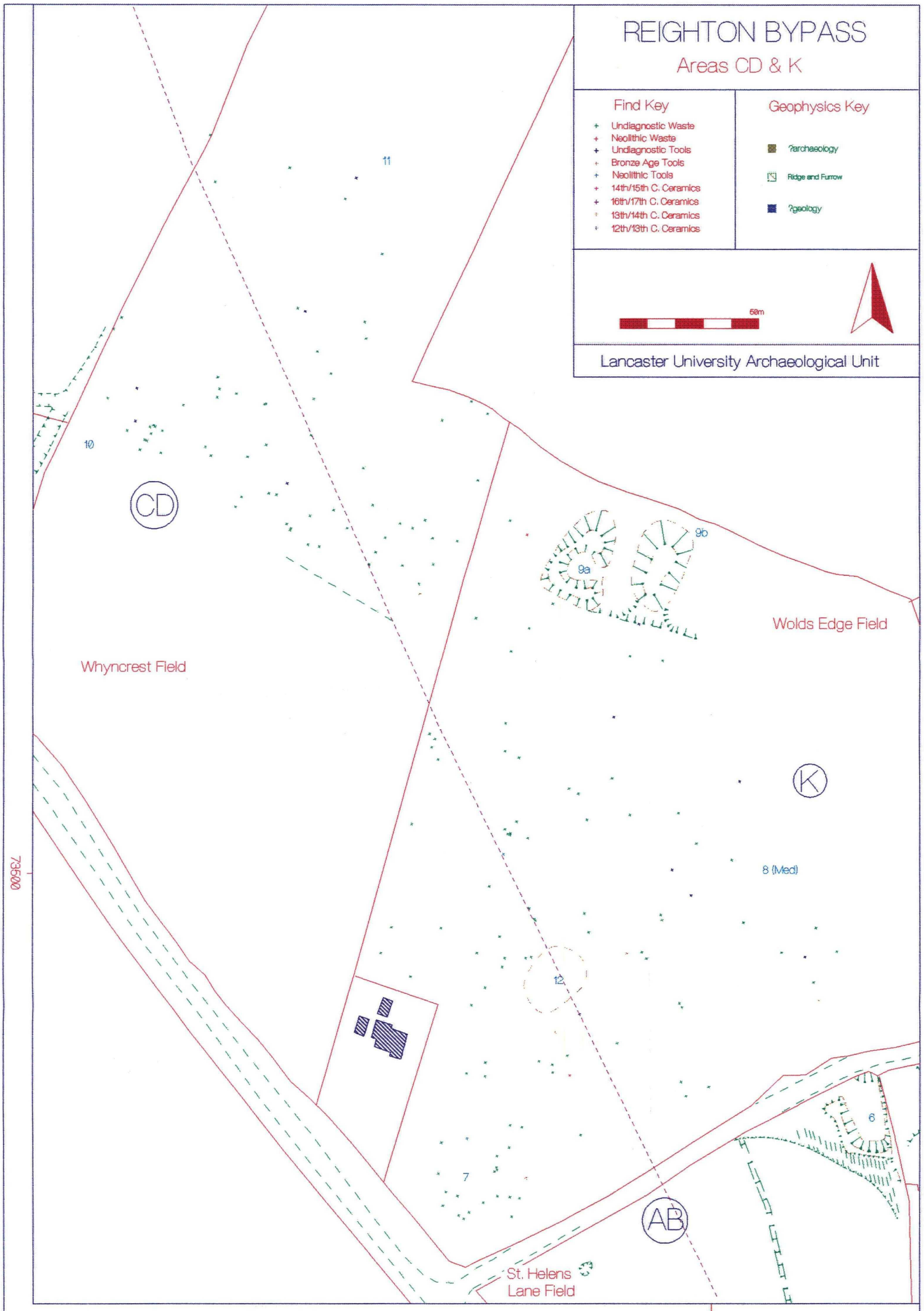

Fig 4 Areas CD, and K, Prehistoric Lithic Scatters

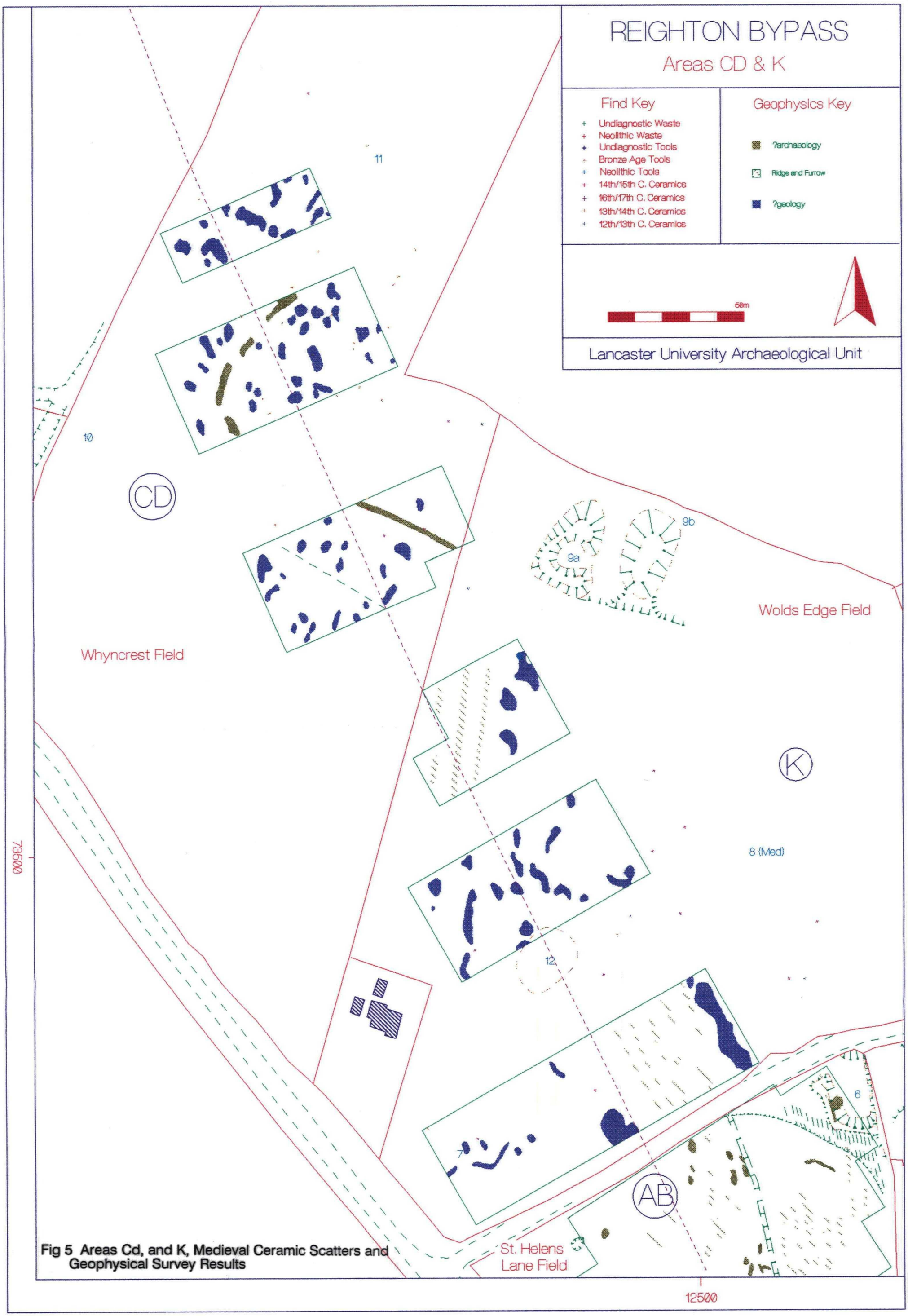

Fig 5 Areas Cd, and K, Medieval Ceramic Scatters and Geophysical Survey Results

DISCUSSION

From an archaeological perspective the natural topography divides the bypass corridor into two distinctive areas: the plateau of the Wolds and the coastal plain with the associated Wold Edge ridge. The Wolds area displayed good survival and there was evidence of considerable archaeological activity. By contrast the coastal plain displayed low levels of archaeological activity and no survival of surface features. To an extent this distinction is biased by the crop conditions; all the coastal plain fields were arable and were under stubble. However, two of the areas (EF and J) did have limited surface visibility and a moderate confidence rating can be ascribed to the negative conclusions. Area GH had thicker stubble and grass cover making effective artefact survey impossible; it did, however, reveal linear geophysical anomalies (Site 15). On this evidence only a low confidence rating can be ascribed to an assessment of its archaeological potential.

The Wolds plateau displayed relatively high levels of archaeological activity which falls into two distinct periods: the prehistoric period and the medieval period; the latter is associated with the shrunken medieval village.

The prehistoric activity is represented by two distinct lithic scatters (Sites 7 and 10), which date broadly to the bronze age, although Site 7 does include a small neolithic element. The scatters are large and display significant localisation, and they may reflect settlement activity in addition to background noise resultant from manuring activity. However, large prehistoric background scatters have been identified within the Wolds and it is therefore only possible to ascribe a moderate confidence rating against an assessment of prehistoric settlement activity in this locality.

The present survey identified considerable evidence of medieval activity in the areas to the west and north of Reighton village, which are consistent with shrinkage or movement of the village. St Helens Lane would appear to have been an early area of nbbon development from the village. It has a series of tofts extending from it and the early cultivation plot (Site 6) has lynchet formation overlying the lane boundary. It is not therefore surprising that significant evidence of medieval activity was identified in the fields on either side of this lane. The medieval ceramics assemblage Site 8 is spatially associated with this earlier village and therefore as an indicator of medieval activity it has a high confidence rating. The other ceramic assemblage (Site 11) is associated with early field boundaries identified from the Stage 1 desk top study (NYCC 1993 site 2) and also the geophysical survey. It could be attributable to manuring activity and therefore as an indicator of medieval settlement activity it has a slightly lower confidence rating by companson with Site 8.

Within the pasture field there are two main features, the hollow way (Site 3) and the cultivation plot (Site 6). Both appear to relate to the earlier village; however the hollow way probably continued in use after the village shrinkage and therefore will be affected by later activity. The more archaeologically important of the two must be site 6, because it is a component of the much larger earthwork complex in the adjacent field (to the east of St Helens Lane Field which was not part of the present survey) and is a fossilised element of the early village. In terms of an indicator of medieval activity, however, both have a high confidence rating.

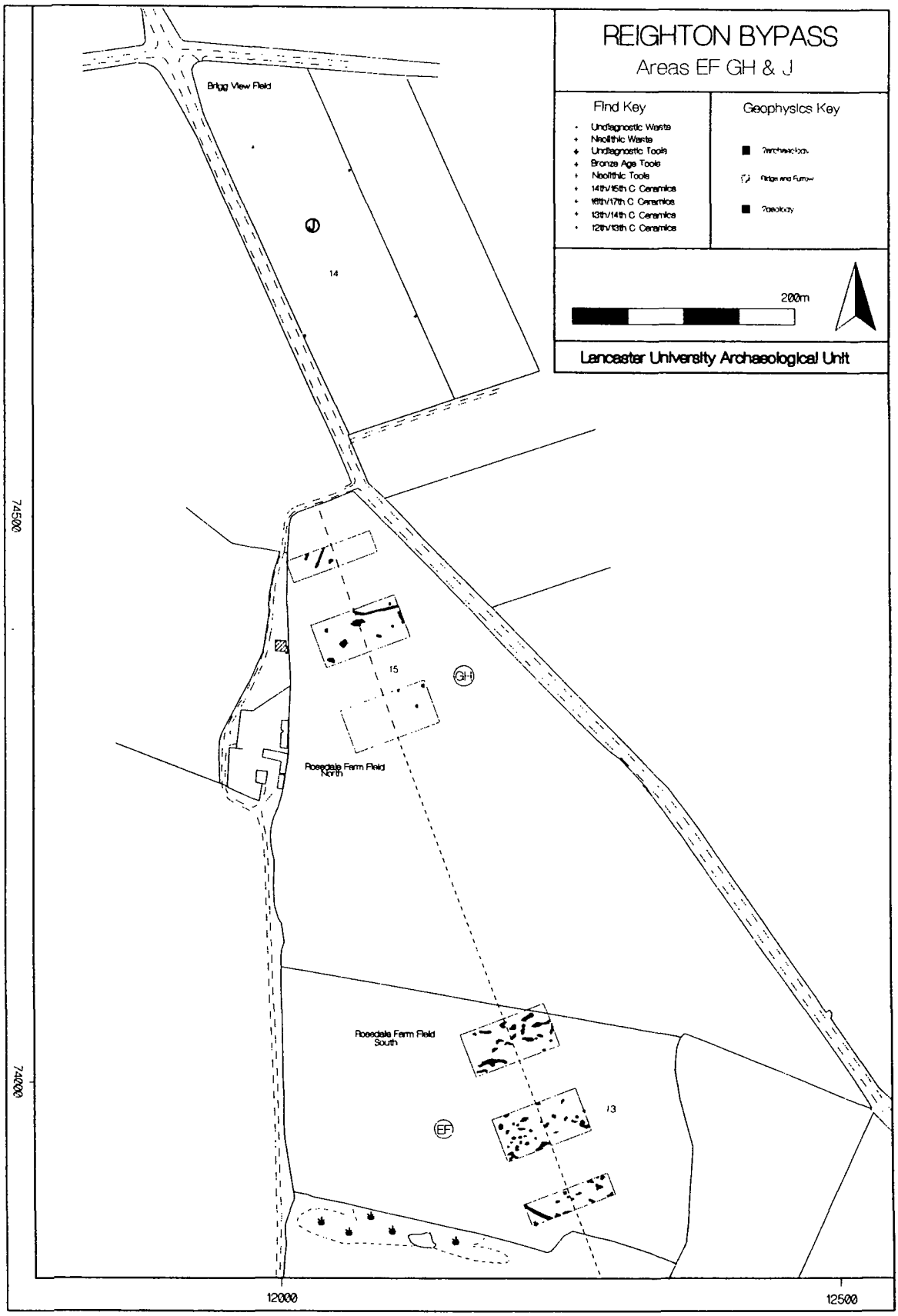

Fig 6 Areas EF, GH, and J

ARCHAEOLOGICAL IMPLICATIONS

The impact of the bypass route on the archaeological resource in the Reighton area is summarised below.

Twelve of the fifteen sites will be wholly or in part materially damaged or destroyed by road construction, being within the central band of the corridor (Sites 1,2,3,4,5,7,8,10,11,12,13, and 15). The hollow way (Site 3) is crossed diagonally by the proposed line of the bypass, so that elements of it will be destroyed but others, on the edge of the corridor, will be at a reduced risk. Fortunately the best surviving section (3d) is on the edge of the corridor and the section in worst condition (3b) lies within the centre of the corridor. However, the northeru part of section 3d will be affected by an access road between the bypass and the Hunruanby road. The lithic scatter (Site 7) covers a considerable area and so is partiy within and on the edge of the corridor. The most significant part of it, by virtue of a higher concentration and an association with geophysical anomalies, is on the edge of the corridor. Although the lithic scatter Site 13 will be affected by the proposal it appears, on the present evidence, to be of lesser archaeological significance by comparison with sites on the Wolds plateau.

Only one site (Site 9) lies entirely at the edge of the corridor and therefore at reduced risk of damage during construction.

Two sites (Sites 6 and 14) will be materially damaged or destroyed by the construction of access roads rather than the main bypass. The cultivation plot Site 6 is an important fossilised potential toft from the early village and would be destroyed by the proposal to construct an access road for Mount Pleasant house from St Helens Lane. Although site 14 will be affected by the proposals, on present evidence, it would appear to be of lesser archaeological significance by comparison with sites in the upland Wolds area.

RECOMMENDATIONS FOR RECORDING AND PROTECTION OF SITES

This phase of work has allowed the identification of areas and sites of archaeological importance within the study area, but it has been insufficient to assess their full significance. It is thought likely that mitigation measures will be necessary either to record or protect many of the sites in advance of constmction, but the precise nature and extent of such measures cannot be determined without some further evaluatory work.

A programme of more detailed evaluatory work should be conducted in sufficient time to allow for further appropriate recording of sites of particular significance prior to the implementation of the bypass scheme.

The third stage of evaluation should include the work outlined below.

Further Evaluation

Documentary research

The present survey has highlighted the fact that many of the sensitive archaeological sites adjacent to the village of Reighton relate to an earlier period of the village. Because of either village shrinkage or movement these earthworks have become fossilised relics of what was probably a medieval landscape; however the date and cause of any shrinkage is presendy uncertain. In order to assess the archaeological significance and sensitivity of these sites they need to be placed within an historical context and this will require some further documentary work. Such documentary work should examine early cartographic sources, such as tithe maps and estate maps. Manonal documentation should also be rapidly examined to determine, if possible, the significant events and changes of population within the area.

Trial Excavation

Site	03	Hollow Way
Site	06	Cultivation Plot
Site	07	Lithic Scatter
Site	08	Ceramic Scatter
Site	10	Litiuc Scatter
Site	11	Ceramic Scatter
Site	12	Copse
Site	15	Geophysical Anomalies

A programme of trial excavation will be necessary to determine the extent, form, dating, and significance of the sites identified during this phase of the programme. It will concentrate in arable areas where the loss of surface survival has resulted m the diminishing of confidence in the assessment of the archaeological potential; it should also selectively investigate negative areas to determine the effectiveness of the present survey techniques.

Area AB (Humber Howe): Trial trenching should be undertaken on the anticipated line of the hollow way (Site 3) to determine the survival and orientation of the former road.

Area AB (Mount Pleasant Plot): As a result of the linuted landscaping of the hollow way within this plot, it is not possible to determine the sub-surface survival of the feature. Therefore trial trenching should record the form, nature, chronology, and extent of hollow way section 3b.

Area AB (St Helens Lane Field): Intensive cultivation has removed any trace of the earthworks within the interior of the field. It is therefore not possible to determine, on the present evidence, if the the cultivation plot (Site 6) defined the most westerly extent of the early tofts and plots along St Helens Lane. Trial excavations should be located to determine if there are

further elements of the shrunken medieval village on the southern side of St Helens Lane and to test for key relationships between any medieval features and the hollow way.

Area K (Wold Edge Field): Trial trenches should be located to examine geophysical features and centres of artefact scatters to assess the existence of any structural features and associated stratigraphy (Sites 7 and 8). The central copse is spatially associated with both lithic and ceramic scatters and may be a relict survival of a former monument. It should be examined by trial trenching to determine its archaeological potential.

Area CD (Whyncrest Field): Trial trenches should be located to examine geophysical features and centres of artefact scatters to assess the existence of any structural features and the associated stratigraphy (Sites 10 and 11).

Area GH (Rosedale Farm Field - North): The site has a low confidence rating because the stubble cover has limited the viability of the artefact survey. Trial trenches should be excavated to investigate the geophysical anomalies and assess their forru and archaeological potential.

Mitigation

The aim of these recommendations is to achieve, as a first option, the preservation in situ of all significant archaeological features, and possible strategies for the mitigation of the development, including design modification, will be considered. When conservation is neither possible, nor practical, it may be appropnate to undertake a further stage of more intensive archaeological work to mitigate the effects of development (in accordance with PPG16 paragraph 25 (DOE 1990). Mitigation measures may be necessary for many of the sites; however the precise nature of the strategy will be dependent on the results of a further stage of evaluation (see above). The proposed mitigation strategies are discussed below.

Avoidance

Site	06	Cultivation Plot

Site 6 is an archaeologically important fossilised element of the shrunken medieval village and should be preserved if at all possible. Within the present proposals it will be destroyed by the construction of a narrow access road for Mount Pleasant house and it is therefore recommended that this road should be diverted or re-routed to avoid the plot. Although a relatively small diversion of the access route would avoid the plot, adjacent areas, to the west, may also contain the degraded remains of further plots or tofts and any avoidance proposals should be subject to the results of the next stage of evaluation. If it proves impossible to avoid the earthworks, they should be subject to a full level 3 mitigation survey and possibly an excavation in advance of construction (see below).

Protection

Site	03d	Hollow Way
Site	09	Mounds

Certain features can be protected during and after road constmction, provided that contractors and farmers are aware of their existence and historical value. Those reconunended for protection lie on the penphery of the construction corridor. If protection cannot be guaranteed, the alteruative would be full level 3 survey and excavation to record the sites to an appropriate level in advance of construction.

The best surviving section of the hollow way (3d) is on the periphery of the bypass corridor and it should be possible to protect a significant proportion of this section during construction by a limited narrowing of the corridor. If it proves impossible to protect the monument a full survey will be required to record the site (see below).
The two large mounds (Site 09) within Wold Edge Field are discrete features which are only partly within the bypass corridor and it should be possible to protect them during construction.

If they cannot be protected they will need to be excavated and recorded to an appropriate level.

Level 3 Earthwork Survey

Site	03d	Hollow way
Site	06	Cultivation plot

The level 2 survey undertaken during the present programme can serve as a mitigation measure for less complex and significant earthwork sites. However, the more important sites, such as the hollow way (Site 3d) and the cultivation plot (Site 6) will require a more detailed level of survey (level 3) if they cannot be preserved (see protection and avoidance above). The level 3 survey is a comprehensive record of the archaeological features in relation to the surface topography and is enacted when significant surface archaeology is liable to destruction. It incorporates an interpretive hachure survey alongside a full computer generated model of the ground surface. It is generated by the provision of additional survey data to the level 2 survey and generated on CAD which maintains the original accuracy of the survey data.

Excavation

Depending on the results of the further evaluation it may be necessary to undertake open area excavation on the more archaeologically sensitive sites as mitigation. Similarly if it proves impossible to protect or avoid sites 03, 06, and 09 they may also require an open area excavation.

Watching Brief

All earth moving operations in areas of archaeological potential should be monitored by an archaeologist conducting a watching brief. In the case of the Reighton Bypass, investigations so far have demonstrated that a considerable proportion of the route has archaeological potential. Provision for an archaeological inspector to monitor the construction process is therefore considered essential.

This process is particularly important in the northern part of the route (areas EF, GH and J), where stubble cover obscured the ground surface and limited the effectiveness of the artefact survey in these areas.

Summary of recommendations for phase 3

A watching brief during road construction is recommended for all sites and areas.

Site 03	Area AB	Trial Excavation Protection Full survey?? Excavation??
Site 06	Area AB	Trial Excavation Avoidance Full survey?? Excavation??
Site 07	Area K	Trial Excavation
Site 08	Area K	Trial Excavation
Site 09	Area K	Protection Excavation?
Site 10	Area CD	Trial Excavation
Site 11	Area CD	Trial Excavation
Site 12	Area CD	Trial Excavation
Site 15	Area GH	Trial Excavation

GAZETTEER OF SITES

Site no.	1
Area/Field	A
Place Name	Mount Pleasant
Site type	Earthwork, Linear Bank
Period	? Medieval/Post-medieval
NGR	TA 1258073275
Source	Topographic Survey
Date	3-12-1993
Size	52.1 x 9.8m

Description:
A large linear earthwork or mound extending east/west between the farm and the hollow way (Site 3a). It is a uniformly profiled mound, which stands up to 0.8m above the adjacent ground surface. There is a central depression within the bank, towards its western end. It appears to end at the surviving part of the hollow way (Site 3a), since there is little sign of the bank on the opposite side. Although there is an irregular feature (Site 3d) on the opposite side of the hollow way this is short, and more narrow than Site 1, it is therefore probably unrelated. This mound (Site 1) probably post-dates the hollow way. It is perpendicular to the line of the hollow way and also runs parallel to the banks/hollows of Site 2; it possibly also relates to the adjacent farm.

Site no.	2
Area/Field	A
Place Name	Mount Pleasant
Site type	Earthwork, Linear banks
Period	Medieval/Post medieval
NGR	TA 12617326
Source	Topographic Survey
Date	3-12-1993
Size	34.1 x 20.6m

Description:
A series of linear parallel banks/hollows extending from a modern boundary and up to the hollow way (Site 3b). There is no evidence of an extension on the opposite side of the hollow way and it is to be presumed that these features post-date it. However, as a result of disturbance to Site 3b there is no clear relationship between it and these banks. The banks are irregular in size and width, and although there is a possibility that they could be very broad ridge and furrow, the irregularities and lack of adequate headland may be an indication that they had an alternative function. The ditch at the most southerly end of the plot has been filled and obscured in the recent past; however, the owner has identified the location of the feature, which is approximately equidistant from the other ditches.

Site no.	3
Area/Field	A
Place Name	Mount Pleasant
Site type	Hollow Way
Period	Medieval/Post medieval
NGR	TA 12447332 - 12627323
Source	Topographic Survey
Date	3-12-1993
Size	206 x 18m

Description:
The hollow way originally extended between the top of the Wolds ridge, where it is overlain by the present road, and the village centre, near the church. It comprises four sub-elements (Site 3a, 3b, 3c and 3d). The section in best condition is in St Helens Lane field (Site 3d); the section in the Mount Pleasant plot (Site 3b) has been extensively disturbed and the form of the hollow way is confused. Humber Howe field, to the east of Mount Pleasant, has been extensively ploughed and within it there is only a very faint, questionable linear rise that was possibly a continuation of the hollow way (3b).
A possible further section of the hollow way (Site 4a) is described separately, but may be a continuation of the low-lying tranverse bank of section 3d.

3a) This extends from the main northern bank of section 3d. It compnses two, close, parallel banks, with a narrow, almost level, terraced bench (max. width 2.8m) between them. This is considerably narrower than section 3d, and there is a probability that these both define the northern edge of the hollow way. The presence of two adjacent banks may either be a product of disturbance or perhaps reflects two phases of the hollow way. Significantly, the southernmost of the two is in line with both sections 3b and 3d and it would appear that this was the northern edge of the hollow way.

3b) This is a continuation of the line of section 3a; it is a positive feature and is a pronounced bank, but is slightly irregular (3bi). The landowner reports that he filled in the hollow way in this area, and left a significant quantity of spoil upstanding, hence the positive profile. However, the line does reflect that of the original hollow way. A small spur leads out from this bank and connects with the most prominent of the adjacent perpendicular banks (Site 2). There is a possibility that this is modern.

Adjacent to the main bank (Site 3bi) is a low mound (Site 3bii), partiy extending from the modern farm track. This is possibly modern spoil; however it is in line with part of bank 3a and could be a continuation.

3c) These are two related mounds, lying parallel to hollow way section 3a. They have possibly been subject to disturbance and the original form of the features is unclear. The northern edge of these is approximately in line with a break of slope extending along the bottom of section 3d and these features were possibly related to that element of the hollow way.

3d) This section of the hollow way mns along the western side of the pasture field adjacent to the main road. It is very prominent at the northern end where it is covered with trees; here it is up to 3m deep and c 12m wide (the base of the hollow way is 3.6m wide). It peters out to the north-west where it starts to converge with the crossroads between St Helens Lane and the Hunmanby road. To an extent this may be a result of disturbance and filling, which may in part be attributable to the constmction of the present road. At the south-eastern end, it curves round towards the east, extending towards the church. Another section appears to divert to the south-east and leaves a triangular island in the middle of the field. This line extends broadly parallel to the present road and is approximately orientated with feature 4a (see below).

3e) This is a small section of bank mnning parallel, and adjacent to section 3d. This short section is continued as a linear geophysical ditch-like feature, mnning parallel to the hollow

way. This line also corresponds with the end of the ridge and furrow cultivation shown by the geophysical survey. Although part of the feature may be 'ditch-like', it may relate either to a headland against the hollow way, or may be an alternative line of the hollow way.

Site no.	4
Area/Field	A
Place Name	Mount Pleasant
Site type	Hollow Way
Period	Medieval/Post medieval
NGR	TA 1258673219 - 1261673214
Source	Topographic Survey
Date	3-12-1993
Size	30.5m x 6.9 (Site 4a)

Description:
The site comprises two related features a broad, straight bank (4a), and a curved, terraced scarp edge (4b).

4a) This is a flat topped, regular parallel-sided bank. It is not visible to the east of the plot boundary (the field has been extensively cultivated), and also does not extend to the north of the modern farm track. It mns parallel to hollow way section 3b and appears to continue the line of the southern element of section 3d of the hollow way; there is therefore a possibility that this bank relates to the same feature.

4b) This curved break of slope extends from the modem plot boundary and butts up against bank 4a. It is fairly well-defined at the bottom and there is a 0.5m height difference between top and bottom. It is evidentiy artificial and is rather too prominent and sharply defined to be a lynchet; it may be a small section of terrace.

Site no.	5
Area/Field	B
Place Name	St Helens Lane Field
Site type	Ditch
Period	Modem?
NGR	TA 12547325 - 12517340
Source	Topographic Survey
Date	3-12-1993
Size	153 - 1.7m

Description:
A narrow and shallow ditch extends across the field; it is fairly well-defined and cuts the edge of the hollow way. It is within an area that has been intensively cultivated and, on the evidence of the geophysical survey, it was previously an area of narrow ridge and furrow. This feature clearly post-dates the latest episode of cultivation on the site and would appear to be a relatively modem feature (pipe/cable trench?).

Site no.	6
Area/Field	B
Place Name	St Helens Lane Field
Site type	Cultivation plot/lynchet
Period	Medieval
NGR	TA 12558341
Source	Topographic Survey
Date	3-12-1993
Size	26 x 18m

Description:
The cultivation plot is in the northern corner of the field, adjacent to similar earthworks in the field to the east. The southern, eastern, and western borders of the plot have classic lynchet profiles, particularly the boundary at the top, which has a negative profile. There is a corresponding positive build-up at the bottom of the plot against the field boundary that edges St Helens Lane and it is evident that this earthwork post-dates the lane boundary. The plot boundary is L-shaped and has an ill-defined bank running down the slope. The top lynchet also has a slight rise on the southern side, and was clearly a free-standing bank/field boundary. This bank/lynchet is a continuation of one in the adjacent field and the boundary that divides the fields is built over the top of this earthwork; the boundary clearly post-dates the small plot.

Narrow (presumably late) ridge and furrow extends up to and over the top lynchet, clearly post-dating it. The main part of the field has been severely disturbed by modern cultivation which does not extend into the corner of the field, hence the survival of some of the ridge and furrow and this lynchet. The edge of the modern cultivation is marked by a distinct break of slope. The intensive modern cultivation has obliterated the surface evidence of the ridge and furrow and may have destroyed other earthworks in the field similar to these lynchets.

It may be that this small plot marks the western extent of the shrunken medieval village earthworks. However the area to the west of it has been intensively ploughed and there may be sub-terranean survival of further early features which are not visible as surface evidence.

The Geophysical Survey evidence has been blanketed by the ridge and furrow, so if there were any other features it would be difficult to identify them.

Site no.	7
Area/Field	K
Place Name	Wold Edge
Site type	Lithic Scatter
Period	Neolithic/Bronze Age
NGR	TA 12397338 - 12437353 - 12477352 - 12437337
Source	Artefact Survey
Date	3-12-1993
Size	169 x 56m

Description:
A scatter of prehistoric flint artefacts extends across the whole of the survey area, although there are marked variations in concentration throughout. The artefacts are broadly uniform in character and correspond in form to a bronze age date. However, there is also a limited amount of neolithic material which is scattered around the site; this material is markedly absent from the adjacent lithic scatter (Site 10). The material is predominantly waste, there is only a limited number of tools which appear to be concentrated towards the western side of the field. The largest concentration of lithic artefacts is in the southernmost part of the field, and this concentration extends in a band from this southernmost point through the central copse to a point c 65m north of the copse (TA 1246573534). Although a lithic artefact was identified on the earthworks (Site 9) at the northern end of the field there is only a sparse lithic concentration around these features and there is no close association between the features and the lithic artefact scatter. Although there are some localised concentrations, the distribution could be a product of manuring rather than an indicator of a settlement. However, it is perhaps significant that the linear, potentially archaeological, anomalies identified by the geophysical survey in grid geoD3, coincide with the largest concentration of lithic finds within this site.

Artefact Type	*No.*
Undiagnostic Waste	85
Neolithic Waste	2
Undiagnostic Tools	6
Later Neolithic Tools	2
Bronze Age Tools	4

Site no.	8
Area/Field	K
Place Name	Wold Edge
Site type	Ceramic Scatter
Period	Medieval
NGR	TA 12407340 - 12487353 - 12547345 12467340
Source	Artefact Survey
Date	3-12-1993
Size	160 x 80m

Description:
The artefact survey identified a significant, predominantly medieval, ceramic scatter. Most of the material would appear to fall within a fourteenth to fifteenth century date range, with a small amount of earlier material (twelfth to thirteenth centuries), and one fragment probably dating from the sixteenth to seventeenth century. The concentration is not large by comparison with the lithic assemblage but its distribution is significantiy localised. The greatest concenfration is around the summit of the hill, slightiy to the north of the copse; however, there is a lesser concentration extending downslope towards the south. There are almost no artefacts in the northem part of the field and there is a significant gap between this distribution and that of Site 11 which is predominantiy within the Whyncrest field (area CD, to the north). There is no medieval ceramic assemblage associated with earthwork Site 9.

Artefact Type	*No.*
13th-14th century ceramics	8
14th-15th century ceramics	10
16th-17th century ceramics	1

Site no.	9
Area/Field	K
Place Name	Wold Edge
Site type	Earthworks - Mounds
Period	Unknown
NGR	TA 12477361
Source	Earthwork Survey
Date	3-12-1993
Size	9a) 35.4 x 23.6m 9b) 32.7 x 18.6m

Description:
At the eastem edge of field, near the northern edge of the bypass corridor, are two mounds. Site 9a is a semi-rectilinear feature with a circular depression in the middle, which is essentially flat bottomed and may reflect intemal terracing or even simply disturbance. The base intemally is higher than that of the external ground level and therefore would appear to be a platform. There is a break of slope to the south-east off the main mound and a further large, elongated mound (9b) extends from this break of slope. The two mounds are not associated with any significant find concentrations, lying between the two medieval concentrations and there is only a sparse flint scatter in this area. A flint was found on top of mound 9a but cannot be taken as an indication of date.The definition of both features is unclear. They have been severely degraded by ploughing but are nevertheless fairly prominent (up to 1.5m in height); it is probable that they were very prominent before being ploughed. The purpose and function of the features remains unclear, but they may not be of great antiquity and do display superficial similarities with mineral extraction spoil heaps.

Site no.	10
Area/Field	CD
Place Name	Whyncrest
Site type	Lithic Scatter
Period	Bronze Age
NGR	TA 12367377, 12427364, 12397359 and 12337369
Source	Artefact Survey
Date	3-12-1993
Size	87m x 160m

Description:
The assemblage of flint is broadly uniform and predominantly of working waste. It appears to be bronze age in date and, unlike that in field K, does not have a neolithic element. At the northern edge of the corridor there is a significant decrease in the quantity of flint material, corresponding with the break of slope that marks the edge of the Wolds. This either reflects the edge of the prehistoric activity or implies that erosion along the hillside has resulted in the wash of material down-slope. The scatter is distinct from the adjacent lithic scatter (Site 8) both in terms of assemblage character and distribution; it would therefore appear that these were two separate sites. They were not necessarily a product of manuring.

Artefact Type	*No.*
Undiagnostic Waste	70
Undiagnostic Tools	5
Bronze Age Tools	2

Site no.	11
Area/Field	CD
Place Name	Whyncrest
Site type	Ceramic Scatter
Period	Medieval
NGR	TA 12277366, 12397359, 12417365 and 12307369
Source	Artefact Survey
Date	3-12-1993
Size	163m x 69m

Description:
The ceramic material is largely of medieval and modem/later 19th century. Modem material was in abundance throughout the field and can be attributed to manuring; this later material was sampled but was not individually located. A single fragment of glass is undoubtedly modem in date. Most of the medieval material would appear to fall within a twelfth to thirteenth century date range, with a small amount from the later part of the medieval period. The distribution of medieval material is noticeably localised and appears to be partly contained within a 'field boundary?' revealed by the geophysics. The distribution is markedly different from that of Area K; ceramic fragments are noticeably less abraded and are significantly larger. This may reflect the existence of a disturbed settlement site rather than being simply the product of manuring. The pottery has a distinct character by comparison with that of Site 8, which, coupled with the spatially separated distributions, would suggest that the two sites were disparate.

Artefact Type	No.
12th-13th century ceramic	21
14th-15th century ceramic	4
Undated ceramic	6
Post-medieval ceramic	3

Site no.	12
Area/Field	K
Place Name	Wold Edge
Site type	Copse
Period	Unknown
NGR	TA 12447346
Source	Earthwork Survey
Date	3-12-1993
Size	25m x 18m

Description:
A sub-circular copse at the highest point of the field. The centre of the copse is up to 0.5m above the adjacent ploughed ground. Its location coincides with a marked concentration of lithics. Although there is no surface evidence of any apparent antiquity within the copse, its presence may reflect unusable ground for agriculture in the past because of an earlier monument on the site.

Site no.	13
Area/Field	EF
Place Name	Rosedale Farm South
Site type	Lithic Scatter
Period	Prehistonc
NGR	TA 12257390
Source	Artefact Survey
Date	3-12-1993

Description:
The field at the time of survey was under stubble, but there was ground surface visibility in the tractor wheel furrows. The artefact survey produced only three lithic finds, which, considering the limited surface visibility is markedly less than that on top of the ridge (Site 11). The concentration is consistent with manuring activity.

Artefact Type	No.
Prehistoric lithic flakes	3

Site no.	14
Area/Field	J
Place Name	Brigg View
Site type	Lithic/Ceramic Scatter
Period	Prehistoric
NGR	TA 12047474
Source	Artefact Survey
Date	3-12-1993

Description:
At the time of the survey, the field was covered by stubble; however, there was limited surface visibility within the tractor wheel furrows. The assemblage trom this field comprises two separate groups, the ceramics and the stone. The stone assemblage is exclusively flint debitage. The ceramic assemblage comprises mainly modem ceramic vessels (12 fragments), with one fragment of tile and a single fragment of a probably medieval vessel. A single fragment of glass is undoubtedly modem in date. The concentration is consistent with manuring activity.

Artefact Type	*No*
Prehistoric Lithic flakes	2
Medieval ceramic	1
Post-medieval ceramic	12
Undiagnostic ceramic	1

Site no.	15
Area/Field	GH
Place Name	Rosedale Farm South
Site type	Geophysical Anomalies
Period	Unknown
NGR	TA 12077440
Source	Geophysical Survey
Date	3-12-1993

Description:
A number of strong magnetic responses were detected in areas GeoA1 and GeoA2, including two linear anomalies which may be parts of an enclosure or field system. There are several pit-like responses which are tentatively interpreted as archaeological, while other responses are considered to be due to the underlying geology. The anomalies are spatially close to Rosedale Farm and there is a possibility that they are associated.

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APPENDIX 1 - PROJECT BRIEF

A165 REIGHTON BYPASS

ARCHAEOLOGICAL PROJECT BRIEF

1.0 DEFINITIONS

1.1 "EMPLOYER" means North Yorkshire County Council of County Hall, Northallerton and includes the employers personal representatives or successors.

1.2 "ENGINEER" means the County Surveyor for the time being of the Employer or other Engineer appointed from time to time by the Employer and notified in writing to the Consultant to act as Engineer for the purposes of the Contract in place of the said County Surveyor.

1.3 "CONSULTANT" means the person or persons firm or company whose tender has been accepted by the Employer and includes the Consultants, personal, representatives successors and permitted assigns.

2.0 BACKGROUND

2.1 The A155 is the main east coast road connecting Bridlington and Scarborough. The continuing increase in traffic on the A165, which passes through the village of Reighton, has led to unacceptable levels of traffic congestion and deteriorating environmental conditions for the residents of Reighton. Planning permission has recently been granted for the construction of a bypass to the west of Reighton between the Dotterel Public House, to the south of Reighton, and Sands Lane to the north.

2.2 A desk top study of the known archaeological remains has been carried out as part of an environmental impact assessment. The study located a variety of earthwork features in the area and identified two locations where earthworks may be affected by the proposed bypass. The general area is considered to have a high potential for the survival of prehistoric remains of all periods. As such further investigation work is recommended. These further investigation works are hereafter referred to as 'the Stage II Works'.

3.0 OBJECTIVES

3.1 The Stage II works shall properly identify and evaluate the nature and importance of known and any unrecorded archaeological features or remains within selected portions of the route and recommend measures, or further works, required to mitigate the effects of the road development on the archaeology where necessary.

3.2 The types of work involved shall include:

(i) intensive field walking
(ii) earthwork survey
(iii) full geophysical survey

Depending on the results obtained from the Stage II investigations sample excavations of identified features and anomalies may be required.

3.3 A full evaluation report shall be produced and shall include the following:

(i) a description of the works carried out
(ii) a detailed description of the findings
(iii) the importance of the archaeology
(iv) the impact of road development on archaeological remains
(v) recommendations for further archaeological works as necessary

3.4 The management of Stage II works shall follow the method and practices described in "Management of Archaeological Projects" (English Heritage 1991).

3.5 All tenderers shall provide a tender price to include for fieldwalking, earthwork survey, geophysical survey and production of the evaluation reports. A further daily rate estimate for a team of four staff to carry out trial trenching shall be provided to indicate costs for sample excavations.

4.0 SPECIFIED WORKS

4.1 Earthwork Survey

4.1.1 Area 'A', as shown on Map 1, incorporating all of OS Parcel 5232 and part of parcels 6029 and 5926 from Chainage 1750 to 2050 shall be subject to a topographical survey such that all upstanding earthwork features shall be topographically mapped at 1:1000 or 1:500 scale depending on the relief and size of the features.

4.2 Intensive Fieldwalking

4.2.1 Area 'C', as shown on Map 1, Areas 'E' and 'G', as shown on Map 2, and Area 'J', as shown on Map 3, incorporating parts of OS parcels 4200, 1900, 5000, 0075 and 0085, approximately between Chainages 150 to 490 for Area 'J', 540 to 800 for Area 'G', 1000 to 1200 for Area 'E', and 1390 to 1560 for Area 'C', will be intensively fieldwalked. Fieldwalking shall be carried out up to approximately 50m either side of the proposed road.

4.2.2 The aim of this work will be to recover finds from the ground surface systematically and quantitatively to provide artefact distribution and density data, to identify finds, and to accurately locate and date ploughed damaged sites. Fieldwalking techniques shall be appropriate to recover information about archaeological sites down to 5 - 10m in size and provide information about the background scatter of artefacts due to manuring or other disposal processes.

4.3 Full Geophysical Survey

4.3.1 Area B, as shown on Map 1, forming part of OS parcel 5232, approximately 1.0 hectare in area, will be subject to 100% magnetometer survey. As this area is currently under pasture, the aim of the gradiometer survey will be to more precisely define the extent of subsurface archaeological remains associated with upstanding earthworks in the area.

4.3.2 Areas 'D', 'F' and 'H' on Maps 1 and 2 incorporating parts of OS parcels 4200, 1900 and 5000 between chainages 1350 to 1560, 1000 to 1200, and 600 to 800 respectively forming a total area of approximately 3.7 hectares will be subject to 50% magnetometer survey in the first instance. Survey should be carried out in these areas up to 20m either side of the proposed road. As these areas have not been subject to aerial photography the aims of the geophysical survey is to locate unrecorded subsurface archaeological remains.

4.3.3 Should the results of fieldwalking or the initial 50% survey identify features or anomalies along the line of the road warranting further investigation, a further 25% geophysical survey shall be carried out targetted on the actual line of disturbance caused by the road. Overall the maximum area likely to be surveyed is approximately 4.0 hectares.

5.0 FURTHER WORKS

5.1 Should the results of fieldwalking and geophysical survey indicate the need for sample excavations to confirm or clarify the findings, then a short Interim Report shall be produced. The Interim Report shall provide a description of the results of the geophysical and fieldwalking surveys, maps of locations of all sites, features and finds in relation to existing land use and scheme location, details of any problems of access and recommendations on the location, extent and estimated cost of the required sample excavation.

5.2 If sample excavations are deemed to be required, then this work may form an extension to the current contract. Sample excavations would be undertaken as soon as possible following the submission of the Interim Report, subject to access to the land.

5.0 ACCESS ARRANGEMENTS

6.1 Access arrangements will be made by North Yorkshire County Council with the landowners concerned.

7.0 TENDERS

7.1 The information supplied with the tender shall include:

7.1.1 A breakdown of professional staff to be employed, their qualifications, experience and their responsibilities within the project.

7.1.2 Full details of specialists or sub-contractors to be used for particular investigations such as geophysical work or soil sample analysis.

7.1.3 The methodology to be used for fieldwalking, including sampling, recording and analytical procedures.

7.1.4 The maximum number of days required to complete the works.

7.1.5 Full details of third party liability and professional liability insurances. (See also Section 8.0)

7.2 The tender value shall include for the following:

7.2.1 All staff costs.

7.2.3 All fees expended in the hire of specialist sub-contractors.

7.2.4 Equipment and plant hire costs including fuel, vehicle insurance and taxes as applicable.

7.2.5 Subsistence, travel and accommodation costs.

7.2.6 Overheads and administration costs.

7.2.7 Total costs for all fieldwork, post excavation work, archive compilation, illustrations, photographs, reproduction fees.

7.2.8 Third Party liability insurance premiums (see Section 8.0) and professional indemnity premiums.

7.2.9 The preparation and supply of the Interim Report, if required.

7.2.10 The preparation and supply of two copies of the final Field Evaluation Report.

8.0 INSURANCE

8.1 The Consultant shall indemnify and keep indemnified the Employer against all losses and claims for injuries or damage to any persons or property whatsoever which may arise out of or in consequence of the Consultants work.

8.2 Throughout the execution of the works the Consultant shall insure against any damage, loss or injury which may occur to any property or to any person by or arising out of the consultants work.

8.3 The insurance shall be effected with an insurer and in terms approved by the Engineer and for at least £5 million in respect of any one incident. The terms shall include a provision whereby in the event of any claim in respect of which the consultant would be entitled to receive indemnity under the policy being brought or made against the Engineer the insurer will indemnify the Engineer against such claims and any costs, charges and expenses in respect thereof. The consultant shall whenever required produce to the Employer the policy or policies of insurance and the receipts for payment of the current premiums.

9.0 EVALUATION REPORT

9.1 The final Field Evaluation report shall include the following:-

(i) A full description of all works carried out
(ii) A detailed description, with photographs as applicable, of all findings
(iii) An assessment of the importance of the archaeology
(iv) An assessment of the impact of the proposed road development on archaeological remains
(v) A recommendation of further works to mitigate the effect of the road development on the archaeological remains.

APPENDIX 2 - PROJECT DESIGN

Lancaster
University
Archaeological
Unit

September 1993

A165 REIGHTON BYPASS

NORTH YORKSHIRE

STAGE II ARCHAEOLOGICAL SURVEY

Proposals
The following project design is offered in response to the brief set out by North Yorkshire County Council, in the document accompanying a letter of 3rd September 1993 (Ref. A165/2/26A/DJH/WD), regarding the archaeological survey of selected sites on the proposed route of the A165 Reighton Bypass, North Yorkshire.

PROPOSALS

The proposed bypass around the village of Reighton, North Yorkshire, will affect a number of known archaeological sites, including upstanding earthworks. In addition, the area to the south and west of Scarborough is known to have a high incidence of prehistoric sites, and a major ritual centre has been revealed at Rudston to the south-west. The village of Reighton is medieval in origin, and may demonstrate evidence of movement or shrinkage.

The Lancaster University Archaeological Unit has considerable experience of the survey, recording and interpretation of sites and landscapes, having undertaken such work since 1983. It has acted as archaeological contractors on a number of major schemes, including the Shell North West Ethylene Pipeline and the enhancement of the A66 in eastern Cumbria. In each case, the Unit was involved in carrying out archaeological work from the initial desk top assessment, through field evaluation to mitigation measures; fieldwalking and survey were major elements of both projects. Past landscape surveys have included a large-scale survey of the South Western Fells of the Lake District for that National Park, which inevitably concentrated on the largely intact Bronze Age landscape, overlaid by medieval features.

The Unit employs a qualified land surveyor as a senior member of staff. It is equipped with the latest survey instruments (both hardware and software) which improve both accuracy, efficiency and the quality of the final product. Advanced techniques, including extensive use of computerised data-logging and plotting, and the manipulation of data using Computer Aided Design technology (CAD), provides the capability to undertake rapid high-quality, cost-effective surveys. The Unit is currently undertaking a major eight year project to record the archaeology of the wetlands of the lowland North West. Detailed fieldwalking is inevitably a major component of this and many Unit staff are expert in this. The Unit maintains a stable core staff of over 30 members who are all experienced, with formal qualifications in archaeology.

The Unit adheres to good working Health and Safety practices and maintains a policy statement to that effect. Specific training and advice on working practices are given to all members of staff. LUAU and all its members of staff operate subject to the Institute of Field Archaeologists' (IFA) Code of Conduct.

The following programme has been designed to provide an accurate survey of the designated areas, in line with the brief provided. The required stages to achieve these ends are as follows:

1. *Field Survey*
To produce a measured and levelled survey of the designated area.

2. *Intensive Fieldwalking*
To identify the existence and extent of any surviving archaeological features in the ploughsoil by a detailed and systematic visual inspection.

3. *Geophysical Survey*
To be undertaken to test and establish the nature and extent of any surviving below ground archaeological deposits in the designated areas.

4. *Report*
To produce an archive, together with a written report for the client, detailing the work undertaken. The report will assess the significance of the data generated within a local and regional context, and will assess the impact of the road scheme on that archaeology. It will include, if necessary, a scheme of trial trenching to evaluate selected areas in more detail. It will also advise on the mitigation measures necessary to protect and/or record identified archaeological features and deposits, including the appropriate excavation, recovery and recording strategies.

WORK PROGRAMME

In line with the objectives and stages of archaeological work stated above, the following work programme is submitted.

1. Field Survey

i) *Methodology*
The earthworks will be surveyed using a total station, linked to data-logger, by EDM tacheometry. Accurate survey control will be established by closed traverse and will be located with respect to local topographical features. A photographic record will be undertaken simultaneously. The survey data will be digitally transferred onto a CAD system (FastCad). The raw data will be corrected by hand drawing in the field and edits will be directly transferred onto the CAD programme, so maintaining accuracy and draughting flexibility.

ii) *Drawings*
The survey will be generated at a scale equivalent to 1:500, to fulfil the project brief. Using the proposed survey techniques, the original accuracy of the survey data will be maintained within CAD (+/- 0.02m) and so the survey results can be accurately plotted at any scale, if required. The flexibility of CAD allows the manipulation of data and drawings to suit any Client requirements. The drawings will be produced as wet ink plots on matt surface permatrace sheets, with appropriate grid marks, height values, compass points, and information panel. Line thicknesses will be appropriate for duplication and reduction.

2. Intensive Fieldwalking

i) *Methodology*
This methodology has been compiled on the assumption that intensive fieldwalking will be undertaken after the selected areas have been ploughed and allowed to weather for a short period. This produces the most beneficial conditions for the recovery of information regarding sites under arable crops.

Each of the designated areas will be systematically walked on 10m transects, which will permit the discovery of sites of 5m+ radius. Material recovered from this operation will be individually bagged and allocated a unique record number. The position of each item will be marked in the field by a cane, labelled with the same unique identifier. These will be located by use of the total station, or, if the amount of material is not sufficient to warrant this method, by optical or EDM trilateration.

ii) *Analysis*
The results of this work will be subject to analysis, in terms of the visual identification of finds groups, and the statistical analysis of finds density. Plots

of material groups will confirm visual interpretation of the significance of the material, and will isolate the background scatter of material arising from manuring or other disposal processes. The find locational data will be processed within a relational CAD system, enabling the manipulation of the data to filter out the background noise and to highlight significant finds groups.

3. Geophysical Survey

Geophysical survey will be undertaken in the areas designated in the project brief to assess the presence of unrecorded subsurface archaeological features, or to define more fully the extent of previously identified features. The areas will be sampled as defined in the project brief, with a 100% magnetometer survey on Area B, and 50% samples of Areas D, F, and H. Should the results of this work or of the Intensive Fieldwalking (Stage 2, above) identify features or anomalies worthy of further investigation, then a further sample of 25% has been allowed for, which would specifically target the actual road line, rather than the more generalised road corridor.

The magnetometer survey will be undertaken with a fluxgate gradiometer, which allows the detection of features up to one metre deep. Magnetic readings are logged at 0.5m intervals along one axis in Im traverses, giving 800 readings per 20m grid. The data are then transferred to portable computers and stored on 3.5" disks. Field plots are produced on a portable printer. Fieldwork will be followed by desk-based processing on computers linked to appropriate printers and plotters, which will enable the analysis, evaluation, and interpretation of both the raw data, and smoothed and filtered data, using a variety of statistical and graphical techniques.

The Unit normally subcontracts this work. It has particularly strong links with Geophysical Surveys of Bradford, and it is anticipated that this organisation would undertake the work.

4. Report

i) *Archive*
The work described above would be collated to form a full archive of a professional standard in accordance with current English Heritage guidelines (*The Management of Archaeological Projects*, 2nd edition, 1991). The project archive represents the collation and indexing of all the data and material gathered during the course of the project. It will include summary processing and analysis of all information recovered from the fieldwork, including a full catalogue of all primary written records, plans, sections, and photographs.

The deposition of a properly ordered and indexed project archive in an appropriate repository is considered an essential and integral element of all

archaeological projects by the IFA in that organisation's Code of Conduct. LUAu conforms to best practice in the preparation of project archives for long-term storage. The expense of preparing such an archive is part of the project cost, but only represents a very small proportion of the total. This archive can be provided in the English Heritage Central Archaeological Services format, both as a printed document and on computer disk as ASCII files, a synthesis of which wiil be submitted for inclusion in the North Yorkshire Sites and Monuments Record. A microfiche copy of this archive will be deposited with the National Monuments Record in London. Luau practice is to deposit the original record archive of the project (paper, magnetic, and plastic media) with the appropriate Coumty Record Office, and a full copy of the record archive (microfiche or microform) together with the material archive (artefacts, ecofacts, and samples) with an appropriate museum. The actual details of the arrangements for the deposition/loan and long-term storage of this material will be agreed with the landowner (through their agents), and the receiving institution. Wherever possible, LUAU recommends the deposition of such material in a local museum approved by the Museums and Galleries Commission, and would make appropriate arrangements with the designated museum at the outset of the project, for the proper labelling, packaging, and accessioning of all material recovered. The archive costs include a single payment of £11/m^3 to the receiving museum as a one-off contribution towards the cost of long-term storage and curation.

ii) *Report*
Two bound copies and a further unbound manuscript of a brief written and illustrated report will be provided which will describe the works undertaken, their findings and significance in terms of the significance of the sites and the impact of the road construction on them. If required, an Interim report will be compiled, which will highlight any need for further evaluatory work. The report will include a copy of the agreed project design and will indicate any mutually agreed departure from that design. It will present, summarise, and interpret the results of the programme detailed above, and will incluse a full index of archaeological features and finds identified in the course of the project, together with appropriate illustrations, including a map and gazetteer of identified sites. The report will identify areas of defined archaeology and an assessment of the actual and potential archaeological significance of each site within the broader context of regional and national priorities will be made.

The illustrative material can be tailored to specific requests from the client (eg particular scales etc), subject to discussion. The geophysical report will include X-Y plots and smoothed and filtered data, with separate interpretations. The evaluation report will be in the same basic format as this project design; a copy can be provided on 3.5" disk, if required.

iii Proposals
The report will make a clear statement of the likely archaeological implications of the intended development, and will also make suggestions for the

amnagement of the identified archaeological resource. It may recommend sample excavations to clarify the results of the work encompassed by this project design, together with details of the location and costs of this work. The report will seek to achieve, as a first option, the preservation *in situ* of all significant archaeological features, and possible strategies for the mitigation of the development will be considered. In instances where conservation is neither possible, nor practical, it may be appropriate to undertake a further stage of more intensive archaeological work to mitigate the effects of the development.

iv) Confidentiality
The report is designed as a document for the specific uses listed above and should be treated as such; it is not suitable for publication as an academic report, or otherwise, without amendment or revision. Any requirement to revise or reorder the material for submission or presentation to third parties beyond those stated in the project design, or for any other explicit purpose, can be fulfilled, but will require separate discussion and funding.

4. Project Monitoring

An initial meeting will be arranged with the archaeological staff of North Yorkshire County Council and subsequent on-site meetings will be arranged, if required. Any proposed changes to the project design will be agreed with them prior to implementation. The archaeological staff of North Yorkshire County Council will have any reasonable access to any part of the project archive, either during fieldwork or subsequently. Frequent consultations with them will be maintained.

WORK TIMETABLE

It is envisaged that the various stages of the project listed above would fall into distinct phases, which would follow consecutively if conditions were appropriate.

The phases of work would comprise

i) ***Field Survey***
Earthwork survey to be completed in a period of approximately three and an half days.

ii) ***Intensive Fieldwalking***
To be completed in two days.

iii) ***Geophysical Survey***
To be subcontracted. The Unit has close lins with Geophysical Surveys of Bradford.

iv) ***Report***
To be completed over a one week period.

LUAU can execute projects at very short notice once an agreement has been signed with the client. LUAU would be able to submit the report to the client within three weeks of the commencement of the project, subject to the terms of the agreement.

OUTLINE RESOURCES

The following resource base will be necessary to achieve the proposals detailed above. The breakdown of the total cost of the project is provided on the accompnaying project costing form.

The total cost quoted on the accompanying sheet is a fixed price, although one item is optional, inclusive of all management, overheads, and otehr disbursement costs (travel and expenses), to undertake the programme of work defined in the project brief and this project design. Any variations from this programme at the clients' direction will require recosting.

Work of this nature is generally regarded as academic research, and is therefore usually VAT exempt.

i) Earthwork Survey
3.5 man-days Surveyor
3.5 man days Assistant

ii) Intensive Fieldwalking
2 man-days Assistant
2 man-days Assistant

iii) Geophysical Survey
To be subcontracted.

iv) Report *(including production of drawings)*
5 man-days Surveyor

The length of the project should be approximately two and a half weeks.

The project would be under the overall direction of Mr A C H Olivier BA MIFA, with day to day management by Mr J Quartermaine BA Survey Dip MIFA and Ms D Drury BA, field officer responsible for all evaluations.

All Unit staff are experienced, qualified archaeologists, each with several years professional expertise. Project Assistants in Unit terminology are supervisors, capable of organising and running excavations as well as short-term evaluations to rigorous timetables.

APPENDIX 3 - GEOPHYSICAL SURVEY