 250, 289, 320, 323 and 361 within the footprint of the new alignment.
- to clarify the extent and layout of previously unknown buried remains within the survey area; and
- to provide information about the nature and possible interpretation of any geophysical anomalies identified by the survey.

**4. METHODS**

For the purposes of archaeological survey, the route has been broken down into parcels (A1, J-W) corresponding to the current layout of fields. Parcel A1 lies towards the northern end of the route, on the south side of Hawthorn Road. Parcels J-W constitute the southern part of the route, from Washingborough Road to the A15, Sleaford Road, at Bracebridge Heath. These are shown on Figure 2.

Artefacts were collected from within

transects aligned north-south on the National Grid, spaced at 10m intervals. Fieldwalking and metal-detecting was undertaken in all suitable parts of the corridor.

All artefacts collected during walking of transects were bagged and labelled individually. All artefacts other than isolated post-medieval to modern material were collected. Each find spot was accurately surveyed in three dimensions using a Global Positioning by Satellite (GPS) system.

Finds bags were marked with the project number, land parcel name and unique find spot number. Pro-forma record sheets for each transect were used to record details of the person walking the transect, weather, soil type, ground conditions etc. which might affect the quality of the data.

Any significant concentrations of artefacts were allocated a unique reference number and subject to more detailed recording as above.

On the whole the methodology was effective, although crop cover reduced visibility in some fields. The approximate surface visibility and crop type are summarised in the table below:

<b>Parcel</b>	<b>Approximate visibility %</b>	<b>Condition / crop type</b>
<b>A1</b>	95	Young grass-type crop
<b>J</b>	95-100	No crop – some residual stubble / straw
<b>L</b>	40	Young brassica crop
<b>M</b>	30	Young brassica crop
<b>N2</b>	95	Young brassica crop
<b>P</b>	80	Stubble traces
<b>Q</b>	85	Stubble traces
<b>U</b>	90	Young brassica crop

V	95	Stubble traces
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The remaining parcels along the bypass route were not in a suitable condition for fieldwalking and metal detecting survey, and so were omitted.

### **Magnetometry**

Magnetometer survey was undertaken by specialist subcontractors Stratascan. Full details of methodology are included in the appended specialist report (Appendix 6; Smalley 2008), but are summarised here.

Survey was undertaken of all land parcels. Readings were taken at 0.25m centres along traverses 1m apart. The Grad 601 has a typical depth of penetration of 0.5m to 1.0m. This would be increased if strongly magnetic objects have been buried in the site. The collection of data at 0.25m centres provides an optimum methodology for the task balancing cost and time with resolution.

Processing is performed using specialist software known as Geoplot 3. This can emphasise various aspects contained within the data but which are often not easily seen in the raw data. Basic processing of the magnetic data involves 'flattening' the background levels with respect to adjacent traverses and adjacent grids. 'Despiking' is also performed to remove the anomalies resulting from small iron objects often found on agricultural land. Once the basic processing has flattened the background it is then possible to carry out further processing which may include low pass filtering to reduce 'noise' in the data and hence emphasise the archaeological or man-made anomalies.

## **5. FIELDWALKING RESULTS**

A total of 94 artefacts were collected during the fieldwalking and metal detecting. These finds were examined and a period date assigned where possible (Appendix 2). The location of each

findspot is detailed in Figures 4-18, the position of metal detecting signals also being depicted.

### **Prehistoric** (Figs 4, 7, 10, 13, 16)

A single sherd of Bronze Age to early Iron Age pottery was retrieved during fieldwalking within Parcel U. Twelve worked flints were also retrieved, these being spread evenly across Parcels V, U, M, L, J and A1. The flint items ranged from the Mesolithic period to the Bronze Age, with the majority dating to the earlier part of the date range. The majority of these were waste items from core or tool preparation, but included two tools, a Neolithic horseshoe scraper and a Mesolithic blunted point, both from Parcel U.

### **Roman** (Figs 4, 7, 10, 13, 16)

Nine sherds of Roman pottery were retrieved from Parcels V, L, Q and J. The majority of these were native wares, seven being grey wares. A single sherd of native tradition shell-tempered ware was retrieved from Parcel L, in close proximity to a sherd of undiagnostic Roman greyware. A further greyware sherd of late Iron Age to Roman date was retrieved from Parcel Q, whilst 1<sup>st</sup> to 2<sup>nd</sup> century AD greyware was also collected from this parcel. A single small and abraded sherd of Central Gaulish Samian Ware of possible 2<sup>nd</sup> century date was found in Parcel V. Greyware of 3<sup>rd</sup> to 4<sup>th</sup> century date was retrieved from parcels J, L and V and further undiagnostic Roman greyware was retrieved from Parcel V.

Five tile fragments of Roman or probable Roman date were retrieved from Parcels U, Q, P and M.

### **Medieval** (Fig 5, 8, 11, 14, 17)

Medieval pottery sherds were retrieved from Parcels V, U, Q, P, L, J and A1. Twenty-five sherds were retrieved in total,



with some possible slight concentrations in Parcels U and P, and at the northern end of Parcel A1. The 13<sup>th</sup> to 15<sup>th</sup> century AD material comprises wares produced in Lincoln, Bourne and Toynton, all of these types being known from other assemblages in the environs of Lincoln. One or two sherds are possibly slightly earlier – P30, Parcel P (Fig. 14), late 12<sup>th</sup>-early mid 13<sup>th</sup>; P13, Parcel U (Fig. 17), late 12<sup>th</sup>-14<sup>th</sup> century – but the majority of these abraded sherds can only be given a broad medieval date.

Peg, nib or ridge tile fragments of medieval or probable medieval date were retrieved from each of Parcels U, Q, P, J and A1, ten examples having being collected in total. A single fragment of a medieval nib tile was also retrieved from Parcel J.

There may be a slight correlation between the distribution of medieval pottery and medieval tile, each Parcel where medieval tile was retrieved having also produced some medieval pottery.

***Post-medieval to modern*** (Figs 6, 9, 12, 15, 18)

A range of material of 16<sup>th</sup> century AD or later date was retrieved from Parcels U, P, N2, M, L, J and A1. Of these, nine comprised metal artefacts in addition to seven pottery sherds, three pieces of ceramic building material and a single glass fragment. Four pieces of post-medieval iron smithing slag were retrieved from Parcels P, L and J.

**6. MAGNETOMETRY RESULTS (Figures 19-24)**

Results are summarized below. Full details can be found in Smalley 2008. The abstracted anomalies have been divided into varying types. The types have then been tabulated and assessed as to the level of activity in each area according to the following table.

Level of activity	- None	* Minimal	** Moderate	*** Significant
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Grey cells indicate anomalies of archaeological potential

Anomaly Type	Description	PARCEL A1	PARCEL J	PARCEL K	PARCEL L
1	Discrete positive anomaly – possible pit	**	***	**	**
2	Positive anomaly with associated negative response – ferrous object	***	**	**	*
3	Magnetic disturbance – associated with pipe/cable	**	-	-	-
4	Positive linear anomaly – agricultural mark	**	**	***	***
5	Linear debris – unknown origin	-	-	-	-
6	Positive linear anomaly – cut feature of possible archaeological origin	*	***	**	**
7	Negative Linear anomaly – possible bank or earthwork of archaeological origin	-	-	*	-
8	Linear anomaly – possibly related to land drains	-	-	-	-
9	Positive area anomaly – cut feature of possible archaeological origin	-	***	-	**
10	Negative area anomaly – possible bank or earthwork of archaeological origin	-	*	-	-
11	Weak positive area anomaly	-	-	-	-
12	Weak negative area anomaly	-	-	-	-
13	Magnetic disturbance associated with nearby field boundary	**	-	*	-
14	Magnetic disturbance associated with nearby metallic objects	**	*	-	-
15	Magnetic debris	**	**	-	-
16	Area of magnetic variation – possible geological/pedological response	-	**	**	*
17	Thermoremnant anomaly – possible former area of burning such as a bonfire or kiln.	-	-	-	-
18	Strong magnetic debris – probably associated with made or disturbed ground.	-	-	-	-

<b>Anomaly Type</b>	<b>Description</b>	<b>PARCEL M</b>	<b>PARCEL N</b>	<b>PARCEL O</b>	<b>PARCEL P</b>
1	Discrete positive anomaly – possible pit	-	*	*	*
2	Positive anomaly with associated negative response – ferrous object	-	*	*	*
3	Magnetic disturbance – associated with pipe/cable	-	**	-	**
4	Positive linear anomaly – agricultural mark	***	**	-	-
5	Linear debris – unknown origin	-	-	-	-
6	Positive linear anomaly – cut feature of possible archaeological origin	-	*	-	**
7	Negative Linear anomaly – possible bank or earthwork of archaeological origin	-	-	-	-
8	Linear anomaly – possibly related to land drains	-	-	-	-
9	Positive area anomaly – cut feature of possible archaeological origin	*	*	-	*
10	Negative area anomaly – possible bank or earthwork of archaeological origin	-	-	-	-
11	Weak positive area anomaly	-	-	-	-
12	Weak negative area anomaly	-	-	-	-
13	Magnetic disturbance associated with nearby field boundary	-	*	**	*
14	Magnetic disturbance associated with nearby metallic objects	-	*	-	-
15	Magnetic debris	-	-	-	-
16	Area of magnetic variation – possible geological/pedological response	-	**	***	-
17	Thermoremnant anomaly – possible former area of burning such as a bonfire or kiln.	-	-	-	-
18	Strong magnetic debris – probably associated with made or disturbed ground.	*	-	-	-

<b>Anomaly Type</b>	<b>Description</b>	<b>PARCEL Q</b>	<b>PARCEL R</b>	<b>PARCEL S</b>	<b>PARCEL T</b>
1	Discrete positive anomaly – possible pit	**	**	**	*
2	Positive anomaly with associated negative response – ferrous object	*	*	**	*
3	Magnetic disturbance – associated with pipe/cable	-	-	-	-
4	Positive linear anomaly – agricultural mark	**	*	***	***
5	Linear debris – unknown origin	-	-	-	-
6	Positive linear anomaly – cut feature of possible archaeological origin	**	***	***	*
7	Negative Linear anomaly – possible bank or earthwork of archaeological origin	-	-	-	*
8	Linear anomaly – possibly related to land drains	-	-	-	-
9	Positive area anomaly – cut feature of possible archaeological origin	-	**	*	*
10	Negative area anomaly – possible bank or earthwork of archaeological origin	-	-	-	-
11	Weak positive area anomaly	-	-	-	-
12	Weak negative area anomaly	-	-	-	-
13	Magnetic disturbance associated with nearby field boundary	-	-	-	*
14	Magnetic disturbance associated with nearby metallic objects	-	-	-	-
15	Magnetic debris	-	-	-	-
16	Area of magnetic variation – possible geological/pedological response	-	-	-	-
17	Thermoremnant anomaly – possible former area of burning such as a bonfire or kiln.	-	-	-	-
18	Strong magnetic debris – probably associated with made or disturbed ground.	-	-	-	-

<b>Anomaly Type</b>	<b>Description</b>	<b>PARCEL U</b>	<b>PARCEL V</b>	<b>PARCEL W</b>	
1	Discrete positive anomaly – possible pit	*	**	**	
2	Positive anomaly with associated negative response – ferrous object	*	*	**	
3	Magnetic disturbance – associated with pipe/cable	**	-	-	
4	Positive linear anomaly – agricultural mark	***	**	*	
5	Linear debris – unknown origin	-	-	-	
6	Positive linear anomaly – cut feature of possible archaeological origin	**	**	-	
7	Negative Linear anomaly – possible bank or earthwork of archaeological origin	-	-	-	
8	Linear anomaly – possibly related to land drains	-	-	-	
9	Positive area anomaly – cut feature of possible archaeological origin	*	-	-	
10	Negative area anomaly – possible bank or earthwork of archaeological origin	-	-	-	
11	Weak positive area anomaly	-	-	-	
12	Weak negative area anomaly	-	-	-	
13	Magnetic disturbance associated with nearby field boundary	-	-	*	
14	Magnetic disturbance associated with nearby metallic objects	*	-	-	
15	Magnetic debris	-	-	-	
16	Area of magnetic variation – possible geological/pedological response	-	-	-	
17	Thermoremnant anomaly – possible former area of burning such as a bonfire or kiln.	-	-	-	
18	Strong magnetic debris – probably associated with made or disturbed ground.	-	-	-	

## 7. DISCUSSION

References to sites with associated reference numbers within the discussion are derived from the List of Archaeological Sites produced by Jacobs within the Written Scheme of Investigation for the Archaeological Evaluation Works, Volume 1: Specification (2008) and reproduced here as Appendix 3.

### *Parcel A1 (Figures 4-6, 24)*

A late Neolithic to early Bronze Age flint scatter is recorded a short distance to the southwest of Parcel A1 (Site 63). A single Mesolithic or Neolithic flint was retrieved during the fieldwalking of the northern part of this Parcel. This may represent scattered material within the ploughsoil.

Further fieldwalking finds from this area were limited to small quantities of medieval pottery and ceramic building material, along with post-medieval artefacts. The majority of post-Roman and later material retrieved during the survey from this and the other parcels was scattered and abraded, and likely to have been deposited in manuring scatter. A possible slight concentration of medieval material at the northern edge of this area may reflect manuring close to the road, perhaps where manure was unloaded from carts into the field.

Geophysical survey revealed only a very few possible features here. Overall the non-intrusive surveys would indicate a low archaeological potential for this parcel.

### *Parcel J (Figures 7-9, 23)*

Four worked flints were retrieved from Parcel J, although these were widely spaced across the area. The date range of the flints was also wide, including Mesolithic and possible Bronze Age pieces.

An Iron Age ring ditch (Site 207) and

Romano-British finds scatter (Site 212) are recorded just to the northwest of the area. These periods were represented in the results of the present survey by a single sherd of 3<sup>rd</sup> to 4<sup>th</sup> century AD Roman pottery, retrieved from close to the centre of the parcel.

Two non-ferrous metal detecting signals were recorded in this area. However, the potential significance of any of the logged non-ferrous signals is impossible to determine.

Medieval and later limekilns are recorded at the far northern edge of the parcel (Site 199). Although small quantities of medieval pottery and ceramic building materials were retrieved, these are unlikely to be associated with the limekilns, and again probably reflect manuring practices.

Parcel J contains a large number of positive magnetometer anomalies indicating the presence of cut features such as ditches. These anomalies seem to represent former field boundaries; however rectilinear features may indicate the presence of enclosures. A large number of discrete positive anomalies have also been identified in this parcel. These anomalies have been interpreted as pits of a possible archaeological origin.

Despite the dearth of finds recovered during surface artefact collection, the magnetometry results suggest that the potential for continuation of Iron Age / Romano-British activity previously noted to the west is high.

### *Parcel K (Figure 23)*

This parcel was not available for fieldwalking.

Two very straight positive anomalies at right angles, probably representing former ditched boundaries, were revealed in geophysical survey together with a curvilinear anomaly at the southern edge

of the field extending into Parcel L. The north-south boundary ditch extends beyond Heighington Road into Parcel K. Although there is no evidence of date, these features are of clear archaeological potential.

***Parcels L, M and N2 (Figures 10-12, 22)***

A cropmark boundary feature (Site 250) bisects Parcel L, whilst a middle Bronze Age cinerary urn is recorded to the northwest of the area (Site 201). The boundary feature was clearly evident within geophysical survey, appearing as two large parallel positive linear anomalies. However, there was no evident correlation between these features and the finds retrieved during the survey of these parcels.

Three worked flints were retrieved, one each of possible Mesolithic and Neolithic date, the third being undated.

Three sherds of Roman pottery were retrieved from Parcel L in moderate proximity to one another, the findspots being a maximum of c.68m apart. Two of these were only c.7m apart (Finds 45 and 46), one of these was of 1<sup>st</sup> to 2<sup>nd</sup> century date, the other being undiagnostic Roman greyware. The third sherd (Find 51) was of 3<sup>rd</sup> to 4<sup>th</sup> century date. A piece of Roman ceramic building material was also collected from these areas, close to the southern edge of Parcel M.

As for the other surveyed areas, small quantities of medieval and later material plotted are likely to reflect manuring and other agricultural activities.

Three non-ferrous metal-detecting signals were recorded, in Parcels L and N2.

As well as the two large parallel linear anomalies, Parcel L contained a number of discrete positive anomalies. These anomalies indicate the presence of cut features such as ditches and pits of a

possible archaeological origin. Parcel M contained only a single possible cut feature.

***Parcels N1 and O (Figures 21, 22)***

These parcels were not available for fieldwalking.

Little of archaeological potential was identified by magnetometer survey in these parcels. A number of complex patterns of positive linear anomalies were noted. These anomalies are likely to be of a geological origin such as periglacial cracking.

***Parcels P, Q and R (Figures 13-15, 20, 21)***

An undated cropmark enclosure is recorded extending into Parcel Q (Site 289). A sherd of late Iron Age to Roman pottery (Find 38) and a sherd of 1<sup>st</sup> to 2<sup>nd</sup> century pottery (Find 37) were retrieved close to the edge of this site, and so could be associated with it. The findspots of these two greyware sherds were c.12.7m apart and located on the eastern edge of the Parcel. Three fragments of Roman ceramic building material were retrieved from these parcels, two from the northern end of Parcel Q, and one from the northern end of Parcel P. The 5 artefacts of Roman date retrieved from these parcels may be associated with, and indicate a date for, the known cropmark enclosure.

Small quantities of medieval and later finds were also retrieved, and 5 non-ferrous metal detecting signals were recorded, although these are probably of limited significance, although a slight possible concentration of medieval material in Parcel P may reflect the proximity of the road, and manuring from carts.

Parcel R was not available for fieldwalking.

Although a number of complex cut features indicating ditches of a possible archaeological origin are evident in Parcels Q and R, the cropmark enclosure was not identified. These anomalies have been interpreted as being of an archaeological nature however it may be that they are related to geological features such as those identified in other parcels.

### ***Parcel S (Figure 20)***

This parcel was not available for fieldwalking.

A large cut feature is evident in the southern limits of Parcel S. It is interesting to note a small rectilinear enclosure annexed to the south western limits of this anomaly. The majority of anomalies of an archaeological origin in Parcel S are located in its southernmost region. This may indicate a centre of activity in this area.

### ***Parcels T1 and T2 (Figure 19)***

These parcels were not available for fieldwalking.

Magnetometer survey revealed only a very few anomalies of possible archaeological origin. The northwest-southeast linear may be of some potential, however its sharp definition and straight alignment may suggest a recent origin.

### ***Parcels U, V and W (Figures 16-18, 19)***

Prehistoric activity is demonstrated in the vicinity of these parcels by the findspot of an Iron Age beehive quern a short distance to the northwest of Parcel U (Site 312) and a barbed and tanged arrowhead findspot (Site 324) just to the west of Parcel V.

Four worked flints were retrieved from these areas during the fieldwalking, three of which were not closely dateable, and one of which was of Mesolithic date (Find 10). Perhaps more significantly, a single

sherd of Bronze Age pottery (Find 92) was retrieved from Parcel U, and may indicate the presence of further material or features of this date in the area.

The route of the Roman Road Mareham Lane passes between Parcels U and V (Site 361), and Romano-British features have been recorded at the northern edge of Parcel V (Site 320). The proximity of these areas to Roman routeways and a known site of this date seems to be reflected in the retrieval of three sherds of Roman pottery from Parcel V. One of these was undiagnostic greyware (Find 20), whilst the second was of 3<sup>rd</sup> to 4<sup>th</sup> century date (Find 17). The third sherd retrieved from this parcel was a Samian sherd, dating to the 2<sup>nd</sup> century AD (Find 22). It is possible that the Roman features recorded to the north may extend into Parcel V and that these features and the fieldwalking finds might be associated. An isolated piece of probable Roman tile was also retrieved from Parcel U.

The remainder of the assemblage from V and U comprised medieval and later material, and are likely to be of limited significance and agricultural origin, although a slight concentration of medieval artefacts in Parcel U may be due to its proximity to the road. Two non-ferrous metal detecting signals were recorded within these areas.

Parcels U and V revealed a moderate level of activity with a number of linear and discrete anomalies in magnetometer survey. Finds of prehistoric and Roman artefacts here suggest that these anomalies may have significant potential.

Parcel W was not available for fieldwalking. Magnetometer survey did not identify any significant anomalies.

## **8. STATEMENT OF POTENTIAL**

The potential of the fieldwalking data is



limited by the unavailability of certain areas and by the variable condition of land parcels along the route. This limits the comparability between areas such that negative inferences cannot necessarily be drawn from the absence of material of particular dates in certain areas. The sparse scatter of medieval and later material has probably entered the land as manuring scatter and has limited potential. The earlier material, although not present in any density has greater potential as an indicator of past occupation.

Metal-detecting produced a more consistent response although few artefacts were retrieved at the surface. The majority of signals are ferrous and probably represent detached fragments from agricultural machinery. Non-ferrous signals may represent artefacts of more intrinsic interest, but some responses were very similar to those produced by shotgun cartridges noted at the surface (but not retained).

The magnetometer survey produced a consistent data-set allowing comparisons to be made along the entire route and provides a good basis for targeting further stages of fieldwork. Potential archaeological features were identified along the majority of the route. Parcel J is particularly busy in this respect, although some parcels produced relatively little response (A1, M, N, O, W).

## 9. CONCLUSION

Non-intrusive surveys, comprising magnetometer survey, fieldwalking and metal detector survey were undertaken as part of a programme of archaeological works designed to evaluate the potential for archaeological remains on the route of the proposed Lincoln Eastern Bypass.

A mixed assemblage of 94 artefacts was retrieved, the majority of which were isolated finds, spread across a wide area.

However, some may indicate the presence of further archaeological remains along parts of the route.

A single sherd of Bronze Age pottery was retrieved from Parcel U, which may indicate the presence of buried remains of this date.

Two pottery sherds of Roman and possible late Iron Age to Roman date were retrieved from Parcel Q, close to the edge of a known cropmark enclosure site, and may be associated with this feature.

Roman pottery were retrieved from Parcel V, close to the route of the Roman road Mareham Lane and adjacent to the location of a Romano-British pit and gully. These three sherds provide a possible indication that similar cut features might also extend into the study area.

Three Roman pottery sherds were retrieved from Parcel L, in moderate proximity to one another, and may reflect the presence of further Roman remains in this area.

Medieval pottery and ceramic building materials were retrieved, although these are more likely to derive from manuring scatter than buried features. Slight concentrations of medieval material were noted in parts of Parcels A1, U and P, perhaps due to their location adjacent to roads, where manure may have been unloaded from carts.

Post-medieval metal finds were retrieved along the route, but are of limited potential and significance, and probably reflect manuring and other agricultural activities in the area.

The gradiometer survey undertaken over the footprint of the proposed Lincoln bypass has identified a number of anomalies of a possible archaeological origin. The data collected is of good quality and only a small number of areas

have been affected by magnetic disturbance. Areas identified as having the most potential during geophysical survey include Parcels J, L, Q, R and S, although patterning due to geological features may be deceptive in some cases.

## 10. ACKNOWLEDGEMENTS

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## 11. PERSONNEL

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## 12. BIBLIOGRAPHY

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## 13. ABBREVIATIONS

APS Archaeological Project Services  
IFA Institute of Field Archaeologists  
OS Ordnance Survey