

Birmingham University Field Archaeology Unit

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**Elstree Western Bypass, Hertfordshire
STAGE 2 ARCHAEOLOGICAL ASSESSMENT**

by

D. Moscrop and D. Tyler
edited by I.M. Ferris

For further information please contact:
Simon Buteux, Iain Ferris or Peter Leach (Directors)
Birmingham University Field Archaeology Unit
The University of Birmingham
Edgbaston
Birmingham B15 2TT
Tel: 0121 414 5513
Fax: 0121 414 5516

Elstree Western Bypass, Hertfordshire

STAGE 2 ARCHAEOLOGICAL ASSESSMENT

Introduction

This report addresses the archaeological implications of the proposed Elstree Western Bypass, Hertfordshire, and has been prepared by Birmingham University Field Archaeology Unit (BUFAU) on behalf of L.G. Mouchel and Partners Limited (themselves acting on behalf of IICC Transportation Department).

The assessment has been conducted according to a brief prepared by the County Archaeology Office (dated 03.04.95) and with reference to Volume 11 (Environmental Assessment) of the Design Manual for Roads and Bridges (DOT 1993 and Revised Edition August 1994). Cognisance has also been taken of the Institute of Field Archaeologists' 'Standard and Guidance for Archaeological Desk-Based Assessments'.

The timescale of the project, with a restricted period between commission of the assessment and the deadline for submission of the report, has meant that certain types of evidence have only been assessed at this stage rather than fully studied; where this has occurred, note is made in the text below.

The Study Area

The proposed bypass is still at the stage where various route options are being considered. This assessment has therefore been designed to examine an area hypothetically under threat from all route options (Options A, B and C, and Options 1 and 2 as defined on DRG. No. C92/6114/D/0012 of DEC 1994; Options A, B, C, D, E and F as defined on DRG. No. C92/6114/D/15 of APR 1995).

The Basic Study Area was therefore defined as a corridor 0.5km on either side of the westernmost option and the easternmost option, and of the northern and southern ends of the route. Each of the three main types of assessment (Aerial Photograph Analysis, Documentary/Cartographic Research, and Walkover Survey) addressed the Basic Study Area's boundaries with fluid criteria of definition which will be discussed below.

Methodology and Sources

1. SMR Data Gathering

Full print-outs of SMR entries relating to the Basic Study Area were obtained from both the Hertfordshire County Council SMR and the Greater London SMR. Plots of listed sites in and around the Basic Study Area were also provided by both SMRs, although the Greater London SMR did so with the proviso that their plots may not be strictly up to date due to on-going reorganisation of their mapping technology. However, it is unlikely that any sites are omitted within the Basic Study Area.

The SMR printouts and maps form part of the assessment archive, and information from these sources has been summarised, synthesised and mapped in this present report. The close grouping of SMR plotted sites along

the line of Elstree High Street was often confusing on the maps provided, and it may be appropriate at a later date to replot and check these sites at a more appropriate scale.

2. Aerial Photograph Sources

Full details of the photo sources consulted are given in the separately-bound specialist reports by C. Cox, and include CUCAP, NIAP and the CAO. However, it has been noted that some photographs in the NIAP will need to be fully studied as part of any subsequent assessment, given the limitations imposed on the present assessment by its telescoped timetable.

3. Documentary/Cartographic Sources

Visits were made to the Hertfordshire County Record Office, Hertfordshire Local Studies Library and the Public Record Office in London. Mapping of the area is not as full or useful as might have been expected, and the baseline map for analysing landscape change is the late 19th century First Edition Ordnance Survey coverage of the area (1864 for Middlesex, 1871 for Hertfordshire). Earlier maps, such as the Rocque map of 1754, are not at such a scale or detail to address such issues beyond the general.

Changes post-1871 can therefore be analysed using the subsequent revisions and new editions of the Ordnance Survey coverage. Changes up to 1871 could be reconstructed by a full and detailed analysis of the important and substantial primary records relating to the enclosure of land within the study area, under the 1776 Boreham Wood Enclosure Act etc. It has not been thought appropriate at this stage of assessment to undertake such a potentially time-consuming study of such a relatively large source, although the 1803 Aldenham Enclosure Map has proved useful at this stage. This should await further decisions on route options. Searches for relevant estate papers and documentation associated with individual identified 'sites' should also be made at this later stage.

4. Borehole/Geotechnical/Engineering Information

No information on any relevant borehole/geotechnical/engineering data was available for analysis (Mouchel pers. comm.). No recent building schemes in the study area, away from Elstree High Street, appeared to correspond to identified sites.

5. Walkover Survey/Field Inspection

The land use of the study area is split approximately 50/50 between 'open' land (pasture and arable) and 'closed' land (housing, roads playing fields etc.). Walkover was conducted on all 'open' land within the Basic Study Area and each field was assigned a code number and a pro forma record card was filled in for each field noting land use, presence of earthworks or other potentially archaeological features, finds on ground surface etc. Sketches of any features were made on the cards. No measured surveys were conducted or finds collected.

SITES IDENTIFIED (See Map)

All sites in the study area, identified during the assessment, are listed in the master catalogue below, and on the master map. Sites identified during the AP search are also listed in separately bound specialist reports and AP map plots. Note that the AP sites are listed in those reports with their own independent numbering system.

All SMR numbers for individual sites are from the Hertfordshire SMR, unless indicated with a *-prefix.

1. NGR TQ1740 9535

Positive crop mark for two parallel linear features interpreted by Cox as (?)ditches (Cox 95). These features were not located during the walkover survey of Field No.7.

2. (SMR 4697) NGR TQ1751 9544 - TQ1723 9592

Roman road appearing on all AP sources as a linear feature with an accompanying (?)ditch and traces of possibly associated perpendicular banked linear features (Cox 95). On the AP plot the road runs SE - NW through Field No.s 2,3 and 5. In Field No.2 the road was clearly visible as a ridge (c.4.0m wide and 0.2m in height, there was also an accompanying ditch on its western side (c. 1.5m wide and c. 0.2m deep). In Field No.3 the road and ditch were visible to a much lesser degree. The road was apparent on the ground in Field No.5, however the associated perpendicular banked linear features on the AP plot were not obvious.

3. NGR TQ1734 9585

An area of dark toned grass interpreted by Cox as either deeper soil, the results of quarrying activity, or agricultural processes (Cox 95). There were no indications of this "on the ground" in Field No.5.

4,4a. NGRs TQ1720 9591; TQ1722 9590; TQ1786 9568;
TQ1784 9563 TQ1779 9553; TQ1779 9552; TQ1780 9551

Small irregularly shaped mounds (Cox 95). As Cox suggests these features may be associated with medieval or Roman kiln waste dumping. The above features are all located in Field No.1 which was found during the walkover survey to contain many surface irregularities.

5,5a. NGRs TQ1775 9570, TQ1780 9549

Two areas of rough ground (Cox 95), the first of which was recorded during the survey of Field No.1 as very uneven ground consisting of a ridge, mounds, and hollows possibly associated with clay extraction processes. The second was seen to be a mound (c.24.0m in diameter and c.1.0m in height) with two shallow ditches running away from it towards the western boundary of Field No.1. There is a suggestion that this feature may be associated with excavations at a Roman kiln site (see Cox 95).

6. NGR TQ1783 9548

Appears on aerial photographs as a small, light toned, feature interpreted by Cox as being indicative of either excavation, kiln waste, or agricultural processes (Cox 95). This feature was apparent in Field No.1 during field inspection.

7-7d. NGR TQ1760 9576; TQ1754 9575; TQ1770 9554;
TQ1752 9571

Distinct linear features, visible as darker lines in parched grass which, Cox suggests, may be archaeological (Cox 95). Not visible on the ground during walkover survey. These features do not appear on the 1st edition OS map.

8,8a. NGR TQ1750 9574; TQ1780 9562; TQ1780 9547

Linear features interpreted by Cox as possible former paths or boundaries (Cox 95). Site No.8 (TQ17809562) was found, during field inspection, to be a ditch

suggestive of a former field boundary. It was also represented on the 1st and 2nd edition OS maps, and the 1803 Aldenham enclosure map. The two linear features in Field No.3 were not visible on the ground, but do appear on the above maps as former boundary definitions. The southernmost feature in Field No.1 was apparent on the ground as a shallow ditch, but it does not appear on the 1st edition OS map.

9a-9c. NGR Centring TQ1740 9570

Linear features appearing on aerial photographs. Interpreted by Cox as modern field drains (Cox 95).

10. NGR Centring TQ1750 9570

According to Cox there is a slight chance that these amorphous dark toned areas are archaeological but she suggests that they are more likely to be fungus rings. Site inspection revealed no evidence to contradict this assumption.

11. NGR TQ1760 9543 - TQ1752 9554

A hollow curvilinear feature interpreted by Cox as a path or hollow way (Cox 95). Recorded in Field No.2 as a stream and wet marshy ground. The watercourse is represented on the 1st and 2nd edition OS maps, but is omitted on the 3rd edition OS map of 1914.

12. NGR TQ1770 9530

Appears on the aerial photographs as a mounded uneven area (Cox 95). Cox identifies this site as SMR 0786, the former site of Roman clay extraction pits and waste tips excavated in 1948. However, it would seem likely that the mounded area seen by Cox lies to the south of 0786. Inspection of Field No.s 17 and 18 found the ground in this area to be uneven which seems to add weight to Cox's interpretation.

13. NGR TQ1730 9497

A well defined, unevenly textured, mounded feature, interpreted by Cox as likely to be recent (Cox 95). This feature could not be located in Field No.13 which was quite overgrown at the time of survey. It does not appear on the 1st edition OS map.

14. NGR TQ1780 9570

Very degraded traces of possible ridge and furrow which Cox suggests may be part of a more extensive Medieval landscape (Cox 95). Ground inspection, in Field No.1, could not detect any traces of the above, in an area of probable clay extraction (see site No.5). The present land use is pasture and parkland.

15. NGR TQ1715 9577

Several linear ditches which show up in pasture as upstanding features which Cox suggests may not be archaeological (Cox 95). Field inspection identified no features on the ground, though if slight these would not have been easily apparent in the long grass.

16. NGR TQ1694 9585 to TQ1685 9603

Parallel linear features which, according to Cox, may be of a Medieval or Post-Medieval origin (Cox 95). On the AP plot they run to meet a further SW-NE aligned linear ditch. These features were not visible on the ground, but on the 1803

Aldenham enclosure map and the first edition OS map, one of these linear features corresponds with a field boundary.

17. NGR TQ1706 9585

Traces of narrow rig, which Cox suggests may be the result of Post-Medieval steam ploughing (Cox 95). Long grass perhaps obscured any traces on the ground.

18a-c.

Linear features, which Cox interprets as possible former boundaries or paths, at TQ 1668 9594-TQ1684 9603; TQ1674 4587-TQ1699 9598; and TQ1706 9577-TQ1713 9583 (Cox 95). Map evidence shows that in both 1803 and 1871 one of these features was an extant field boundary.

19. NGR TQ1698 9592 and TQ1700 9610

Area of very uneven ground which Cox suggests may represent degraded earthworks. She also states that the available air photographic coverage of this site was difficult to interpret due to lack of clarity (Cox 95). Long grass may have obscured any traces on the ground.

20. NGR TQ1680 9595

An area of light toned soil which, according to Cox, is probably not an archaeological feature (Cox 95). Not visible during field inspection.

21. NGR Centring.TQ1723 9560..

A possible strip field system, which may be of Medieval or post-Medieval origin, detected during walkover inspection of field No.6 (see field survey archive).The Aldenham enclosure map shows the field divided into lots of individual plots of land. Some of these boundaries were obvious during the walkover survey, however, the existing earthworks within the field appear to represent the pre-enclosure, enclosure, and post-enclosure landscape. Further ground work will be necessary to clarify this.

22. NGR Centring.TQ1723 9522..

Possible ridge and furrow (running E - W) and associated field boundary in Field No.9 (see field survey archive).

23. NGR Centring.TQ1725 9504

Possible ridge and furrow (running NWW - SEE) in Field No.11 (see field survey archive).

24. (SMR 0076) NGR TQ1787 9547

Holly Bush Public House recorded in the SMR as the site of a rescue excavation in 1986 which revealed evidence of 13th-14th century occupation, and remains of buildings dating from the 15th century and later.

25. (SMR 0157) NGR TQ178 955

Excavations in 1991 at 15-17 High Street are recorded in the SMR as having identified extensive deposits of waste Roman brick and tile fragments, kiln furniture, pottery (including "wasters"), and building materials suggestive of a Roman tile and pottery kiln site.

26. (SMR 0420) NGR TQ178 954

Listed in the SMR as sherds of Medieval greyware found in 1978 between St. Nicholas School and Almshouses.

27. (SMR 0428)NGR TQ179 954

Listed in the SMR as parts of the mainly 19th century St. Nicholas Church, dating from the 15th century.

28. (SMR -0610) NGR TQ178 955

Listed in the SMR as Roman tile, and Roman and Medieval pottery found in a field to the NW of the Holly Bush Public House.

29. (SMR 0785) NGR TQ1782 9546

Listed in the SMR as a Roman tile kiln excavated in the garden of Timber Cottage.

30. (SMR 0787) NGR TQ178 954

Listed in the SMR as a possible Roman pottery kiln site, to the west of 15 High Street. It seems to be suggested that the large Roman jar containing potters' clay found in 1904, and the Roman tile, pottery (including wasters), and possible kiln spacer found by excavations in 1948-50, may be derived from the kiln site nearby (SMR 0785).

31. (SMR 0790) NGR TQ172 960

Listed in the SMR as Roman, Medieval and Post-Medieval pottery found in 1948

32. (SMR 0792) NGR TQ179 954

Listed in the SMR as tile built into the church walls, and also into the churchyard wall to the east, of St. Nicholas Church.

33. (SMR 0793) NGR TQ179 954

Listed in the SMR as the site of a house built c.1360 for Thomas de la Mare, Abbot of St. Albans, which was demolished in 1881.

34. (SMR 0794) NGR TQ175 961

Listed in the SMR as a Romano-British tile findspot.

35. (SMR 0931) NGR TQ1705 9607

Listed in the SMR as Roman kiln-wasters, burnt clay and coarse sherds suggestive of pottery and tile making, found by fieldwalking in this area. Not inspected.

36. (SMR 0950) NGR TQ1786 9629

Listed in the SMR as an Iron-Age/Belgic sherd findspot.

37. (SMR 1615) NGR TQ179 954

Listed in the SMR as Roman tiles, Medieval and Post-Medieval pottery found during a survey of the St. Nicholas churchyard in 1985.

38 (SMR 2053) NGR TQ178 954

Listed in the SMR as Medieval occupation evidence consisting of a rubbish pit containing Medieval pottery.

39. (SMR 2286) NGR TQ175 961

Listed in the SMR as a Roman pottery findspot.

40. (SMR 5892) NGR TQ177 953

Listed in the SMR as a horse mounting block adjacent to the stable at "The Plough" public house.

41. (SMR 5936) NGR TQ179 954

Listed in the SMR as a forge set up in the rear of 21 High Street in the late 19th century.

42. (SMR 6432) NGR TQ1784 9537

Listed in the SMR as evidence for Medieval and Post Medieval occupation found during the excavation of a 17th century fireplace at 12 High Street.

43. (SMR 6459) NGR TQ1794 9534

Listed in the SMR as tile fragments found near a Victorian wall in St. Nicholas churchyard.

44. (SMR 6476) NGR TQ178 955

Listed in the SMR as Medieval pottery found in the garden of Timber Cottage in 1979.

45. (SMR 6477) NGR TQ179 956

Listed in the SMR as Roman and Medieval pottery found in the garden of "The Bartons", Elstree Hill North.

46. (SMR 6479) NGR TQ178 954

Listed in the SMR as Post-Medieval occupation evidence found during excavation at 12 High Street.

47. (SMR 6480) NGR TQ180 957

Listed in the SMR as a Romano-British, Medieval and Post-Medieval pottery findspot.

48. (SMR 6553) NGR TQ1785 9538

Listed in the SMR as a Medieval iron smelting site?, and Post-Medieval occupation site excavated in 1983.

49. (*SMR 052131) NGR TQ177 952(V)

Listed in the SMR as an excavated/ part excavated scatter of Roman tile and building material.

50. (*SMR 052132) NGR TQ177 951(V)

Listed in the SMR as evidence, from an excavated/part excavated site, for a Medieval field system, in the form of ploughsoil, ditches, pottery, and residual Roman pot and tile fragments. Now under modern housing.

51. (*SMR 052133) NGR TQ177 952(V)

Listed in the SMR as evidence for Medieval occupation, from an excavated/part excavated site, in the form of pits containing c13th-14th century pottery, an associated field system, and other features. Now under modern housing.

52. (*SMR 052134) NGR TQ177 951(V)

Listed in the SMR as evidence for Medieval farming, from an excavated/part excavated site in Schubert Road, in the form of ditches and gullies containing 14th century pottery.

53. (*SMR 052135) NGR TQ1765 9515(E) (not on SMR map)

Listed in the SMR as the remains of a hearth with associated 13th century pottery, found during excavation/part excavation in 1983.

54. (*SMR 052136) NGR TQ177 951(V)

Listed in the SMR as a number of post-holes, possibly Medieval, associated with other Medieval features, found on an excavated/part excavated site in Schubert Road.

55. (*SMR 052137) NGR TQ171 951(V)

Listed in the SMR as a metalled surface, revealed by excavation in Schubert Road, with an associated shallow feature with possible packing along one edge.

56. (*SMR 221715) NGR TQ17745 95080(E)

Grade 2 listed building.

Listed in the SMR as Hill House a standing early-mid 18th century building with many later additions. Excavation here has revealed traces of Medieval timber structures.

57. (*SMR 221827) NGR TQ17790 95218(E)

Grade 2 listed building.

Listed in the SMR as a standing building dating to c.1500 with later additions.

58. (*SMR 221828) NGR TQ17805 95240(E)

Grade 2 listed building.

Listed in the SMR as a standing 16th century timber-framed building, refronted in red brick in the mid-18th century, and thought to have been a Medieval hall house.

59. (SMR 22182801) NGR TQ17805 95245

Grade 2 listed building.

Listed in the SMR as 19th century standing outbuildings and stable block.

60. (SMR 0786) NGR TQ178 955

Listed in the SMR as clay extraction pits (excavated and surveyed in 1948), extending for several hundred metres to the north and west of Nos. 15-17 High Street.

61. NGR TQ1714 9608

Appears on the Aldenham enclosure map (1803) and the 1st edition OS map (1871) as Stapes Farm. On the 2nd edition (1898) the farm had been demolished and replaced by a new set of buildings named Home Farm.

62. NGR Centring TQ1714 9595

The road to the west of Stapes Farm, on the 1st edition OS map and the 1803 Aldenham enclosure map, had been re-routed prior to the publication of the 2nd edition OS map (1898), the original route surviving as a track leading to Home Farm.

63. NGR TQ1714 9534

A building appearing on the 1st edition OS map as Elm Lodge. This appeared on subsequent editions up to 1970. It must therefore have been demolished between 1935 and 1970.

64. Present A5

Roman road-Watling Street-under the line of the present A5 in the study area.

Period Assessment

A large number of the above listed sites are as yet undated. While morphologically many of the cropmarks could relate to Medieval, or later, boundaries and field systems, the various 'clay pits' and 'mounds' could belong to any period. The dating and characterising of any such features threatened by the bypass would be a necessary early part of any further assessment.

Prehistoric

The only evidence for archaeological activity within the study area prior to the Roman period is an Iron Age/Belgic sherd findspot (Site No.36). There is slim evidence for Mesolithic activity, in the form of a Mesolithic flint scraper found outside the study area, on higher ground to the east of Elstree (SMR 081942). The suggestion (MOLAS 1992) that prehistoric occupation was probably confined to the more lightly wooded hills characterised by gravel outcrops, (due to the inability of their technologies to exploit the London Clay soils), may support the lack of evidence for this period within the study area. The Iron Age sherd mentioned above could be representative of the first attempts to exploit the landscape in this area with evidence for settlement in the pre-Roman Iron Age becoming more widespread on the London Clay soils (MOLAS 1992).

Roman

Whereas evidence for the prehistoric period is scarce in the study area this is not the case for the Roman period. Immediately to the east of the proposed route options for the Elstree Western Bypass runs the major Roman road known as Watling Street (Site No.64). This, primarily military, road, which runs from London through St

Albans (Verulamium) to Wroxeter (Viroconium) is joined by a lesser Roman road on its western side, which runs SE-NW across the study area (Site No.2). This 19 mile stretch of road, possibly specifically serving the needs of the tile and pottery manufacturing industry to the west of Watling Street, runs from Elstree to join the Icknield Way at Eaton Bray. It may therefore be suggested that the study area lies within a possible focus of settlement centred at, or in the vicinity of, the junction of these two roads. There is a large body of evidence to suggest that sites in this area would have had a primarily industrial function.

The presence of a Roman tile kiln excavated in the garden of Timber Cottage (Site No.29), immediately to the west of Watling Street, hints at a possible centre for pottery production lying close to, and probably extending into, the study area. Three other possible kiln sites (Nos.25,30,&35) are recorded within the study area, although there is a suggestion that the material found on these sites could be from the kiln site mentioned above or from others in the vicinity. Also, Roman clay pits (Site Nos.5,&12) extending several hundred metres to the north and west behind the Watling Street frontages, are suggestive of a thorough exploitation of the London Clay soils in this area. Some of the moulds identified within the study area (Site Nos.4,5,6 and 12) may also be part of the same Roman industrial landscape.

As well as this specific evidence for Roman occupation there are also several findspots of Roman pottery and tile recorded in the SMR for the study area. The majority of evidence so far discovered for activity in the Roman period lies close to Watling Street, but there is no reason to expect that it does not extend further into the study area, especially as it lies between two Roman roads.

Such a potentially complex Roman industrial landscape, spatially linked as it is to the Brockley Hill production centre, from an archaeological point of view, should be viewed as indivisible, rather than as a series of isolated individual sites (see Swan 1984, 127-133). Such a view should dictate any mitigation strategy with regard to any of the sites that may be directly affected by the chosen route. Both specifically the Society for the Promotion of Roman Studies (1985,8-10) and, more generally, English Heritage in 'Exploring Our Past' (1991, 42) have attached great importance to the study and recording of such integrated industrial landscapes.

Saxon

The sources so far consulted have produced no evidence for occupation in the Saxon period within the study area.

Medieval

Medieval occupation in Elstree village is well known from excavation along its street frontages (Site Nos.24,38,42,51, and 54), and upstanding remains within extant buildings (eg.Site Nos.27, and 33). Evidence for associated Medieval field systems is also known from excavation behind the street frontages (Site Nos.50, and 52). There are also suggestions from the aerial photographic coverage (Sites 1,4, and 16) of possible traces, in the form of linear cropmarks, of Medieval or later field systems within the study area. In support of this, information from fieldwalking has produced evidence for two instances of ridge and furrow (Site Nos.22,&23), as well as a possible strip field system (Site No.21) which may be Medieval or later. At a later stage of assessment it will be advisable to correlate information from any separately commissioned Ecology and Landscape reports, in order to gain a fuller picture of those relict elements of the historic landscape.

Exploitation of the London Clay soils may have been taken up again in the Medieval period. There is strong evidence to suggest this in the form of underfired pottery found at Barnet Lane, Elstree Hill South (Turner-Rugg 1993). The clay pitting within the study area, normally interpreted as being associated with the

Roman period, could equally belong to the Medieval period (see Site No.5 which is listed as unexcavated). There is very little known of the size or nature of an Elstree pottery industry in the Medieval period but a summary and contextualisation of present knowledge can be found in Turner-Rugg (1993). Study of any such industrial landscape would be of academic importance ('Exploring Our Past', 42).

As well as indications for pottery production in Elstree, evidence for iron smelting during the Medieval period has been found at Site No.48. With all of this evidence for occupation, and industrial/agricultural exploitation of the landscape, it seems highly likely that archaeological features from this period extend into the study area.

Post-Medieval/Modern

Most of the evidence given below for landscape changes and building development within the study area during the post-Medieval period has come from the cartographic sources consulted in this stage of the archaeological assessment.

The land bounded by Watford Road to the south, the A5/Watling Street to the east, and the Elstree to Aldenham Road to the west, has been radically altered from an arable/pastureland complex of relatively small fields (Aldenham Enclosure Map 1803/1st Edition OS Map 1870), to open parkland forming Aldenham Park (2nd. Edition OS Map 1898).

Between the surveying for the 1st and 2nd edition OS maps Stapes Farm (Site No.61) was demolished, or radically altered, and replaced by Home Farm. The Elstree to Aldenham Road was re-routed further west, the original route being retained as a trackway to Home Farm.

Site No.11 was identified on the ground as a water channel, not obviously artificial, and given field boundary status on the 1st and 2nd edition OS maps. The linear earthworks at right angles to one another depicted on the AP plot (Site No.8), are relic field boundaries represented on the 1803 map, and the 1st edition OS map, but omitted on the 2nd edition, concurring with the change in land use depicted on these maps. The 1803, and 1st edition OS maps show that the parkland area contained various tree lines which may be aligned with relic field boundaries. Further documentary and map research is recommended, particularly with regard to the local enclosure records.

A large proportion of the study area is now masked by modern developments such as the works and modern housing estate to the south. Much of the land would also have been levelled for sports/playing fields, this needs to be taken into account when considering the evidence concerning archaeological activity within the study area.

The Route Options

An examination of the master map shows that while some 64 sites lie within the Study Area, only a handful (Site Nos. 1,5,7,9,10,11,14,22 and 23) lie within, or partially within, that zone or corridor formed between the 'outermost' and 'innermost' route options. Nevertheless, it has been stressed above how the wider contextualisation of these sites should drive decisions on their relative individual and group importance and academic value. Without further assessment it is not possible to state how each site could be potentially affected, or to what degree. In addition, there may be other sites outside the route option corridor which may eventually be directly affected by associated landscaping or drainage works, or by the digging of borrow pits or the creation of works compounds.

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ELSTREE WESTERN BYPASS

HERTFORDSHIRE

**Stage 2 Assessment, Archaeology:
AERIAL PHOTOGRAPHIC ASSESSMENT**

Chris Cox MA MIFA

AIR PHOTO SERVICES
7 EDWARD STREET
CAMBRIDGE CB1 2LS
0223 316393

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1.0: INTRODUCTION

1.1: Archaeology from Aerial Photographs

Detailed archaeological interpretation of contemporary and historical aerial photographs allows the accurate mapping of archaeological sites recorded as cropmarks (caused by the differential growth of crops over buried features, Wilson 1979, 1982), soilmarks (caused by differences in soil colour over ploughed features, Wilson 1982) and shadows cast by upstanding earthworks. Aerial photographic evidence is, however, limited by seasonal, agricultural, meteorological and environmental factors which affect the extent to which either buried or upstanding archaeological sites can be detected under a given set of environmental conditions (Riley 1987, 17-40) .

Within its limitations, aerial photography and photographic interpretation provides information which cannot easily be detected by other means, and is a complementary part of multi disciplinary archaeological investigation. It also provides a cost effective landscape overview and accurate guidance for ground based investigations or positioning of evaluation trenches.

1.2: The Study Area

The archaeological study area, as defined by Birmingham University Field Archaeology Unit, is bounded by National Grid eastings TQ169 and TQ180 and northings TQ944 and TQ960.

Within the limits of the extent of Ordnance Survey mapping made available within the timescale of the assessment, an area extending to 0.5km either side of all route options was examined.

1.2.1: Landuse

The area comprises land between the modern settlement of Elstree and the Aldenham Reservoir. The area contains parkland, housing, works, outdoor sports facilities (cricket, tennis and general playing fields) and both major and minor roads. There is an approximate 50 / 50 split between open land (arable or managed grassland) and the above features. The proposed bypass routes will cross parkland, some arable/grassland and playing fields.

1.2.2: Environment

The study area lies on London Clay soils, (clay and fine grained sand, silty in parts) including an 'island' of CLGB (claygate member) soil in the eastern part of the area. Moisture retentive clay soils are not usually as favourable to the development of crop marks over buried features as the free draining sands and gravels (Jones and Evans 1975).

1.2.3: Archaeology

Two Roman roads, Watling Street and an associated branch, run through the area. The assessment area is noted for the presence of Roman Industrial remains in the form of pottery kilns and associated waste heaps as stated in the Hertfordshire County Council Brief for Stage Two assessment (Hurley 1995)

1.3: Aerial Photographic Sources

The entire study area was subjected to thorough aerial photographic library search, and the most relevant aerial photographic sources which were available for consultation within the timescale of this assessment were consulted and interpreted as judged appropriate to the assessment. The following aerial photographic sources were consulted:

Cambridge University Collection of Aerial Photographs (CUCAP)

Mond Building, Free School Lane, Cambridge.

No photographs were held by this collection covering the study area or its immediate environs.

National Library of Air Photographs (NLAP)

National Monuments Record Centre, Kemble Drive, Swindon, Wiltshire.

This collection could not be fully searched for both obliques and verticals within the assessment timescale. However, a limited search was undertaken of the oblique collection by an aerial photographic interpreter in Swindon appointed by Air Photo Services. A full photographic search has been applied for. See section 3 below for full commentary.

Hertfordshire County Council, County Archaeology Office and County Record Office

Shire Hall, Hertford.

Vertical Photographs from these collections were interpreted for this assessment.

All photographs consulted are listed in section 4 below.

No oblique photographs were available for full interpretation within the assessment timescale.

1.4: Assessment Specification

Vertical aerial photographs were interpreted to identify archaeological and relevant non-archaeological information (the latter including soil depth changes and any recent subsurface disturbances which may affect the integrity and understanding of features evaluated in the field). Photo interpretation aimed to qualify reasons for the visibility of archaeological evidence and to explain, as necessary, any gaps in the aerial record. Search also extended slightly beyond the boundary of the assessment area to determine whether any archaeological features were likely to continue from their sources in to the assessment area.

The entire route as noted above was assessed and all archaeological features (from prehistoric through to the National Archaeological Record terminal date of 1945) which were visible on aerial photographs were mapped at 1:2500 scale. Standing buildings were not recorded.

All visible sites, whether plough flattened or upstanding, were interpreted and mapped in detail at 1:2500 to an accuracy compatible with that of the Ordnance Survey and within the tolerances of photographic quality.

1.5: Interpretation and Mapping Methodology

Photographic interpretation, rectification and mapping was carried out following procedures defined by Palmer and Cox (1993). All photographs were closely examined, under 1.5x and 4x magnification, and viewed stereoscopically where appropriate. Transparent interpretative overlays were prepared, from which archaeological and associated relevant information was digitised.

Interpreted features were rectified, where appropriate, by computer using the Bradford aerial photographic rectification software, AERIAL 4.20 (Haigh 1993). AERIAL 4.20 calculates values for the closeness of control point match and, using an initial plane surface rectification, the mean control point positioning error in all cases was under $\pm 2.0\text{m}$. As a check on the accuracy of the computer rectification, modern field boundaries, digitised from the air photographs, were matched to the base maps to help obtain the best fit location for each individual output plan.

Traces of ridge and furrow field systems were drawn schematically on to the base maps without rectification.

1.6: Arrangement of Report

The assessment report presents an overview of the archaeological sites in the study area in context of the environment and surrounding archaeological landscape. All sites are then fully described in numerical order, and their numbers shown on the map for ease of identification.

1.7: Maps

All the sites recorded from aerial photographs are mapped at a scale of 1:2500. Control information was taken from photocopies of the route plans and dyeline copies of the OS 1:2500 maps, both supplied by Hertfordshire County Archaeology Office. Slight scale differences were noted between all the copies (this usually happens as a result of the copying process). The translucent map overlay is constructed upon a 'perfect grid'. Tiny discrepancies of scale may occur, and the resulting overlay represents a 'best fit' illustration of the archaeological sites within the study area. **NB: The map should be overlain to match the drawn field boundaries, and local measurements taken from these boundaries.**

Appropriate drawing conventions differentiate site type on these plans and are noted in the key attached to the drawing.

2.0: ARCHAEOLOGICAL ASSESSMENT

The study area contains evidence of Roman, Medieval and undated archaeological features alongside natural and modern features, which have all been mapped.

The following features have been identified from the available photographic coverage:

SITE No. 1
NGR TQ17409535
PHOTO SOURCE Hertfordshire County archaeological Office vertical photograph, TQ 1695/1795 910, June 1973.

Description

Two parallel, rather sinuous, ditches or cut features were seen very faintly as positive marks in either crop or grass. The photo quality does not allow differentiation of the landuse type in this case. Further linear features may be present, and have been recorded as possible ditches. These features do not fit in with the modern landscape alignments, but are so very tenuous that they cannot confidently be interpreted as 'prehistoric archaeological'. This area is now completely under tennis courts, built and extended in the 1980's and 1990's.

SITE No. 2
NGR TQ17519544 - TQ17239592
SMR 4697
PHOTO SOURCE Hertfordshire County Archaeological Office verticals, 1973, 1980, 1990.

Description

A branch of the Roman road, Watling Street, was seen as a raised linear feature (the agger) and a possible ditched feature on all the aerial photographic sources examined. There are also some traces of possibly associated perpendicular banked linear features. The road is described in the *Viatores Roman Roads in the South East Midlands*, pages 201 - 210. It is part of a 19 mile stretch of road branching from Watling Street and running from Elstree to Eaton Bray, and served the transportation need of the local ceramics industry. The road can clearly be seen leading to Home Farm, where a rather rough piece of ground may indicate the site of Roman kiln waste dumps, as described further in the *Viatores*, page 204.

SITE No. 3
NGR TQ17109580
PHOTO SOURCE Hertfordshire County Archaeological Office verticals, 1980 & 1990.

Description

Some possible archaeological features were seen very faintly on the Hertfordshire County Council verticals, but will be better mapped from specialist coverage held in the NLAP. Their extent is noted on the interpretative drawing. The features are not distinct, but, on the NLAP print TQ1796/1, appear to consist of parallel linear marks, pits and a 'possible enclosure'. There are 'various traces of ridge and furrow visible on the aerial photograph'. The

photograph has not yet arrived in the APS office (it has been ordered as a laser print from NLAP), and may not do so within the timescale of this assessment. The area lies within the search corridor, but will not be directly affected by the proposed development. From the description of the site, it is likely to be of either Roman or medieval origin. This site should be fully investigated and mapped.

SITE No. 4
NGR TQ 17349585
PHOTO SOURCE Hertfordshire County Archaeological Office verticals, 1980.

Description

An area of darker toned grass, possibly indicative of deeper soil, quarrying, or an agricultural process, was noted at this location on one photo only.

SITE No. 5, 5a
NGRs TQ17209591; TQ17229590; TQ17869568; TQ17849563;
TQ17799553; TQ17799552; TQ17809551

PHOTO SOURCE Hertfordshire County Archaeological Office verticals, 1990.

Description

A series of small, irregularly shaped mounds was interpreted from photographs taken in May 1990, which were well lit. These features may be the site of removed trees, or animal activity, but cannot be discounted as the sites of possible kiln waste dumps, dating from the Roman or Medieval periods.

SITE No. 6, 6a
NGRs TQ17759570, TQ17809549
PHOTO SOURCE Hertfordshire County Archaeological Office verticals, 1990.

Description

Further, larger, areas of generally rough ground were identified centring TQ17759570, and TQ17809549. The latter may be associated with former excavations at a kiln site (listed as SMRs 785 - 787), agricultural process, or tree removal.

SITE No. 7
NGR TQ17839548
PHOTO SOURCE Hertfordshire County Archaeological Office verticals, 1980.

Description

A small, light toned, feature may be indicative of either excavation, kiln waste or an agricultural process.

SITE No. 8a - 8d
NGRs TQ17609576; TQ17549575; TQ17709554; TQ17529561
PHOTO SOURCE Hertfordshire County Archaeological Office verticals, 1990.

Description

Distinct linear features can be seen on photographs taken in May 1990, as darker lines in parched grass. Their origin is entirely uncertain, but *may* be archaeological.

SITE No. 9, 9a
NGRs TQ17509574; TQ17809562; TQ17809547
PHOTO SOURCE Hertfordshire County Archaeological Office verticals, 1973, 1980, 1990.

Description

Linear features, shown in red on the accompanying map, may be the remains of former paths or boundaries.

SITE No. 10a - 10c
NGR Centring TQ17409570
PHOTO SOURCE Hertfordshire County Archaeological Office verticals, 1990.

Description

Modern drains show clearly as darker tones in the parched grass in May 1990, following a characteristic 'herringbone' pattern. These features are shown in blue on the accompanying map.

SITE No. 11
NGR Centring TQ17509570
PHOTO SOURCE Hertfordshire County Archaeological Office verticals, 1990.

Description

In May 1990, many rather amorphous features showed as dark toned areas in the grassland at this location. These features have the characteristic uneven edges of fungus rings (otherwise known as fairy rings), caused by the effect of mushroom or fungal growth on grass growth. There is a *very* faint chance that, as they were seen on verticals only, and not to their best advantage, these features *may possibly* be of archaeological origin, but are probably botanical..

SITE No. 12
NGRs TQ17609543 - TQ17529554
PHOTO SOURCE Hertfordshire County Archaeological Office verticals, 1973, 1980, 1990.

Description

A hollow curvilinear feature, possibly a path or former hollow way, was seen on all photos at this location. It is not well defined, but may continue its alignment to the north and east. Its visible extent is recorded on the accompanying map.

SITE No. 13
NGR TQ17709530
SMR 0786

Description

A very 'mounded' uneven area was the site of Roman clay extraction pits, excavated in 1948. The unevenness of the ground has been noted, and the major extant mounds recorded, but it is difficult to differentiate any distinct features, or to evaluate the effects of erosion and the 1948 excavations upon these features.

SITE No. 14
NGR TQ17309497
PHOTO SOURCE Hertfordshire County Archaeological Office verticals, 1990.

Description

A very well defined, unevenly textured, mounded feature was seen at this location on the photos taken in May 1990. This feature was not seen on photos taken prior to 1990, although uneven ground was noted here. The mound is likely to be recent and is probably the result of local digging, or the temporary dumping of agricultural material, fertiliser or animal feed.

SITE NO. 15
NGR TQ17809570
PHOTO SOURCE Hertfordshire County Archaeological Office verticals, 1973, 1980, 1990.

Description

Traces of possible ridge and furrow were seen on the photographs. These features may be part of a more extensive Medieval landscape, but are very degraded.

3.0: AERIAL PHOTOGRAPHIC SOURCES

Photographs Consulted

3.1: Source: Hertfordshire County Archaeology Office

Verticals, 1:2500 scale enlargements from overlapping contact prints

TQ 1695/1795 921, 910 June 1973

TQ 1694/1794 921, 910 May 1980

TQ 1694/1794 921, 910 May 1990

All were viewed stereoscopically as contact prints and also singly as enlargements.

All features mapped for this stage of the aerial photographic assessment were interpreted from these prints. The best quality prints were those taken in May 1990.

3.2: Source: Hertfordshire County Record Office

Verticals

CPE UK 77, 3105 - 3108, 4106 - 4108 RAF, 10th October 1946.

RO number 91. 1: 10560 scale, RAF, August 1948.

The above photos were not very informative and, apart from showing more trees in the parkland, did not add to the archaeological knowledge gained from the later, better quality, photographs.

3.3: Source: NLAP

A full coversearch has been applied for. As an interim measure, Air Photo Services has carried out a rapid overview of the available photographic coverage by searching the public-access oblique aerial photographs. The search yielded the following results:

There are no obliques listed in the NLAP covering the 1km square TQ 1794 and TQ 1795. Obliques covering areas to the west and east do not provide any coverage of the assessment area. However, obliques covering the area to the immediate north should be examined. Laser copies of this coverage have been requested, but have not yet arrived. A rather poor photograph, TQ 1796/1, shows definite archaeological features within the area centring TQ171958. *It is essential that the NLAP collection is fully searched and interpreted, either during this stage two, or at stage three of the archaeological assessment process.*

4.0: RECOMMENDATIONS FOR FUTURE AERIAL PHOTOGRAPHIC WORK

4.1: Immediate

Within this stage two assessment, site number 3 has been mapped and a report sent as a supplement to this present report.

4.2: Future (timescale to be defined)

Photographic interpretation

It will be necessary to fully inspect all the vertical photographs held at NLAP, but not budgeted for during this immediate stage 2 assessment. This was not done due to unavailability of the photos from the library during the stage 2 assessment timescale.

Aerial Photography

The understanding of all the upstanding sites in the study area may be furthered by a carefully targeted oblique aerial photographic sortie when the light is suitable for archaeological earthwork survey. This would be followed by interpretation and mapping of the resulting photographs as a supplement to the assessment. A suitable time would be a clear and sunny summer evening.

Air Photo Services will be pleased to compile a full specification and detailed quotation for the above work on request from either the County Archaeological Office or from BUFAU. Both further photographic interpretation and aerial photography are routine archaeological techniques which, in our opinion, would enhance the understanding of the area and aid the assessment and evaluation process.

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ELSTREE WESTERN BYPASS
HERTFORDSHIRE

Stage 2 Assessment, Archaeology:
AERIAL PHOTOGRAPHIC ASSESSMENT

SUPPLEMENTARY REPORT
SITE CENTRING TQ 169959

Chris COX MA MIFA

May 1995

AIR PHOTO SERVICES
7 EDWARD STREET
CAMBRIDGE CB1 2LS
0223 316393

ELSTREE WESTERN BYPASS HERTFORDSHIRE

SUPPLEMENTARY REPORT: SITE CENTRING TQ 169959

This short report is supplementary to section 2 of the main aerial photographic interpretation report for the Elstree Western Bypass (Cox 1995). It describes a site centring TQ169959, lying between Home Farm and the Aldenham Reservoir within the archaeological assessment area.

Interpretation of this site was delayed whilst waiting for a copy of a specific photograph, TQ1796/1, from the National Library of aerial photographs at the NMRC in Swindon.

The photograph TQ1796/1 is a near vertical monochrome print, and was supplied as a laser printed copy. The photograph is not very sharp, and the lighting is not particularly favourable for archaeological interpretation of the very slight earthworks which appear in the field.

The following sites were identified:

SITE NO. **16**
NGR **TQ17159577**
Description

The assessment area contains several linear ditches which show in pasture as upstanding features. Features centring TQ17159577 are rather amorphous, and may not be archaeological.

SITE NO. **17**
NGR **TQ16949585 to TQ16859603**
Description

Parallel linears running from TQ16949585 to TQ16859603 are more definite, and may be of Medieval or Post Medieval origin, and be functionally linked to a further SW - NE aligned linear ditch to their immediate south.

SITE NO. **18**
NGR **TQ17069585**
Description

Traces of narrow rig, probably the result of Post Medieval steam ploughing, can be seen across the area, and intermittently in the parkland to the east of Home Farm.

Better photographs would be needed to interpret the area to the east of Home Farm with any confidence.

SITE NO. 19A - C

Description

The assessment area contains linear features which may be former boundaries or paths, at TQ16689594 - TQ16849603; TQ16749587 - TQ16999598; and TQ17069577 - TQ17139583.

SITE NO. 20

NGR TQ16989592 and . TQ17009610

Description

Area of very uneven ground centre TQ16989592 and TQ17009610 These features may be degraded earthworks, but it is impossible to interpret them from this photograph alone.

SITE No. 21

NGR TQ16809595

Description

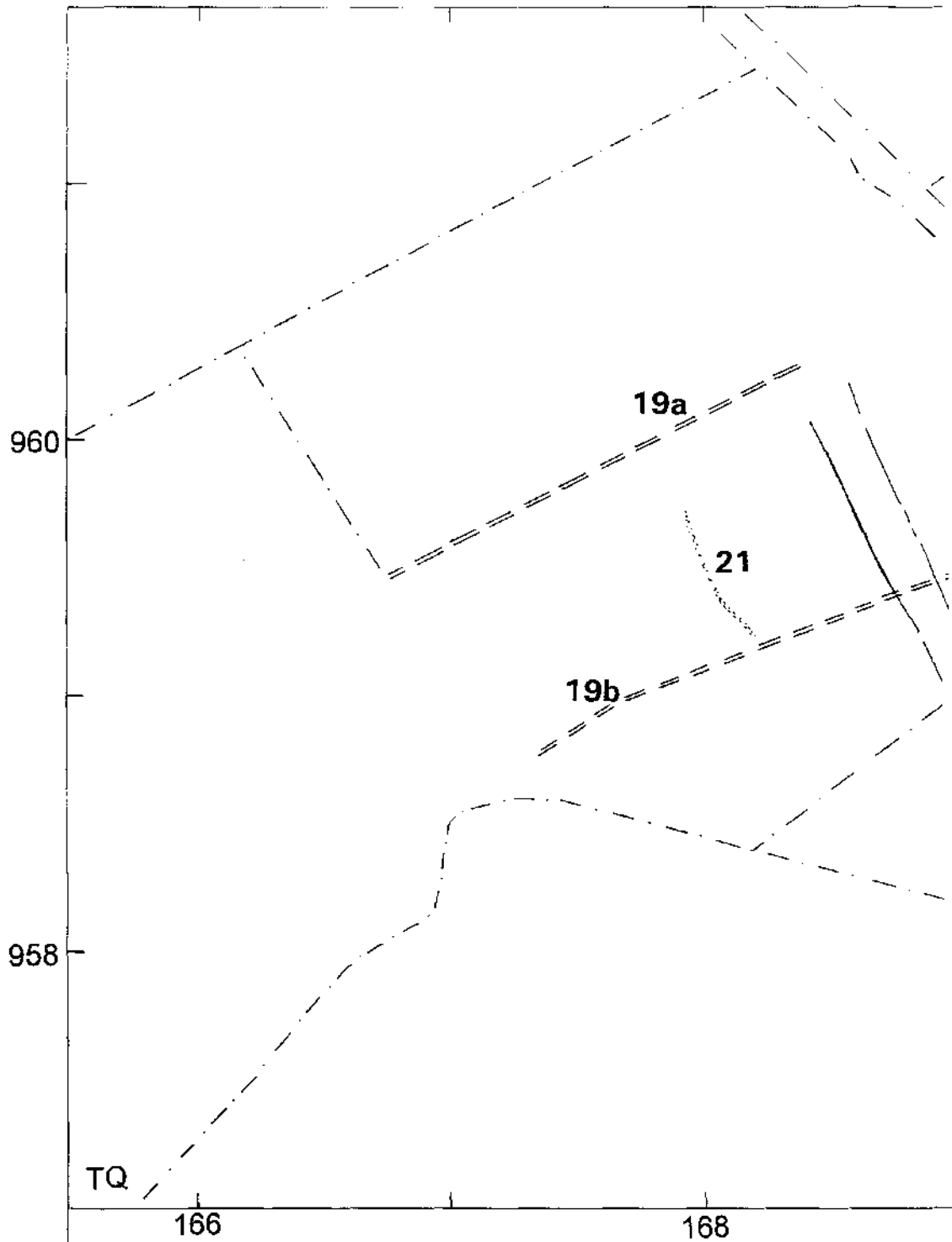
An area of light toned soil which is probably a non archaeological feature.

None of the above features show with any greater clarity on vertical photographs examined at Hertfordshire County Offices (listed in the main report). Further photography over this site may produce data which can be interpreted with more confidence.

REFERENCE

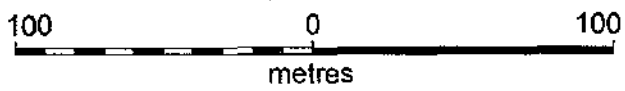
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Report commissioned by Birmingham University Field Archaeology Unit, April 1995.



AIR PHOTO SERVICES
7 Edward Street Cambridge CB1 2LS 01223 316393

ELSTREE WESTERN BYPASS
Aerial Photographic Interpretation
Supplementary Map



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