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A63 MELTON GRADE SEPARATED JUNCTION, NORTH HUMBERSIDE

**CULTURAL HERITAGE STAGE 3 ASSESSMENT REPORT
(JUNE 1995 ROUTE)**

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1 SUMMARY

- 1.1 In December 1992, Anthony Walker and Partners (now Barton Howe Warren Blackledge (BHWB)) produced the equivalent of a Cultural Heritage Stage 2 Assessment Report to assess the archaeological implications of the proposed A63 Melton Grade Separated Junction. This identified a total of 39 sites or areas of archaeological, architectural and/or historic interest, five of which would be affected by the scheme. The most significant site was an Iron Age/Romano-British settlement in South Lawn, considered to be of regional importance (site 22).
- 1.2 A programme of Stage 3 archaeological fieldwork was subsequently carried out, comprising the monitoring of geotechnical trial pit excavations, a geophysical survey, an earthwork survey and limited trial excavation. The latter confirmed the importance of site 22.
- 1.3 In June 1995, new proposals were prepared by the Highways Agency to reduce, in part, the archaeological impact of the scheme. Further geophysical survey was undertaken which increased the known extent of site 22 and identified a new site, site 40.
- 1.4 This report assesses, as far as is practicable at this stage, the effects of the June 1995 proposals and concludes that, on the basis of currently available information, the overall adverse impact of the scheme can be categorised as substantial on two sites, moderate on one site and slight on three sites. Mitigation measures, including recommendations to assess affected areas which have not yet been investigated, are proposed.

2 INTRODUCTION

- 2.1 In December 1992, Anthony Walker and Partners (now Barton Howe Warren Blackledge (BHWB)) produced an Archaeological Desk-top Survey Report to assess the archaeological implications of the proposed A63 Melton Grade Separated Junction¹. This survey collated all known sources of information on the cultural heritage for an area of approximately 3 sq km, centred on the proposed scheme.
- 2.2 A total of 39 sites of archaeological, architectural and/or historic interest were identified within the study area (see figure 1). These sites were graded in terms of their importance and/or potential using professional judgement, combined with the Secretary of State's criteria for scheduling Ancient Monuments, the criteria developed by English Heritage in their Monuments Protection Programme, and the three grades of listing used to determine the importance of buildings and other structures. Using this method of assessment, the 39 sites were graded as high (1 site), medium (15 sites) and low (23 sites).
- 2.3 Although the desk-top survey was completed before the publication of the Department of Transport's Design Manual for Roads and Bridges volume 11 "Environmental Assessment" (DMRB), it does largely conform to the requirements of a Cultural Heritage Stage 2 Assessment Report. However, following the guidance given in DMRB volume 11, the grades of importance given to the sites were re-defined as being National (no sites), Regional or County (5 sites), District (8 sites) and Local (16 sites). Ten sites had been completely destroyed and so were afforded no grade.
- 2.4 On the basis of the Archaeological Desk-top Survey Report and the extent of the proposed construction corridor, fieldwork strategies were prepared to evaluate the importance and/or potential of five sites or areas. For the archaeological sites, these strategies used different combinations of three techniques, namely geophysical survey, earthwork survey and trial trenching. This work was supplemented by the monitoring of geotechnical investigations. Following the modification of the scheme proposals to reduce, in part, the archaeological impact, further geophysical survey was undertaken to the north and north-west of the original survey area. This work extended the known area of one site (site 22) and identified an additional site, numbered as site 40.
- 2.5 This report summarises the methodology and results of the Stage 3 fieldwork carried out to date. From this, an assessment of the effects of the proposed June 1995 scheme is made and appropriate mitigation measures designed to offset these effects are outlined.

3 MONITORING EXCAVATION OF GEOTECHNICAL TRIAL PITS

3.1 Introduction

- 3.1.1 A geotechnical investigation was carried out by Allied Exploration and Geotechnics Limited in February and March 1994. This work included the excavation of 18 trial pits (TPA2-TPA19) and 16 boreholes (BHA1-BHA16). Some of these excavations were monitored by Anthony Walker and Partners (now BHWB) to ensure that no archaeological features or deposits were inadvertently destroyed without record and to assist in the assessment of the archaeological implications of the scheme.
- 3.1.2 Observations were only able to be made during the excavation of ten of the trial pits (TP A4-8, A10-12 and A15-16). Trial pits A4, A5 and A6 lay in fields between Gibson Lane and Brickyard Lane, to the south of the existing A63. Trial pits A7, A8, A10 and A11 lay within South Lawn, north of the existing A63, within the area of site 22, identified as being the area of greatest archaeological importance. Trial pits A12, A15 and A16 lay in Park Field, north of the existing A63 and east of South Lawn. The trial pits which could not be monitored (A2, A3, A9, A13, A14 and A17-19) lay at irregular intervals between the Melton traffic lights and North Ferriby, to the south of the existing A63.

3.2 Summary of results and conclusions

- 3.2.1 No archaeological features or deposits were observed in any of the monitored trial pits. The geotechnical investigation report showed that, in the South Lawn area, the subsoil comprised glacial or fluvio-glacial sand and gravels between 1m and 3m thick, consisting mainly of chalk, flint and chert. In most of South Lawn this lies directly over chalk bedrock, while in the southern part of South Lawn and further to the south it lies over a variety of sands, silts and clays, with some further gravel layers. In most of South Lawn there is also a B-horizon of fine clayey sand between 0.1m and 0.5m thick at the base of the topsoil.

4 INITIAL GEOPHYSICAL SURVEY

4.1 Introduction

4.1.1 The Archaeological Desk-top Survey Report identified an area of South Lawn as being of particular archaeological significance, containing a probable Iron Age/Romano-British rural settlement (site 22). This was recognised through cropmarks seen on oblique aerial photographs but the extent and significance of the site was unclear.

4.1.2 On the basis of the desk-top survey and the extent of the proposed construction corridor, a programme of geophysical survey was undertaken to provide a more detailed plan and interpretation of the main below-ground archaeological features. The survey, which concentrated on the southern part of South Lawn and two smaller areas to the east and south (Areas A to C on figure 2), was carried out in January to February 1993² by Geo-Services International (UK) Limited, supervised and monitored by Anthony Walker and Partners (now BHWB). The total area allocated for geophysical survey was 6.96 hectares.

4.2 Methodology and techniques

4.2.1 The geophysical survey was carried out using a combination of two techniques. A magnetometer survey was undertaken over all of the three survey areas. This technique measures small differences in the earth's magnetic field caused by buried archaeological features. An alternative technique, which measures variations in the electrical resistance of the soil caused by the water-retention characteristics of buried archaeological features, was employed in part of Area A.

4.2.2 The geophysical survey utilised a grid of 20m squares which was established over each of the survey areas. Each grid square was surveyed using traverses at 1m intervals, with a reading taken every 0.5m along each traverse, giving a total of 800 readings in each 20m square. The grids were tied into the Ordnance Survey national grid and other survey stations.

4.3 Summary of results

Area A

4.3.1 This survey area, which was located to the north of the existing A63 in the southern part of South Lawn, comprised a total of 125 grids of magnetometer survey and 27 grids of resistivity survey. The total area of survey amounted to 5 hectares.

- 4.3.2 The survey identified five groups of rectilinear enclosures ('a' to 'e' on figure 2) associated with two linear ditch systems ('f' to 'g' and 'h' to 'i'). Traces of extensive ridge-and-furrow cultivation were also visible, as were several strong isolated anomalies probably of more recent origin.

Enclosure 'a'

- 4.3.3 Enclosure 'a', which was identified in the extreme south-west corner of South Lawn, lay at an acute angle to the east-west linear ditch system ('f' to 'g'), although it was not clear whether they intersected. The north-east and south-east facing boundary ditches of the enclosure and an internal dividing ditch were visible, but the other two sides were not visible and the full extent of the enclosure could not be determined.

Enclosure group 'b'

- 4.3.4 The geophysical survey showed three large rectilinear enclosures in the north-west part of the site, all appended to the north side of the east-west linear system ('f' to 'g'). The curved shape and multiple ditches at the south-west corner of this group suggest the possibility that some elements of the linear ditch system turn to the north. However, the geophysical survey is not sufficiently clear or extensive in this area to make a positive interpretation.

Enclosure 'c'

- 4.3.5 Enclosure 'c' lies in the angle formed by the south side of the east-west linear system ('f' to 'g') and the east side of the north-south linear system ('h' to 'i'). One internal subdividing ditch is visible and several smaller possible internal features were tentatively identified on the geophysical survey. The east and south sides of the enclosure are formed by a single large ditch, which intersects two of the ditches associated with the north-south linear ditch system ('h' to 'i') and terminates at a third. A smaller ditch runs parallel to and 6m to the south of the south side, with a northern return at its east end. This northern return intersects the main enclosure ditch, and the two ditches are therefore unlikely to be contemporary.

Enclosure group 'd'

- 4.3.6 The geophysical survey shows a group of small ditches lying immediately to the east of enclosure 'c', forming either a system of sub-divided enclosures or a series of approximately four superimposed individual enclosures of various dates. Some or all of these could be contemporary with enclosure 'c'.

Enclosure 'e'

- 4.3.7 The geophysical survey showed a large rectilinear enclosure appended to the north side of the east-west linear system ('f' to 'g'). Although an apparent break in the east side may be an entrance, it is more likely to have been caused by the magnetic signature of a ferrous object in the ploughsoil.

The linear ditch systems ('f' to 'g' and 'h' to 'i')

- 4.3.8 A system of linear features ('f' to 'g') runs from east to west through almost the full length of the site, a distance of roughly 420m. These features are likely to extend further to the east and west, beyond the boundaries of South Lawn and the area of geophysical survey. In the approximate centre of the site, the east-west system is crossed by a similar system ('h' to 'i') running roughly from north to south across the survey area. Aerial photographs show this system to extend at least to the north edge of South Lawn, with an overall known length of 390m.

- 4.3.9 East of the intersection, the east-west system appears to consist of four ditches, although there are numerous apparent interruptions in the central pair. West of the intersection, the central pair of ditches are very indistinct where they are visible at all. At the west end of the site, all the features become very unclear in an area which is less responsive to geophysical survey. The north-south linear system changes at the intersection in a similar way. Four ditches are visible in the southern section, all but the westernmost being strong continuous anomalies, while only two ditches are visible north of the intersection. Both systems were initially interpreted as possible trackways and/or major boundary features.

Other features

- 4.3.10 There are a number of strong non-linear anomalies, one of which probably causes an apparent break in the east side of enclosure 'e'. While some of these anomalies could represent archaeological features, others could be caused by ferrous objects in the ploughsoil.
- 4.3.11 The survey area is also crossed by a large number of linear features which have a general north-east/south-west alignment. These are characteristic of medieval or post-medieval ridge and furrow cultivation and have been excluded from figure 2.

Area B

- 4.3.12 This survey area, which was located to the north of the present A63 and east of Terrace Plantation in the area known as Park Field, comprised a total of 36 grids of magnetometer survey, making a survey area of 1.4 hectares.
- 4.3.13 Two, single linear ditch features were identified in the centre and east of this survey area, while a narrow feature 10m wide was represented by four ditches with a north-west/south-east alignment. The width of the survey area prevented any enclosures being recognised.

Area C

- 4.3.14 This survey area was located to the south of the existing A63, east of the Bowling Club, and comprised a total of 14 grids of magnetometer survey, making a survey area of 0.56 hectares.
- 4.3.15 A number of regular parallel linear features were identified in this area, the spacing and orientation corresponding to that of the presumed ridge and furrow seen in Survey Area A to the north. These have been excluded from figure 2.

4.4 Interpretation and conclusions

- 4.4.1 While enclosure 'a' was not aligned with the linear ditch systems, all the other enclosures were. However, it was clear from the survey that many features intersect or are superimposed in a way which indicates that the complex must represent several phases of activity.
- 4.4.2 The major features revealed by the geophysical survey are characteristic of a "ladder" or "clothes-line" settlement. These sites usually comprise a number of rectangular or sub-rectangular enclosures attached to a central access route, and have been identified from aerial photographs throughout the Yorkshire Wolds. Some are recognised as being of national importance and are scheduled as Ancient Monuments under the Ancient Monuments and Archaeological Areas Act (1979).
- 4.4.3 To date, little archaeological excavation has taken place on ladder settlements, but they are generally believed to date from the Iron Age and Romano-British periods (approximately 700 BC-AD 450). Although simple in form, in detail they are extremely complex sites. Each ditched enclosure could be a compound for domestic occupation and/or industrial activity, or a small agricultural field or stock enclosure. Many of these sites were occupied for lengthy periods and show evidence of major alterations in layout and changes in the use of individual enclosures. Some ladder

settlements can be associated with cemeteries and extend for up to 2km in length.

- 4.4.4 The complex on South Lawn has survived in relatively good condition due to the creation of a park on South Lawn in the 18th century, with a consequent lack of subsequent development. The site may well extend beyond the area of geophysical survey in every direction, and probably once formed part of a continuous landscape of similar or related features. The features recorded in Survey Area B may well form part of this contemporary landscape.
- 4.4.5 Large parts of Area A lying between the enclosures and other features contained few if any significant geophysical anomalies, other than those representing medieval or later ridge and furrow cultivation. While this is likely to indicate a lower density of archaeological remains, some may nevertheless be present, as some types of archaeological feature can be invisible to geophysical survey techniques or masked by high levels of background magnetic "noise".

5 EARTHWORK SURVEY

5.1 Introduction and methodology

- 5.1.1 The Archaeological Desk-Top Survey Report recommended that an area of ridge and furrow and other earthworks on the west side of Brickyard Lane (site 29) should be the subject of a detailed earthwork survey. This work was undertaken by Anthony Walker and Partners (now BHWB) in February 1995.
- 5.1.2 The survey was carried out using electronic distance measuring (EDM) equipment. The position of all upstanding earthworks considered to be of archaeological or historic interest were recorded and the survey information plotted at 1:500 scale. Sufficient background information was also collected to allow the survey area to be readily located through the use of field boundaries, buildings and other topographical features, and the survey was integrated into the Ordnance Survey national grid and other survey stations.

5.2 Summary of results (see figure 3)

- 5.2.1 The earthwork survey showed that the ridge and furrow earthworks lay in the northern part of the field to the west of Brickyard Lane. A number of ridges with a north-east/south-west alignment were identified. Although parallel, the spacing of the ridges was not particularly regular; the majority were about 10m apart, but nearer the A63 they were only 5m apart. The height of the ridges was approximately 0.5m and there appeared to be a gap in the earthworks at the western side of the site.
- 5.2.2 The ridge and furrow extended from the northern boundary of the field for some 130m before terminating in a prominent headland approximately 0.5m high and aligned approximately east-west, running across the narrow "neck" of the field. The headland was clearly associated with the ridge and furrow but it is noticeable that the earthworks were overlain by the present course of Brickyard Lane.
- 5.2.3 To the south of the headland, there was a slight linear depression approximately 10m wide and 1m deep which ran in a north-west/south-east direction. Beyond this, the field narrowed to only 45m wide, before widening slightly at the southern end. Although this area was somewhat overgrown at the time of the survey, three possible earthwork enclosures could be identified in the southern area.
- 5.2.4 The northern enclosure ('1') was crossed by a modern track which led westwards from a field gate on Brickyard Lane. The enclosure was a sub-rectangular earthwork platform measuring approximately 25m square, which was raised 0.5m above the land

to the west. This feature was separated from another enclosure to the south ('2') by a ditch. This second enclosure measured 38m by 25m. Both enclosures had a ditch on their western sides which was probably intended to assist drainage. These two enclosures appeared to be laid out as a pair, but there were faint indications of another similarly sized feature to the south ('3'). A large ditch to the south of this possible enclosure appears to be a modern drain which has disturbed the south-west corner of the enclosure.

- 5.2.5 No further earthworks were identified in the field, although there was a pond in the centre of the southern boundary and a wet area in the south-east corner. The south-west corner had been disturbed by the construction of a sewage works. There were further earthworks in an adjoining field to the south, but these lay outside the area of the proposed scheme corridor and were not surveyed.

5.3 Interpretation and conclusions

- 5.3.1 The fact that the ridge and furrow in the northern part of the site is cut by the present course of Brickyard Lane suggests that this is a later road alignment. The northern limit of the ridge and furrow has also been disturbed by a terrace of houses (1-6 Main Road, Melton) and the existing A63; presumably the ridge and furrow earthworks formerly extended to the line of the original road in this area (possibly along the line of 'h' to 'i' on figure 2).
- 5.3.2 The 1773 enclosure map (HCRO 2/24) shows that the linear depression to the south of the ridge and furrow was a former road alignment which ran from a junction on what is now Brickyard Lane, across the field and then along its north-west boundary, to join up with the main village. The triangular area of ridge and furrow area was therefore bounded on all sides by roads, the road south being called "The Humberside Road". An 1857 estate plan (HCRO DD/HE/28/10) only shows the present alignment of Brickyard Lane.
- 5.3.3 The presence of two or possibly three enclosures in the southern part of the field is of some interest. These may represent parts of medieval properties or "tofts", with the position of the houses and other structures further to the east, on what would have been an original street or road frontage. These may lie beneath the present Brickyard Lane or even further east, under modern housing; the precise alignment of the former Humberside Road as shown on the 1773 map is difficult to establish. It is noticeable that the ridge and furrow earthworks and the enclosures have a similar alignment, and the latter may represent an extension to, or part of, the medieval village of Melton, aligned along the former road leading to the coast.

- 5.3.4 It is also noticeable that the earthworks as surveyed have a similar alignment to enclosure 'a' as revealed by the geophysical survey and which a trial excavation (see below) proved to contain a medieval building (see figure 2).

6 TRIAL EXCAVATIONS

6.1 Introduction

6.1.1 In order to provide more information on the sub-surface archaeological features revealed by the geophysical survey in the southern part of South Lawn, a trial excavation strategy was prepared for those parts of the site likely to be affected by the scheme corridor as proposed in April 1995.

6.1.2 In detail, the objectives of the trial excavations were:

- i) to confirm the results of the geophysical survey and the interpretation of the complex as an Iron Age/Romano-British settlement;
- ii) to test for the presence of archaeological features and deposits associated with the anomalies identified by the geophysical survey, and any archaeological remains not identified by previous stages of work;
- iii) to determine the depth and stratigraphic complexity of any archaeological features and deposits within the site, but not to investigate stratigraphic relationships in detail;
- iv) to determine the date and relative significance of any archaeological deposits within the site;
- v) to provide further information contributing to an assessment of the likely scope, cost and duration of further evaluation and/or excavation works.

6.1.3 The trial excavation work was undertaken in July 1994 by Northern Archaeological Associates, supervised and monitored by Anthony Walker and Partners (now BHWB). The following summary of the results is based on the final excavation report³ and the results of the geophysical survey (see above and figure 2).

6.2 Methodology

6.2.1 The methodology for the excavations was defined in a specification written by Anthony Walker and Partners (now BHWB)⁴ and agreed in advance of work with English Heritage, Humberside County Council and Hull City Museums.

6.2.2 A total of 10 trenches (A to J) were excavated, with an overall area of 1065 square metres (see figure 4). Trenches A to C and E to H sampled parts of the linear ditch systems and enclosures, while Trenches D, I and J sampled unenclosed areas in which few or no features were known. No excavation took place in

enclosure group 'b', as it lay outside the scheme corridor as then proposed.

- 6.2.3 Topsoil was removed by mechanical excavator down to the upper surface of any archaeological deposits or the natural subsoil, whichever was higher. All subsequent excavation was by hand. The surfaces were cleaned, and all features and deposits recorded in plan. Selected features were then partially excavated to determine their full extent, depth and the complexity of the stratified deposits, to the extent that this was possible taking health and safety requirements and the limited objectives of the evaluation into account.
- 6.2.4 All artefactual and other portable finds were collected by context, and a programme of soil sampling for environmental evidence was undertaken.

6.3 Summary of results

Enclosure 'a'

- 6.3.1 Three trenches (A to C) were excavated in enclosure 'a'; all were positioned to examine parts of both the boundary and the interior of the enclosure. Initial results in Trenches B and C necessitated the excavation of small extensions to both of these trenches.
- 6.3.2 The enclosure boundary was identified in all three trenches and proved to be a shallow U-shaped ditch, parts of which had been re-cut at least once. A feature adjacent to its southern edge and on a parallel alignment could have been the foundation for a fence or palisade.
- 6.3.3 Two buildings were recognised in the interior of enclosure 'a'. A rectilinear building at least 12m long with a complex plan lay in the southern part of the enclosure. Pottery found in this building dated it to the medieval period. Further to the north a group of post-holes probably represented part of a circular building of Iron Age date. Other features included a total of eight internal ditches, which are unlikely all to be contemporary with the enclosure or each other.
- 6.3.4 Several phases of activity appear to be present in the area of enclosure 'a'. While both Iron Age and medieval activity are clearly represented, only the two buildings could be clearly assigned to these periods and the dates of all the other features remain unclear. Finds included Iron Age and medieval pottery, chipped flint artefacts and animal bone.

Enclosure 'c'

- 6.3.5 Trench E examined the intersection between the two ditches on the south side of enclosure 'c' and the north-south linear ditch system 'h' to 'i'. Trench F examined the central part of the enclosure.
- 6.3.6 The main boundary of enclosure 'c' proved to be a large V-shaped ditch 2.8m wide by 1.8m deep. It cut, and therefore post-dated, two of the equally large ditches forming the north-south linear ditch system, and terminated at the third, with which it was contemporary and which was even larger (3.7m wide by 1.9m deep). This ditch therefore formed the western side of enclosure 'c'.
- 6.3.7 A much smaller boundary ditch ran parallel and just to the south of the main boundary ditch of enclosure 'c'. It terminated at one of the north-south ditches cut by the main ditch, with which it was likely to be contemporary. This implies that it pre-dated the main boundary ditch, confirming that there were at least two main phases of enclosure.
- 6.3.8 The central area of enclosure 'c' contained evidence for at least four or five phases of domestic occupation. In addition to other structural and non-structural features, at least two circular and one rectilinear buildings were identified, none of which could be contemporary. All of the buildings were earlier than the central ditch dividing the enclosure in two.
- 6.3.9 Finds from the enclosure included large quantities of pottery of early Romano-British type as well as earlier material imported from the continent or southern Britain before the Roman advance north of the Humber in AD 71. There were also large quantities of animal bone and fragments of three quern stones, and a human jawbone from the enclosure ditch.

Enclosure group 'd'

- 6.3.10 Trench G examined the intersection of one of the ditches associated with this group of enclosures with enclosure 'c', and an adjacent area in the interior of the enclosure group. This area had been particularly badly affected by medieval and more recent ploughing.
- 6.3.11 An east-west ditch, measuring 1.8m wide by 0.7m deep and forming part of complex 'd', ran towards the eastern edge of the much larger eastern boundary ditch of enclosure 'c', but was connected to it only by a shallow slot which broadened and deepened to the east. It was not possible to establish a clear relationship between the two features, but it is likely that they were contemporary. A small, possibly structural, slot with a right-

angle bend lay to the north of the east-west ditch, and a small pit cut the north side of the ditch.

- 6.3.12 Two distinct phases of activity were recognised in Trench G. The small ditch forming part of enclosure group 'd' was probably contemporary with the main ditch of enclosure 'c', which was dated to the late Iron Age and early Roman periods.

Enclosure 'e'

- 6.3.13 Trench H examined the south-east corner of this enclosure. The east and south sides were formed by a V-shaped ditch 1.9-2.3m wide by 1m deep. The south side also formed part of the northern component of the east-west linear ditch system ('f' to 'g'). Its continuation to the east was a much shallower gully, which widened and deepened to become a shallow U-shaped ditch 0.8m wide by 0.65m deep further to the east.
- 6.3.14 The area to the north of the east-west ditch, both inside and outside the enclosure, was covered by a midden deposit. Only two features were recognised in the very small internal area which was examined, a shallow pit and a posthole; the former was overlain by the midden layer. A sub-rectangular pit lying outside the enclosure to the east contained a crouched inhumation burial. This was recorded and left *in-situ*, as required by the specification. The burial pit cut the dark soil horizon.
- 6.3.15 At least two and possibly three phases of activity were represented by the features and deposits in enclosure 'e' and the area to its east. Finds from these areas included animal bone and pottery, mainly of late Iron Age hand-made types.

The linear ditch systems ('f' to 'g' and 'h' to 'i')

- 6.3.16 Trenches A and H were positioned across the line of the east-west system ('f' to 'g'), Trench A to the west of the point where it ceased to be visible on the geophysical survey, and Trench H immediately to the south of enclosure 'e', to determine its relationship with that enclosure. The north-south system was investigated in Trench E.
- 6.3.17 Two small U-shaped slots crossed Trench A on the correct alignment and spacing (11m) to represent a continuation of the northern and southern ditches of the east-west system ('f' to 'g'). Unfortunately, the space between them could not be investigated because of a live sewer pipe. The southern slot was cut by the northern boundary of enclosure 'a'.
- 6.3.18 Two V shaped ditches approximately 1.8m wide by 0.8m deep crossed the southern end of Trench H. These corresponded with two of the ditches seen in the eastern half of the east-west

system ('f' to 'g'). The northernmost "ditch" was much more complex, and actually consisted of four separate features. The largest was the southern boundary ditch of enclosure 'e', whose line was continued to the east by a shallow gully which broadened to become a small ditch (see above). A similar shallow ditch ran parallel to and just intersected the south edge of these two features, with yet another similar feature along its south edge. These features represent several phases of activity.

- 6.3.19 The stratigraphic evidence established that enclosure 'e' was probably contemporary with one of three shallow ditches forming the north side of the east-west system ('f' to 'g'). These probably represent successive replacements for each other. It is not possible at this stage to say whether the two large ditches at the south end of Trench H were contemporary, but at least one of them is likely to be contemporary with enclosure 'c'.
- 6.3.20 Four north-south ditches were recognised in Trench E, all forming part of linear system 'h' to 'i'. The westernmost of these was a shallow U-shaped ditch and, as it did not intersect any other feature in the trench, its place in the sequence could not be determined.
- 6.3.21 The other features in Trench E clearly represented at least three distinct phases. The two easternmost ditches of the north-south system were both cut by, and were therefore earlier than, the southern boundary of enclosure 'c'. This boundary terminated at, and was contemporary with, the next ditch to the west. The final phase was a much smaller ditch running along the line of the second ditch from the east, cutting the boundary of enclosure 'c'. The pottery recovered from the ditches suggests that the first phase was entirely late Iron Age, while the second phase may have spanned the Iron Age/Romano-British transition.

Other features and areas

- 6.3.22 Large parts of the geophysical survey plot showed no major features. These areas were sampled by the excavation of Trenches D, I and J, to determine whether minor features, which would often be invisible to geophysical techniques, were present.
- 6.3.23 Two faint north-south linear features were examined in Trench I, and proved to be very shallow irregular gullies, possibly relating to medieval/post-medieval cultivation. A small ditch and a posthole of unclear significance were recognised in Trench J. No features were recognised in Trench D, which was placed to test the archaeological potential of a large area containing no geophysical anomalies other than ridge and furrow.

6.4 Interpretation and conclusions

- 6.4.1 The trial excavations have confirmed the presence of an important Iron Age/Romano-British "ladder" settlement, comprising a series of separate settlement enclosures linked by linear ditch systems. The artefactual and other evidence suggests that the occupation of most parts of the site was largely confined to a period of about one century or a little more, starting in the half century before the Roman occupation of the region in AD 71 and ending in the mid-late 2nd century AD. One enclosure ('a') contained both Iron Age and medieval occupation, and could therefore be of either (or both) dates. Despite the relatively short period of occupation, the site appears to have undergone a series of alterations in layout, and the phasing of the main features is complex.
- 6.4.2 The nature, phasing and function of the two linear ditch systems appears to be more complex than originally anticipated, and their initial interpretation as trackways requires some revision. The evidence now available suggests that their layout was altered at intervals, and that they could have represented tracks and/or major land boundaries at different phases.
- 6.4.3 The site contains a large and highly significant assemblage of pottery, including hand-made "native" wares produced in the late Iron Age and early Roman period as well as early Romano-British pottery. The most significant element, however, is the Gallo-Belgic wares imported prior to the Roman occupation of the region in AD 71. The animal bone, carbonised plant remains and other biological remains from the site are also of great potential significance. Together with the pottery, they constitute a very significant body of evidence for the agricultural and trading economy and the environment of the region in a very important transitional period.
- 6.4.4 There is little evidence to suggest that significant archaeological deposits are present in those areas containing no major geophysical anomalies. However, the possibility that some remains are present in these areas cannot be altogether dismissed; some highly significant types of archaeological feature, such as graves, are unlikely to be identified by geophysical survey, and examples of such features were found in the trial excavations.
- 6.4.5 The recognition of unusually well-preserved deposits and features in the northern part of Trench H indicates that similar preservation conditions probably exist under the remainder of the prominent terrace or lynchet which crosses South Lawn from north-west to south-east. While their likely state of preservation enhances the value of any remains under this terrace, they would be particularly vulnerable to disturbance. However, the existence of good preservation conditions does not necessarily prove the presence of buried remains.

- 6.4.6 The site as a whole is unusual in a number of respects. It is rare to find evidence for continuity of occupation through the Iron Age/Romano-British transition on a ladder settlement. English Heritage have identified sites whose occupation spans this transitional period as being a national priority for investigation and this is the first site to provide evidence for the distribution of the Gallo-Belgic pottery imported into the region in the early-mid first century AD.

7 ADDITIONAL GEOPHYSICAL SURVEY

7.1 Introduction

7.1.1 Following modifications to the proposed layout of the scheme in June 1995, the geophysical survey in South Lawn (Area A) was extended by 6.24 hectares, giving an overall area of survey of 11.24 hectares. This extension was designed to determine the impact of a newly proposed link road to Melton Bottom on site 22 and whether elements of a number of other sites extended into the area affected by the link road.

7.1.2 The extension ran along the whole northern edge of the original survey area, with a long narrow strip running off to the north-west and linking to a roughly triangular survey area adjacent to the east side of Melton Bottom (see figure 5). The work was carried out in August 1995 by Geo-Services International (UK) Ltd⁵.

7.2 Methodology

7.2.1 The extended survey was carried out entirely by magnetometer survey. Methodology was otherwise the same as that employed for the original survey (see section 4.2 above), and was defined by a specification written by BHWB⁶.

7.3 Summary of results

7.3.1 The density of archaeological features identified in the part of the new survey area lying immediately to the north of the original survey area is, in general, less than that in the original survey area itself, and the features are less well-defined. The geophysical survey report comments that this appears to be partly due to increasing topsoil depth, rather than entirely due to absence of features. It should be noted that the area to which this comment applies lies to the south of the prominent terrace or lynchet which crosses the field from north-west to south-east. Only four significant features were identified crossing the line of the lynchet; however, the depth of soil overlying any archaeological features will be greatest under this lynchet, and some shallower features may be completely masked by it.

Enclosure groups 'b' and 'e'

7.3.2 The extended geophysical survey has identified a group of additional enclosures attached to the north side of enclosure group 'b', with further single ditches running northwards from them and from the north-west corner of enclosure 'e'. It is unclear whether these enclosures and ditches represent parts of fields, stock enclosures or settlement enclosures.

Linear ditch systems

- 7.3.3 The northward continuation of linear ditch system 'h' to 'i' has been confirmed, and a possible additional linear ditch system has been identified adjacent to Melton Bottom ('j' to 'k' on figure 5). It is not known whether the latter forms part of the Iron-Age/Romano-British landscape, or is a track of medieval or later date, possibly a former line of Melton Bottom.

Other features

- 7.3.4 Although a number of anomalies were identified in the narrow strip linking the South Lawn area with the Melton Bottom area, none of these are thought at this stage to be of archaeological significance.

8 CONCLUSIONS FROM STAGE 3 FIELDWORK CARRIED OUT TO DATE

8.1 North of the existing A63

- 8.1.1 The geophysical survey and trial excavations have confirmed that site 22, located in the southern part of South Lawn, represents an Iron Age and Romano-British "ladder settlement". The medieval building in one of the enclosures represents an unexpected extra period of occupation. The additional geophysical survey has provided further useful information about the layout and extent of the settlement.
- 8.1.2 The settlement was of at least three main periods, with several phases within two of these periods. During the late Iron Age, a linear ditch complex (possibly a trackway) ran from east to west across the site ('f' to 'g' on figure 5), with settlement enclosures ('b' and 'e') irregularly spaced along its north side. Additional enclosures extend further to the north, although it is unclear whether these represent domestic or agricultural enclosures.
- 8.1.3 Two large ditches (probably a major land boundary) crossed the site from north to south, across the line of the trackway. A large settlement enclosure ('c') lay on their east side. These north-south ditches are not contemporary with the trackway, and probably post-date it. It is also unclear whether they were contemporary with each other.
- 8.1.4 During the Iron Age/Romano-British transitional period, both linear complexes were superseded by a substantial ditch defining a large block of land which included the south-eastern part of South Lawn. This ditch follows the southern section of the north-south complex and then turns sharply to follow the east section of the east-west complex. A large enclosure lay in the angle formed by this ditch, in approximately the same position as that noted in the earlier phase ('c'). Four or five phases of domestic occupation were identified, probably relating to both enclosure phases on this site.
- 8.1.5 Another settlement enclosure ('a') in the south-west corner of the site was of uncertain date but it contained both Iron Age and medieval buildings.
- 8.1.6 To the east of South Lawn, in the area known as Park Field, features of probable Iron Age and/or Romano-British date were identified by the geophysical survey (Area B). Although possibly associated with the features seen on South Lawn, they are of lesser extent and interest.
- 8.1.7 Adjacent to Melton Bottom, the additional geophysical survey identified a pair of linear ditches running roughly parallel to it ('j' to 'k' on figure 5). These could represent a linear ditch complex

similar to those forming part of site 22, or a former alignment of Melton Bottom.

8.2 South of the existing A63

- 8.2.1 In Area C, to the south of the existing A63, no significant archaeological features were identified by the geophysical survey. However, recent aerial photographs have revealed the presence of linear features further to the south-west, east of Brickyard Lane. None of these features appears to extend into the proposed scheme corridor, but additional features not visible on the aerial photographs could be present.
- 8.2.2 The earthwork survey of the field to the west of Brickyard Lane revealed an area of ridge and furrow earthworks deriving from medieval or post-medieval cultivation (see figure 3). The southern boundary of these earthworks was defined by a headland, but the north end and east side had been cut by later features including Brickyard Lane, the A63 and numbers 1-6 Main Road, Melton. It is probable that the ridge and furrow originally ran further to the north, into South Lawn.
- 8.2.3 Immediately to the south of the headland lay a shallow depression which represented a former road alignment. To the south of this lay a group of two certain and one possible earthwork platforms, possibly representing the rear portions of medieval or post-medieval tofts, their boundaries partially defined by ditches. The east sides of these platforms was also cut by Brickyard Lane. Their alignment suggested that they had formerly fronted onto a road or lane running approximately north-south, possibly on the projected line of linear complex 'f' to 'g' as revealed by geophysical survey in South Lawn (see figure 2).

9 ASSESSMENT OF THE EFFECTS OF THE PROPOSALS

9.1 Introduction

9.1.1 The effects of the construction proposals of the June 1995 route on the sites and areas of archaeological, architectural and/or historic interest identified by the Archaeological Desk-Top Survey Report and the subsequent fieldwork have been assessed. It should be noted that the effects resulting from landscaping, off-site planting, haul routes, construction compounds or temporary construction roads have not been considered.

9.1.2 For archaeological sites and monuments, the main impacts arising from road construction are likely to be:

- possible disturbance and/or destruction of archaeological deposits from works associated with the scheme, whether from actual construction or works associated with secondary operations such as landscaping, balancing ponds, site compounds and borrow pits;
- increased visual intrusion;
- increases in noise, vibration and disturbance;
- severance from other linked features such as field systems, agricultural complexes and landscapes;
- changes in the original landscape;
- loss of amenity.

9.1.3 For the built environment, the main impacts arising from road construction are likely to be:

- possible demolition, or loss of part of the structure or grounds of a listed building;
- increased visual intrusion;
- increases in noise, vibration and disturbance;
- severance from other linked features such as gardens, outbuildings, lodges etc;
- changes in the original landscape, townscape or garden setting of the house or building;
- loss of amenity.

9.2 Assessment of value

Archaeological sites

- 9.2.1 Following the example of the Archaeological Desk-Top Survey Report and using the results of the Stage 3 fieldwork carried out to date, an assessment of the grade of importance of each archaeological site or area within the proposed construction corridor can be made. This assessment has been based on professional judgement, combined with the Secretary of State's criteria for scheduling ancient monuments and the criteria used by English Heritage in their Monuments Protection Programme.
- 9.2.2 It should be stressed, however, that the extent of the Stage 3 fieldwork areas were defined by the proposed construction corridor and some of the identified sites are likely to extend beyond this.
- 9.2.3 At this stage, and following the guidance given in DMRB volume 11, a four tier grading system can be applied to those sites and areas which have been recorded within the proposed construction corridor:

National Importance (N)

None

Regional or County Importance (R)

Site 22 Iron Age/Romano-British and medieval settlement, South Lawn

District Importance (D)

Site 40 Linear ditch system, east of Melton Bottom

Local Importance (L)

Site 23 Course of Melton Old Road, South Lawn

Site 29 Ridge and furrow earthworks, west of Brickyard Lane

Built environment

- 9.2.4 As with the archaeological sites, an initial assessment of the grade of importance of each building or other structure within the proposed construction corridor can also be made. This assessment is based on professional judgement and the Secretary of State's criteria for listing buildings of special architectural or historic interest. Following the guidance given in DMRB volume

11, two tiers of buildings can be identified within the proposed scheme corridor.

Listed buildings and structures

None

Non-listed buildings and structures

Site 24 Home Farm, Melton Old Road (north side)

Site 34 Melton Hill Lodge

- 9.2.5 In order to provide some correlation with the grades of importance given to the archaeological sites and areas, the non-listed buildings and structures have been assigned a district importance. It should be noted that other non-listed buildings and structures within the proposed construction corridor are considered not to be of architectural or historic merit and so are not mentioned here.

9.3 Impact grading systems

- 9.3.1 In order to help to assess the impact of the proposals on the identified sites and areas of archaeological and architectural importance, a simple three tier impact grading system has been devised, based on the scale of impact of the proposals, namely:

Major impact: Major disturbance (ie. more than 75% of the area of known or estimated archaeological deposits).

Significant impact: Significant disturbance (ie. between 25% and 75% of the area of known or estimated archaeological deposits).

Small-scale impact: Minor disturbance (ie. less than 25% of the area of known or estimated archaeological deposits).

In drawing up this information, consideration has also been made of the scale, significance, potential and current condition of the site, defined as the grade of the site.

9.4 Modifications to the proposed construction corridor

- 9.4.1 The results of the Stage 3 assessments, in part, led to a series of scheme re-adjustments, culminating in the June 1995 route. The proposed northern link road was re-aligned to run from Melton Bottom instead of Melton Old Road, and the northern of the two roundabouts was re-positioned. These modifications reduced the archaeological impact on the Iron Age and Romano-British

settlement in South Lawn (site 22) and the course of Melton Old Road (site 23). The additional geophysical survey was commissioned to assess the impact of this modified construction corridor.

- 9.4.2 The proposed local access road serving 1-4 Main Road was re-designed to reduce the impact on the earthwork site which lay to the south of the existing A63 (site 29). These changes also meant that one element of the built environment (site 27, walled garden east of Melton Grange) was no longer affected.

9.5 Impact of development

- 9.5.1 Within the proposed construction corridor of the June 1995 route, a number of identified cultural heritage sites will be affected. A combination of the impact of the proposals and the grade of importance of each site produces an assessment of overall impact, defined as being substantial, moderate or slight.

Archaeological sites

- 9.5.2 The proposals will have an impact on four known sites of archaeological importance or potential. One of the archaeological sites (site 40) has been identified by the additional geophysical survey. Using the grading system described above, and based on current knowledge, the overall adverse impact can be categorised as possibly substantial on one site, moderate on one site and slight on two sites.

Site 22

- 9.5.3 The most significant archaeological impact occurs on Site 22. The results of the archaeological work carried out to date have enabled this site to be divided into its major constituent elements. This process has identified a number of areas of potential disturbance within the proposed construction corridor (Areas 1 to 14 on figure 6).
- 9.5.4 In Area 1, the southern part of enclosure 'a' would be affected by the construction of the main carriageway and a slip road leading to the northern roundabout. This enclosure, while of uncertain date in itself, contains remains of both prehistoric and medieval buildings. The features are generally less than 1m deep and are contained in the surface of the chalky gravel subsoil.
- 9.5.5 Area 2 lies in an area containing no significant geophysical anomalies; however, the high level of magnetic background "noise" meant that the geophysical survey results were unclear in much of this area, and no features were recognised during the excavation of a very small sample of the area in 1994. It remains possible that some as yet unidentified archaeological features are

present, which would be affected by the construction of the main carriageway and a slip road leading to the northern roundabout.

- 9.5.6 In Area 3 and Area 11, parts of the major north-south linear ditch system ('h' to 'i') of Iron Age/Romano-British date would be affected by the construction of the main carriageway, a slip road linking it to the northern roundabout, and a link road to Melton Bottom. The ditches are up to 2m deep and contain large quantities of artefacts and animal bones; some human bone has also been recovered from two of the ditches. The remains are of high significance, but a large proportion of the length of the ditch complex would remain undisturbed.
- 9.5.7 Area 4 contains highly significant remains, including the southern part of one large multi-phased enclosure 'c' and most of the area of an adjacent group of enclosures 'd', both of Iron Age/Romano-British date. These enclosures would be affected by the construction of the slip road leading to the northern roundabout and the main carriageway. There are likely to be a large number of small features in Area 4 representing a complex sequence of structures.
- 9.5.8 Area 5 contains few significant geophysical anomalies and only one significant feature, a shallow ditch, was observed in the trial excavations in this area. Nevertheless, the presence of this feature, which had only been tentatively identified on the geophysical survey plot, does indicate the possibility that other unidentified features are present. This area would be affected by the construction of the main carriageway, the northern roundabout and bridge abutment and the slip roads leading to and from the northern roundabout.
- 9.5.9 Area 6 contains part of the major east-west linear ditch system ('f' to 'g') and a possible cemetery, both of Iron Age/Romano-British date. This area would be affected by the construction of the northern roundabout, the link road to Melton Bottom and two slip roads. The prominent medieval terrace or "lynchet" running across this area is likely to have afforded some protection from ploughing, so features and deposits here are likely to be particularly well preserved and deposits above the level of the subsoil are likely to survive. Such deposits would be particularly vulnerable to the effects of compaction, while also being of particularly high archaeological value.
- 9.5.10 Area 7 lies immediately adjacent to the west edge of Area 6, and contains the east edge of enclosure 'e', partly protected by the lynchet described above. This area would be affected by the construction of the northern roundabout, the eastbound off-slip road and the link road to Melton Bottom.

- 9.5.11 Area 8 lies immediately adjacent to the north edge of Areas 6 and 7, and could contain features associated with those known in Area 6. The area would be affected by the construction of the link road to Melton Bottom and the access road to Woodside.
- 9.5.12 In Area 9 the additional geophysical survey identified one ditch running northwards from, and probably contemporary with, an Iron Age/Romano-British enclosure. It is not clear whether this forms part of an enclosure or is an agricultural boundary. The area would be affected by the construction of the link road to Melton Bottom.
- 9.5.13 Areas 10 and 12 are areas which would be affected by construction of the link road to Melton Bottom, in which no specific archaeological features are known. They are, however, flanked by elements of Site 22, which could extend into these areas.
- 9.5.14 Area 13 lies to the north of an extensive complex of Iron Age/Romano-British enclosures identified by the additional geophysical survey, and one ditch is known to run northward from this complex into Area 11. It is unclear whether other, unidentified features are present. The area would be affected by the construction of the link road to Melton Bottom.
- 9.5.15 Area 14 is an area which would be affected by the link road to Melton Bottom. No specific archaeological features are known, although elements associated with Sites 22 and 40 could extend into this area. There is also a possibility that features associated with some other sites could be present (see below).
- 9.5.16 The areas immediately to the east and west of South Lawn, which were not suitable for geophysical survey, are also likely to contain elements of the archaeological complex recorded in South Lawn. Related features have been recorded by geophysical survey in Park Field, further to the east. Parts of these areas would be affected by the construction of various slip roads. For convenience, the area to the west at Home Farm can be treated as an extension of Area 2, whereas the area to the east near Melton Hill Lodge and Park Field can be treated as part of Area 5.
- 9.5.17 In summary, the proposals in South Lawn would result in the partial disturbance of enclosures and ditches in Areas 1, 4, 7 and 13 while parts of three linear ditch systems would be destroyed in Areas 3, 6 and 11, together with a possible prehistoric or Romano-British cemetery in Area 6. Unidentified archaeological features or deposits may also be affected in Areas 2, 5, 8, 10, 12 and 14. Taking site 22 as a whole, the overall adverse impact can be assessed as being moderate.

Site 23

- 9.5.18 The course of Melton Old Road runs through South Lawn. The overall adverse impact on this low grade site would be slight.

Site 29

- 9.5.19 The re-alignment of Brickyard Lane would have an affect on part of site 29. This site includes an area of upstanding ridge and furrow earthworks, which derive from medieval and/or post-medieval cultivation practices, and two or three earthwork platforms possibly representing parts of medieval settlement enclosures. The impact on this site of local importance would be slight.

Site 40

- 9.5.20 The construction of the link road to Melton Bottom would have an impact on a pair of parallel linear geophysical anomalies (Area 15 on figure 6) identified by the additional geophysical survey, which probably represent ditches flanking a trackway.

Unknown or potential impacts

- 9.5.21 A number of other archaeological sites lie close to the affected area (see figure 1). A Bronze Age burial (site 01) and Roman and Anglo-Saxon artefacts (site 02) were found in Melton Bottom Quarry, while an Anglo-Saxon burial and brooch (site 17) lay north of Melton Park. Although the area of sites 01 and 02 have been destroyed and site 17 is outside the affected area, there is a possibility that associated features or deposits may be present within the area of the link road. While no such features were revealed by the additional geophysical survey, small features such as graves are very difficult to identify by geophysical survey. It is therefore still possible that some features associated with these sites are present within the affected area.
- 9.5.22 Features related to site 22, such as the projected line of the north-south linear ditch complex, may be present in parts of the construction corridor to the south of the present A63. However, geophysical survey in part of this area (off the line of the linear complex) identified no significant features.
- 9.5.23 The impacts on the archaeological sites can be summarised as follows:

Site No	Site name	Grade of site	Impact of proposals	Overall adverse impact
Site 22	Iron Age/Romano-British and medieval settlement, South Lawn	R	Significant	Moderate
Site 23	Course of Melton Old Road, South Lawn	L	Small-scale	Slight
Site 29	Ridge and furrow earthworks, west of Brickyard Lane	L	Small-scale	Slight
Site 40	Linear ditch system, east of Melton Bottom	D7	Major?	Substantial?

Built environment

9.5.24 The proposals will have an impact on two sites of architectural importance. Based on current knowledge, the overall adverse impact can be defined as substantial on one site and slight on one site. It should however be noted that neither site has yet been fully assessed in the field.

Site 24

9.5.25 Only small parts of the Home Farm complex would be directly affected, but partial demolition would result. The overall adverse impact on Home Farm is therefore categorised as slight; this impact would increase if it was decided to demolish the whole of the affected structures.

Site 34

9.5.26 Melton Hill Lodge would be demolished in advance of construction and so there is a substantial overall adverse impact on this site.

9.5.27 The impacts on the built environment can be summarised as follows:

Site No	Site name	Grade of site	Impact of proposals	Overall adverse impact
Site 24	Home Farm, Melton Old Road (north side)	D	Small-scale	Slight
Site 34	Melton Hill Lodge	D	Major	Substantial

10 MITIGATION MEASURES

10.1 Introduction

10.1.1 Archaeological remains survive both as upstanding earthworks or as buried features beneath the ploughsoil. All remains will be susceptible to damage and/or destruction as a result of ground disturbance associated with the construction of these proposals and their associated landscaping works.

10.1.2 The removal of topsoil and subsoil is likely to destroy most archaeological deposits and even where embankments and other methods are used to raise the overall ground level, preparation works often result in the destruction of any archaeological deposits which lie at shallow depths. In addition, while the burying of archaeological features beneath a development can sometimes be an accepted form of preservation *in situ*, this is not always the case and care must be taken to ensure that any significant deposits are not subject to undue compaction and shrinkage. Some form of monitoring might be required to ensure that this does not happen.

10.1.3 For archaeological sites, possible mitigation measures have been described in the DMRB volume 11 as:

- locate the route away from archaeological remains and their settings;
- design the scheme's vertical alignment and associated earthworks so that archaeological remains are not disturbed;
- undertake appropriate recording works and other investigations in advance of construction;
- undertake appropriate recording works and other investigations during construction;

In practice, a combination of these measures is often used.

10.1.4 Listed buildings and other elements of the built environment are, by definition, upstanding structures. In addition to demolition, they are particularly susceptible to increased visual intrusion, noise, vibration and disturbance and severance from other linked and associated features.

10.1.5 For the built environment, possible mitigation measures have been described in the DMRB volume 11 as:

- locate the route away from historic buildings or sites, avoiding demolition wherever possible;

- keep a route low within the natural topography to exploit any natural screening and enhance this by the use of cuttings and, in exceptional circumstances, tunnels. These measures will also help to reduce noise and vibration;
- use other landscaping techniques to integrate a scheme into its setting.

In practice, a combination of these measures is often used.

10.2 Archaeological sites

10.2.1 The effects the proposals might have on the archaeological resource were considered from an early stage. In all cases, and with all other constraints and environmental factors being equal, the physical preservation of an archaeological site would be the preferred option. The archaeological excavation of deposits (preservation by record) is seen as a last resort and would only be undertaken when all other avenues have been considered.

10.2.2 It is envisaged that five separate phases of work will be required to ensure that the archaeological heritage of the area covered by the proposals have been considered to an appropriate standard. The results of each phase will influence and set the parameters for the next. Phases 1 to 2 deal with the assessment and pre-construction works, phase 3 deals with the recording of archaeological deposits while construction is in progress, and phases 4 and 5 deal with the assimilation, publication and deposition of any results resulting from the previous phases. In detail, these phases comprise:

Phase 1 **Detailed evaluation:** initial and intensive fieldwalking, geophysical survey, earthwork survey, trial trenching and building survey as appropriate, leading to the detailed assessment of impact and recommendations for mitigation (DMRB Stage 3).

Phase 2 **Pre-construction investigation:** detailed excavation and architectural recording in advance of construction of those sites identified during the previous phase to be of significant archaeological importance and for which no appropriate mitigation measures can be sought.

Phase 3 **Watching brief during construction:** investigation and recording of those sites identified during the DMRB Stages 1 to 3 as not warranting prior investigation, as well as the recording of sites which may be exposed during the course of development.

Phase 4 **Post-excavation assessment:** assessment of the results of the archaeological investigations and the potential of the data for analysis leading to recommendations, timetable and costings for subsequent detailed analysis, publication, storage and deposition.

Phase 5 **Post-excavation analysis and publication:** data analysis, report preparation and publication followed by deposition of the archive and artefacts and all other materials associated with the investigations with the appropriate institution for long term storage and curation.

Phase 1 detailed evaluation works

10.2.3 This phase of work, comprising detailed evaluation through a combination of fieldwalking, geophysical survey, earthwork survey, trial trenching and building survey as appropriate, corresponds to Stage 3 of the Department of Transport's Stages of Archaeological Assessment as defined in the DMRB volume 11. The majority of the Phase 1 works have been completed and are summarised above; archaeological fieldwalking was not carried out as the ground conditions were not appropriate at the time the survey would have been undertaken.

10.2.4 The results of the Phase 1 investigations enable specific recommendations to be made for appropriate mitigation works, including preservation by record, that might be required to complete the Phase 2 (pre-construction investigation) and Phase 3 (watching brief during the course of construction) investigations.

Mitigation measures to the north of the existing A63 (see figure 6)

10.2.5 The results of the trial excavations have confirmed that site 22, in the southern part of South Lawn, is of regional rather than national or county importance. Accordingly, two potential approaches to mitigation in this area can be put forward, preservation *in situ* (ie. burying the archaeological deposits) and preservation by record (ie. full archaeological excavation and recording brief).

10.2.6 The relative merits of preservation *in situ* as opposed to preservation by record have been fully discussed in a previous report⁸. The conclusion was reached that preservation by record would be preferable, for the following reasons:

- its effectiveness can be guaranteed, whereas there is some doubt over the effectiveness of preservation *in situ* where it involves burial under an embankment;

- excavation would result in a positive contribution to the national heritage, in that new information would become available, whereas burial would prevent access to the site to obtain that information for the lifetime of the road;
- this category of site has been identified by English Heritage as a priority for investigation, and the trial excavations have shown that this specific site has a particularly high potential information value;
- the removal of the archaeological remains by excavation would enable the subsequent use of standard construction and landscaping techniques, and would include the removal of topsoil by the archaeological contractor. This has the potential to produce a saving on construction costs when compared with the special techniques and materials which would be required for preservation *in situ*.

- 10.2.7 When considering preservation by record, it would be appropriate to carry the work out at two levels of intensity, namely full but selective excavation in advance of construction and intensive recording brief during construction. Full but selective excavation would take place in Areas 1, 3, 4, 6, 7 and 11 (see figure 6); this would involve removing the topsoil and, where appropriate, the B-horizon by machine under archaeological supervision, and would be followed by the full or partial hand-excavation of every feature recognised.
- 10.2.8 In Areas 2, 5, 8, 10 and 12 an intensive recording brief would take place; this would also involve stripping the topsoil and the B-horizon where appropriate by machine under archaeological supervision and, should any archaeological features be recognised, they would be recorded and assessed and, if appropriate, fully or partially excavated. Both these operations would take place in advance of any construction.
- 10.2.9 It would be advisable to undertake further trial excavation work in Areas 9 and 13 to determine the nature, condition, complexity and importance of the remains in those areas prior to reaching a decision on whether full excavation or intensive watching brief would be appropriate.
- 10.2.10 It would also be advisable to precede any full-scale excavation works in the northern part of Area 6 with further trial excavations, to determine the presence or absence and extent of a cemetery; this could potentially result in a significant reduction of the area in which full-scale excavation is necessary.
- 10.2.11 It would be advisable to undertake further trial excavation work in Area 15 to determine the nature, condition, complexity and importance of the remains there areas prior to reaching a decision

on whether full excavation or intensive watching brief would be appropriate.

10.2.12 There is less potential for the presence of significant archaeological deposits in Area 14, and the question of physical preservation *in situ* is not merited. In these cases, preservation by record in advance of or during construction usually applies. This would be achieved by a watching brief carried out during the initial phases of construction, so that any archaeological features that might be uncovered by topsoil stripping could be recorded.

10.2.13 Any mitigation for the course of Melton Old Road through South Lawn (site 23) would be accommodated in the mitigation proposed for site 22.

10.2.14 A summary of the proposed mitigation works for site 22, area by area, is as follows:

Area 1	Pre-construction excavation
Area 2	Recording brief during construction
Area 3	Pre-construction excavation
Area 4	Pre-construction excavation
Area 5	Recording brief during construction
Area 6	Pre-construction excavation and further trial excavation, followed by pre-construction excavation or recording brief during construction
Area 7	Pre-construction excavation
Area 8	Recording brief during construction
Area 9	Further trial excavation, followed by pre-construction excavation or recording brief during construction as appropriate
Area 10	Recording brief during construction
Area 11	Pre-construction excavation
Area 12	Recording brief during construction
Area 13	Further trial excavation, followed by pre-construction excavation or recording brief during construction as appropriate
Area 14	Watching brief during construction
Area 15	Further trial excavation, followed by pre-construction excavation or recording brief during construction as appropriate

Mitigation measures to the south of the existing A63 (see figure 7)

- 10.2.15 The ridge and furrow earthworks to the south of the A63 (site 29) have been recorded by earthwork survey. This area would be subject to an intensive recording brief during construction (Area 17) as described above.
- 10.2.16 There is less potential for the presence of significant archaeological deposits in Areas 16 and 18, and so a watching brief would be carried out during the initial phases of construction, so that any archaeological features that might be uncovered by topsoil stripping could be recorded.

Summary

- 10.2.17 The proposed mitigation works for all the archaeological sites and areas can be summarised as follows:

Site No	Site name	Grade of site	Overall adverse impact	Proposed mitigation
Site 22	Iron Age/Romano-British and medieval settlement, South Lawn	R	Moderate	Detailed area by area above
Site 23	Course of Melton Old Road, South Lawn	L	Slight	Combination of pre-construction excavation and recording brief
Site 29	Ridge and furrow earthworks, west of Brickyard Lane	L	Slight	Earthwork survey completed. Watching brief
Site 40	Linear ditch system, east of Melton Bottom	D	Substantial	Trial excavation followed by recording brief or pre-construction excavation as appropriate

10.3 Mitigation measures for the built heritage

- 10.3.1 No listed buildings would be affected by the scheme. Mitigation measures designed to offset the adverse visual impacts for the various elements of the built environment would normally be achieved through appropriate landscaping techniques. These have

been considered in the Landscape and Visual Specialist Report and so are not included here.

- 10.3.2 However, two non-listed buildings would be demolished by the scheme and so it is appropriate to consider them here. As with the archaeological sites, a number of similar phases of work will be required to ensure that the architectural heritage of the area covered by the proposals has been considered to an appropriate standard.

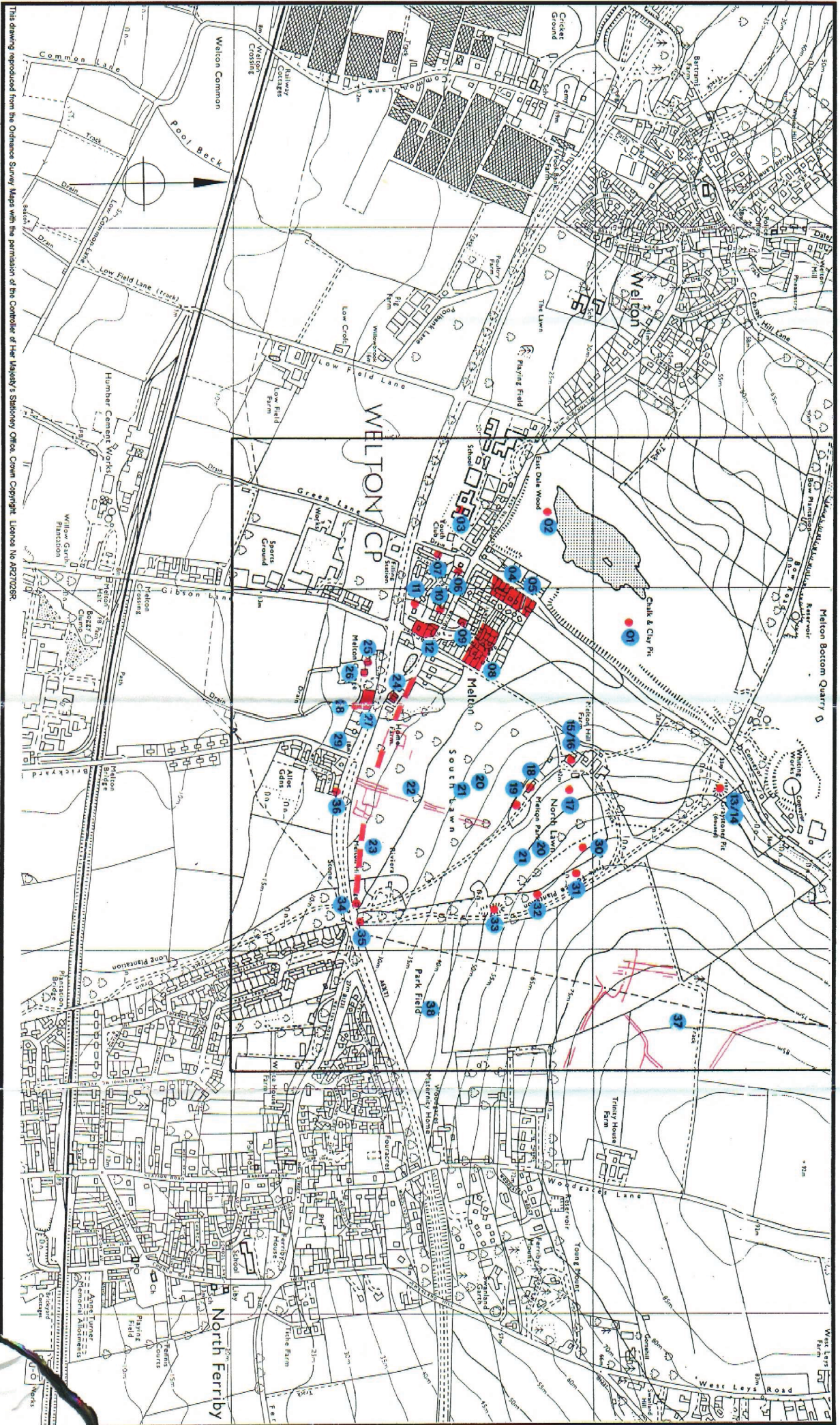
Mitigation measures

- 10.3.3 For the built environment, the phase 1 detailed evaluation works have yet to be carried out. This phase of work would conform broadly to a Level 2 survey as defined by the Royal Commission on the Historic Monuments (England) (RCHME 1991). This is a descriptive record, containing an analysis of the building's development and use, supported by black and white photography of relevant views of the exterior and interior, and sketched drawings with limited dimensional information.
- 10.3.4 If this work suggests that the buildings are of architectural merit, further phase 2 pre-construction investigation would take place. This work would equate to a Level 3 survey as defined by the Royal Commission on the Historic Monuments (England) (RCHME 1991) and would be a fully analytical survey involving the production of detailed measured plans and elevations.
- 10.3.5 A summary of the proposed mitigation measures for the sites of architectural interest affected by the proposals is given below.

Site No	Site name	Grade of site	Overall adverse impact	Proposed mitigation
Site 24	Home Farm, Melton Old Road (north side)	D	Slight	Building assessment and recording if appropriate
Site 34	Melton Hill Lodge	D	Substantial	Building assessment and recording if appropriate

11 REFERENCES

- 1 Anthony Walker and Partners, December 1992, **A63 Melton Grade Separated Junction: Archaeological Desk-Top Survey Report**
- 2 Geo-Services International (UK) Ltd, February 1993, **Melton Grade Separated Junction: Geophysical Investigation**
- 3 Northern Archaeological Associates, November 1994, **An Iron Age and Romano-British "Ladder" Settlement at Melton, North Humberside**
- 4 Anthony Walker and Partners, April 1994, **A63 Melton Grade Separated Junction: Contract and Specification for Archaeological Trial Excavations**
- 5 Anthony Walker and Partners, December 1994, **A63 Melton Grade Separated Junction Archaeological Trial Excavations: Interpretative Report**
- 6 Geo-Services International (UK) Ltd, September 1995, **A63 Melton Grade Separated Junction: Archaeological Geophysical Investigation - Final Interpretative Report**
- 7 Barton Howe Warren Blackledge, July 1995, **Contract and Specification for Geophysical Survey**
- 8 Anthony Walker and Partners, December 1994, **A63 Melton Grade Separated Junction: Assessment of the Archaeological Implications of the Proposed Route**



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02 SITE REFERENCE NUMBER

SITE 39 UNLOCATED



PROJECT
A63 MELTON GRADE SEPARATED JUNCTION
 STAGE 3 ASSESSMENT REPORT

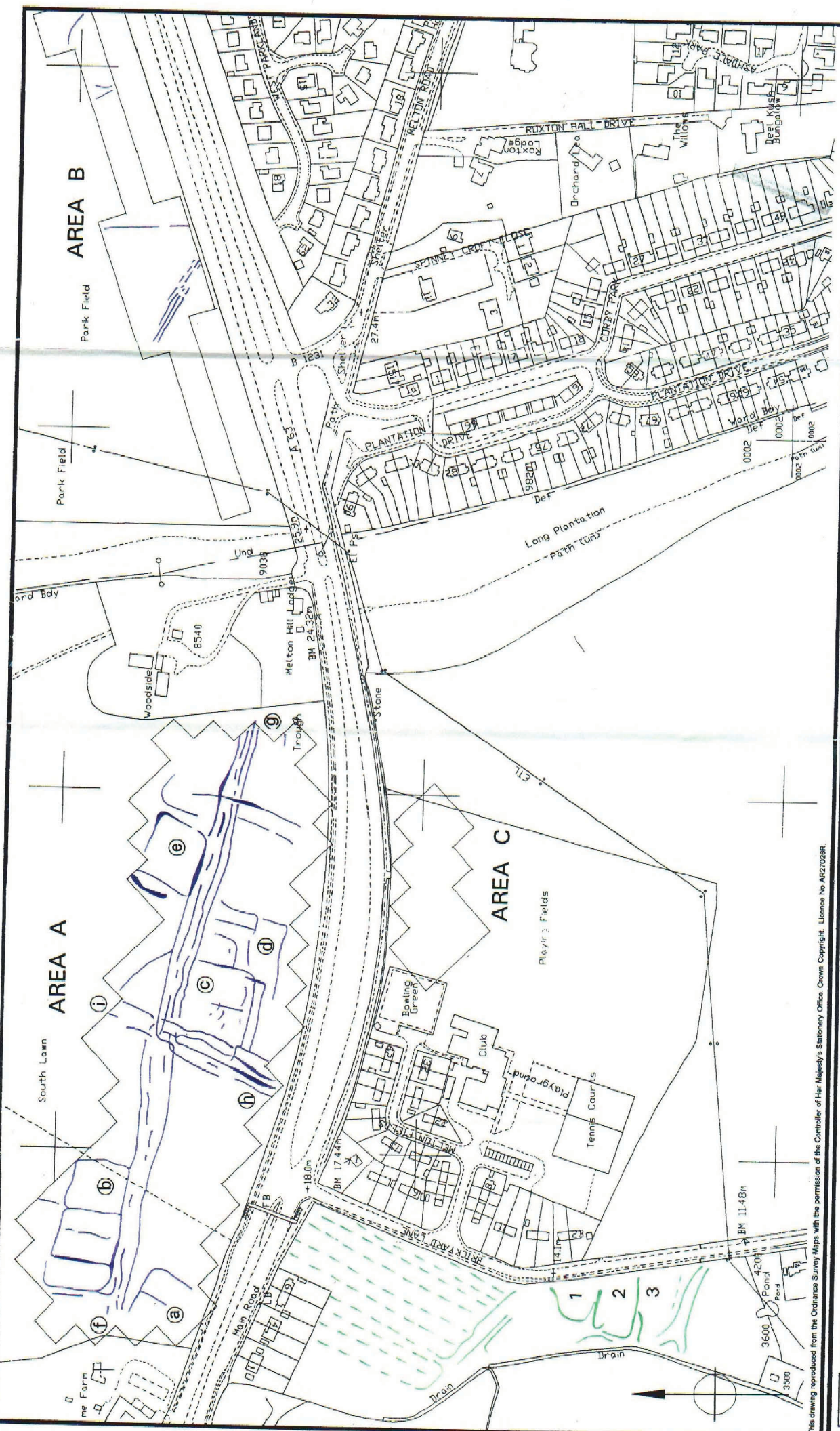
TITLE
ARCHAEOLOGICAL SITES

BHWB

SCALE
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DATE
 JAN 96

FIGURE
 1



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AREAS OF GEOPHYSICAL SURVEY

MAJOR GEOPHYSICAL ANOMALIES

EARTHWORK FEATURES



NOTE: RIDGE AND FURROW AND NON-ARCHAEOLOGICAL GEOPHYSICAL ANOMALIES OMITTED FOR CLARITY



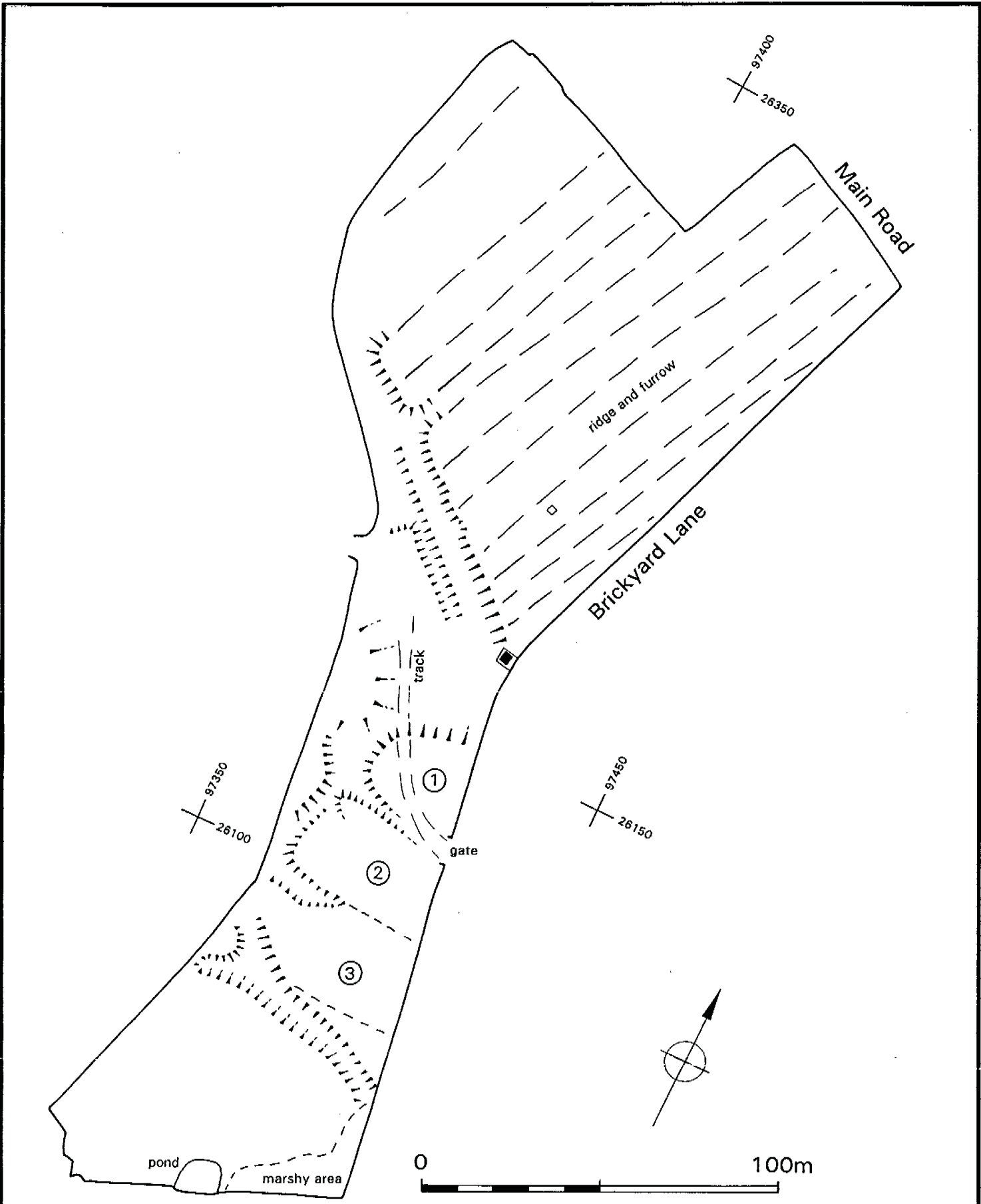
PROJECT
A63 MELTON GRADE SEPARATED JUNCTION
STAGE 3 ASSESSMENT REPORT

TITLE
INTERPRETATION OF INITIAL GEOPHYSICAL
SURVEY AND EARTHWORK SURVEY

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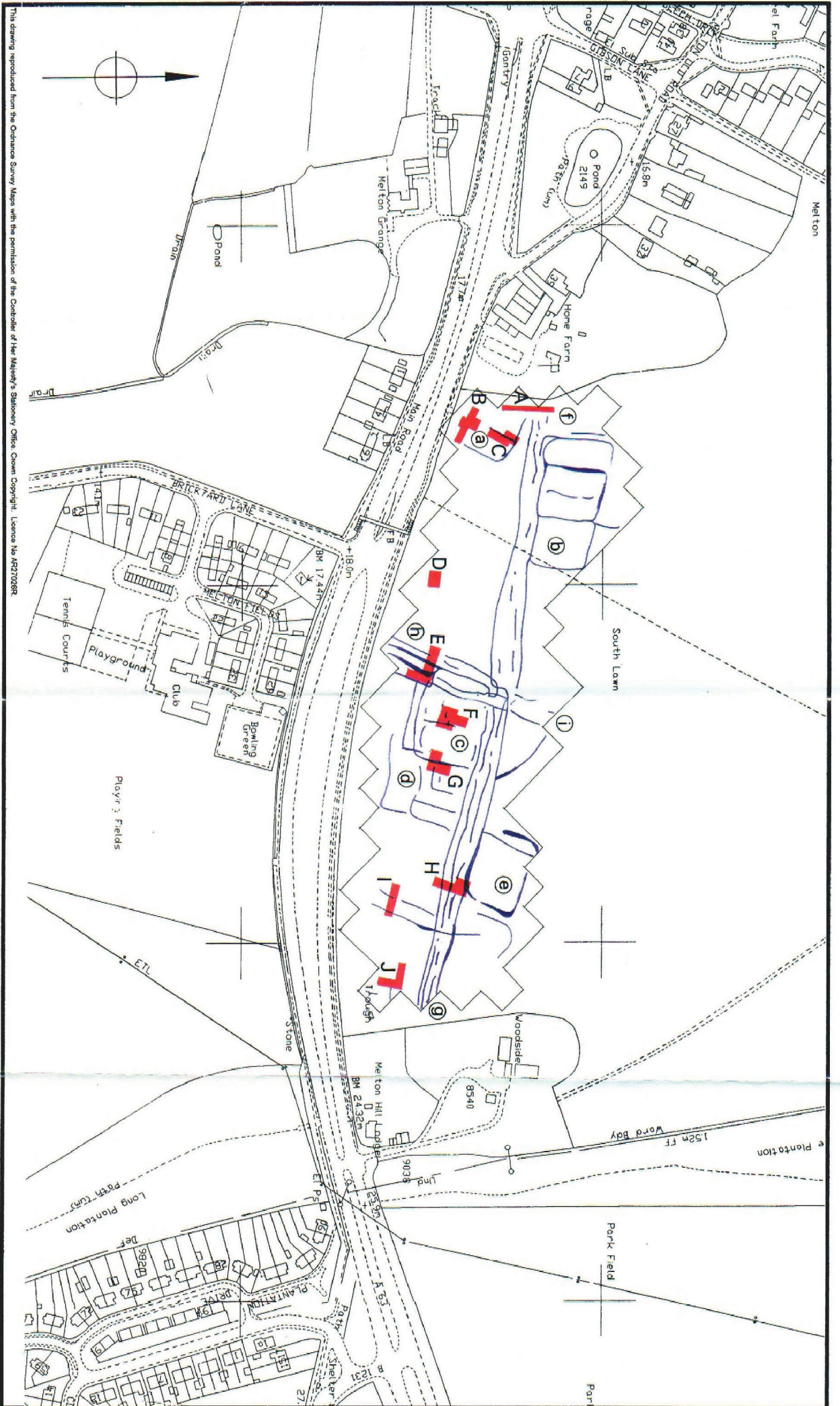
DATE
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FIGURE
2

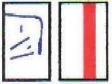


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<div style="border: 1px solid black; padding: 5px; display: inline-block;"> 3 </div> <p>FEATURES MENTIONED IN TEXT</p>		<p>PROJECT A63 MELTON GRADE SEPARATED JUNCTION STAGE 3 ASSESSMENT REPORT</p>			
		<p>TITLE</p>	<p>EARTHWORK SURVEY</p>	<p>94BF1/7</p>	<p>FIGURE</p>
		<p>SCALE</p>	<p>AS SHOWN</p>	<p>DATE</p>	<p>JAN 96</p>



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TRENCH LOCATIONS

MAJOR GEOPHYSICAL ANOMALIES



PROJECT
A63 MELTON GRADE SEPARATED JUNCTION
STAGE 3 ASSESSMENT REPORT

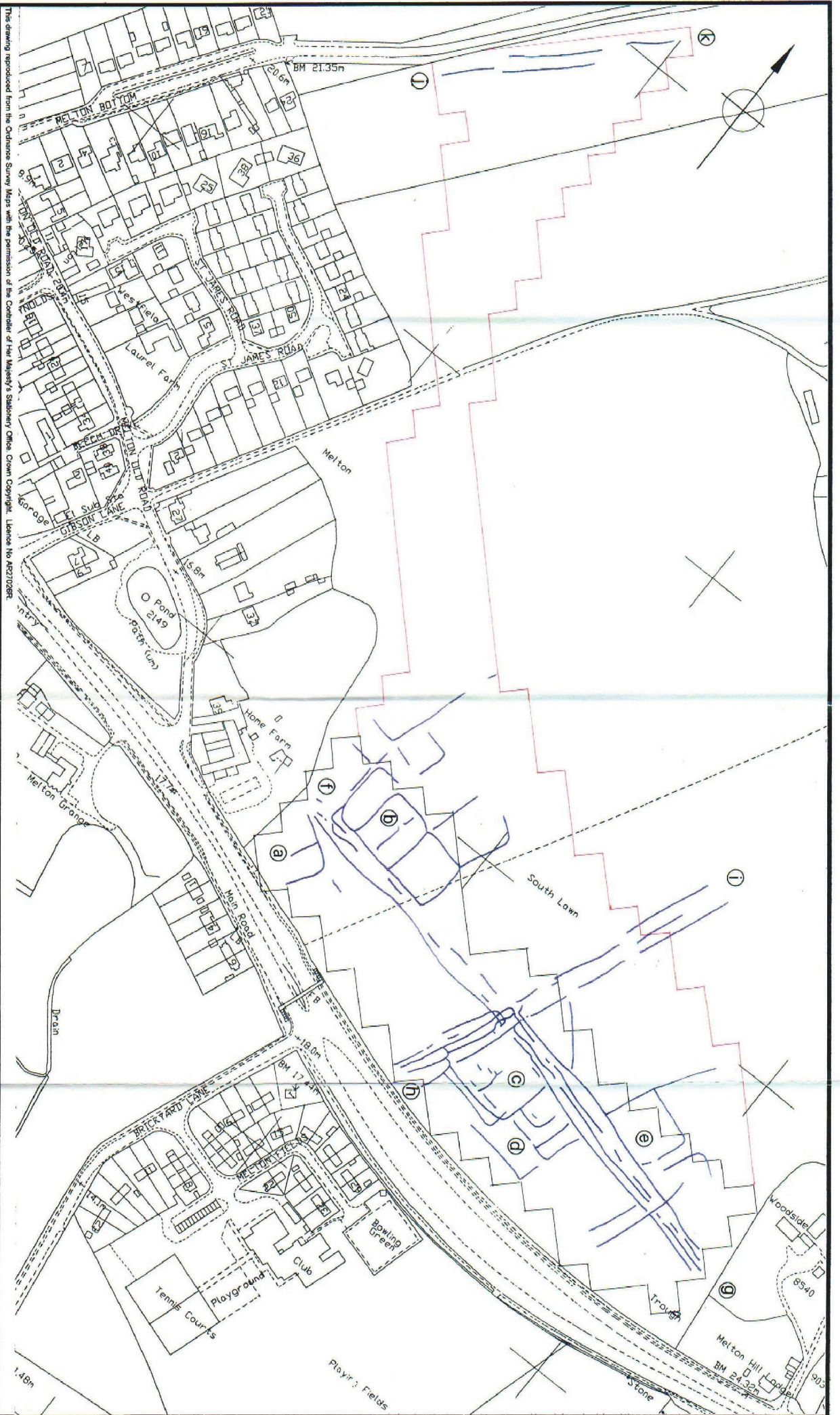
TITLE
LOCATION OF TRIAL EXCAVATION
TRENCHES

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SCALE
1:2,500

DATE
JAN 96

FIGURE
4

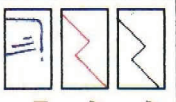


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AREA OF INITIAL GEOPHYSICAL SURVEY

AREAS OF ADDITIONAL GEOPHYSICAL SURVEY

MAJOR GEOPHYSICAL ANOMALIES



NOTE: RIDGE AND FURROW AND NON-ARCHAEOLOGICAL GEOPHYSICAL ANOMALIES OMITTED FOR CLARITY



PROJECT
A63 MELTON GRADE SEPARATED JUNCTION
STAGE 3 ASSESSMENT REPORT



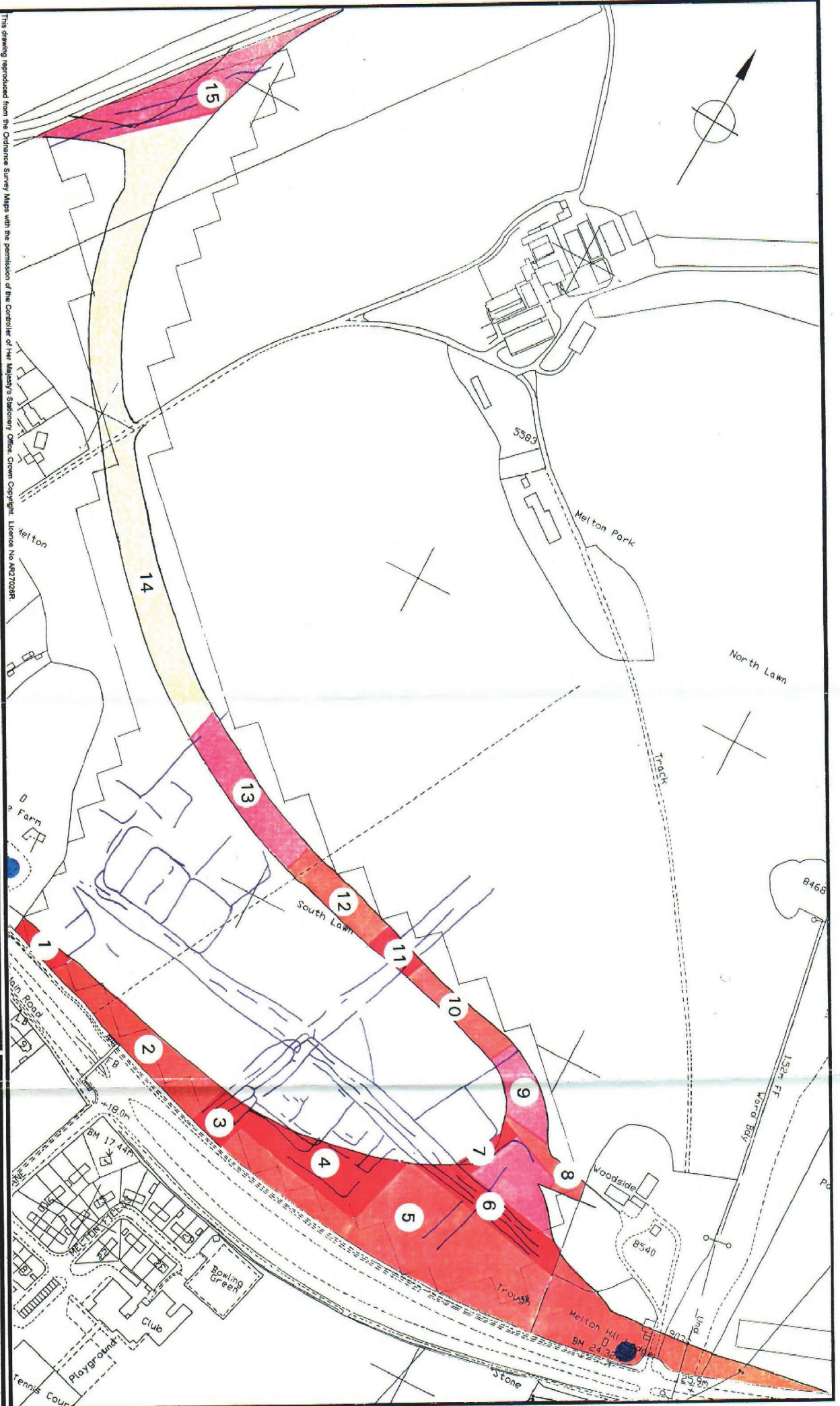
TITLE
INTERPRETATION OF ADDITIONAL
GEOPHYSICAL SURVEY



SCALE
1:2,500

DATE
JAN 96

FIGURE
5

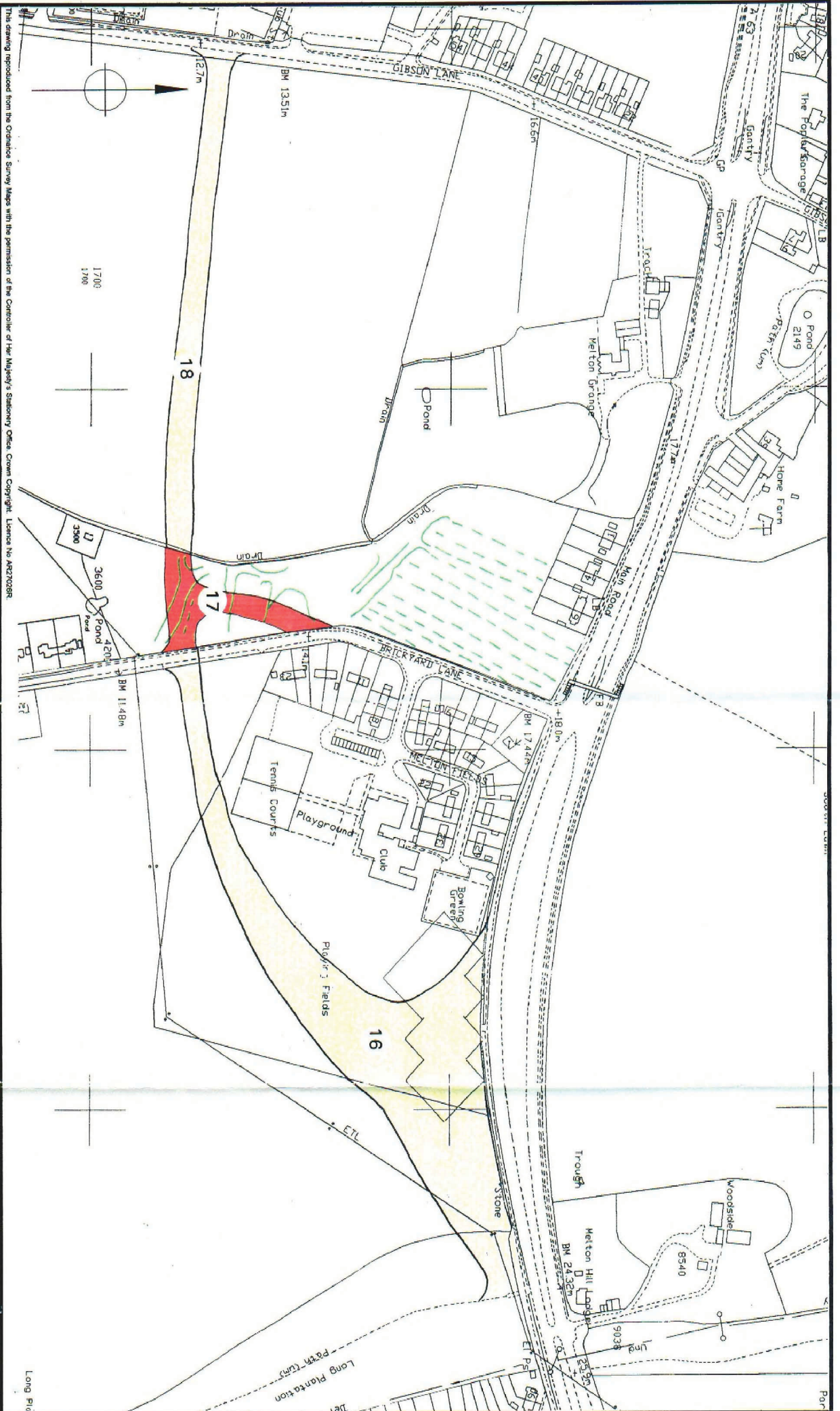


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	MAJOR GEOPHYSICAL ANOMALIES		TRIAL EXCAVATIONS
	EXTENT OF GEOPHYSICAL SURVEY		RECORDING BRIEF
	EARTHWORK FEATURES		WATCHING BRIEF
	DETAILED EXCAVATION		FIELDWORK AREAS
	EXTENT OF PROPOSED CONSTRUCTION CORRIDOR		BUILDING ASSESSMENT

	HIGHWAYS AGENCY
	accer
	BHWB

PROJECT	A63 MELTON GRADE SEPARATED JUNCTION
TITLE	MITIGATION MEASURES NORTH OF THE A63
SCALE	1:2,500
DATE	JAN 96
FIGURE	6



- | | | | |
|--|------------------------------|--|--|
| | MAJOR GEOPHYSICAL ANOMALIES | | TRIAL EXCAVATIONS |
| | EXTENT OF GEOPHYSICAL SURVEY | | RECORDING BRIEF |
| | EARTHWORK FEATURES | | WATCHING BRIEF |
| | DETAILED EXCAVATION | | FIELDWORK AREAS |
| | | | EXTENT OF PROPOSED CONSTRUCTION CORRIDOR |
| | | | BUILDING ASSESSMENT |

HIGHWAYS
AGENCY

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PROJECT
**A63 MELTON GRADE SEPARATED JUNCTION
STAGE 3 ASSESSMENT REPORT**

TITLE
**MITIGATION MEASURES
SOUTH OF THE A63**

SCALE
1:2,500

DATE
JAN 96

FIGURE
7