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Land South of Potton Road, St Neots, Cambridgeshire

TL 1902 5837

Archaeological Assessment of Aerial Imagery

August 2016

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SUMMARY

S1 This assessment of aerial imagery was commissioned by Archaeological Solutions Ltd on behalf of Strutt and Parker to support a planning application for residential development at Land off Potton Road, St Neots (Plan 1). This was done in order to inform the assessment of the potential for heritage assets to be present on the site, as required by Paragraph 128 of the National Planning Policy Framework (NPPF) and in response to a Cambridgeshire Historic Environment Team (CHET) brief for Archaeological Evaluation (Thomas 2016).

S2 The object of the assessment was to provide information on the location and nature of any archaeological features which are visible on aerial imagery within and immediately adjacent to the site.

S3 The site and its immediate environs have been recorded from the air under agricultural crops on a number of occasions since the 1940s. The surrounding areas to the north, south and east of the site have also been under responsive crops for the majority of the years in which they have been recorded from the air. Land to the west of the railway has been photographed from the air in the 1950s under crop but has since been developed and built over. Airborne Laser Scan (ALS, or LiDAR) data has also been processed and interpreted in conjunction with aerial photographs.

S4 A variety of crop marked sites, indicative of past settlement and farming enclosures, ritual and funerary landscapes, are noted within a 1km radius of the site within the CHER, alongside extensive evidence for medieval farming. These sites are noted in a Desk Based Assessment which was undertaken by Archaeological Solutions at the site (Peachey 2011).

S5 This assessment of aerial imagery has indicated that the site contains buried remains of pre-modern heritage assets.

S6 These are likely to be buried ditched settlement enclosures associated with a more extensive complex of enclosures which were mapped previously by Rog Palmer (2008) at Air Photo Services to the immediate north of the site within land at Wintringham Park. The features extend beyond the site boundary to the immediate south.

S7 Further buried curvilinear and rectilinear enclosures have been built over to the immediate west of the railway line outside of the site. A further complex of agglomerated curvilinear ditched enclosures was recorded by this assessment from aerial photographs, c.500m to the south east of the site boundary.

S8 Features on the site and in the immediate vicinity highly likely to be the buried remains of settlement and farming complexes which may date to the Iron Age or Roman period. These are typical of the past landscape of the clay land areas of Cambridgeshire.

S9 Remains of eroded medieval ridge and furrow are visible around the site and some ridge and furrow was upstanding to the north of and outside the site in the 1940s.

S10 Original photo interpretation and mapping was undertaken at 1:2500 scale over the site and its immediate environs and is presented against a 1:10000 scale base map to indicate the extent of features adjacent to and outside of the site.

1 INTRODUCTION

1.1 This assessment of aerial imagery was commissioned by Archaeological Solutions Ltd on behalf of Strutt and Parker to support a planning application for residential development at Land off Potton Road, St Neots (Plan 1). This was done in order to inform the assessment of the potential for heritage assets to be present on the site, as required by Paragraph 128 of the National Planning Policy Framework (NPPF) and in response to a Cambridgeshire Historic Environment Team (CHET) brief for Archaeological Evaluation (Thomas 2016).

1.2 The object of this assessment was to provide information on the location and nature of any archaeological sites and areas which are visible on aerial imagery within and adjacent to the site.

1.3 Aerial photographs show marks in crops which indicate that the area around and on the site was used extensively in the past. Remains of likely prehistoric and Roman settlements, track ways, boundaries, fields and burial sites have been previously identified within a 1km radius of the site and immediately adjacent to the site. The site also lay within an area of medieval fields which are now eroded. This present assessment shows that buried features are present on the site.

1.4 Airborne Laser Scan (ALS/LiDAR) data digitally indicates differences in height of the ground surface by creation of a Digital Surface Model (DSM) via light pulses from a geo-located and stable airborne survey platform, and is interpreted via a series of digital visualisations to accurately depict these height differences (Bennett et al 2012, Doneus 2013, Hesse 2010, Štular et al 2012).

1.5 It is important to note that aerial photographs usually only show part of the horizontal and vertical extent of buried and upstanding features. Their capacity to reveal features as crop marks, vegetation marks, soil marks or as the shadows cast by banks, ditches and walls, depends upon a number of environmental and agricultural factors prevalent at the time of the airborne survey.

1.6 It may thus be expected that further features could be present and not visible on aerial imagery within the site boundary.

2 THE SITE

Location

2.1 The site is a triangular piece of land located to the south west of Eynesbury, St Neots, in Cambridgeshire. It is bounded by the railway and modern housing to its west, and by the A428 and B1046 roads to the south and north east. The land to the northeast, southwest and south is in arable cultivation.

2.2 The site is presently under agricultural use and centres at National Grid Reference (NGR) TL 1902 5837 (co-ordinates 51902,25837). **Plan 1** shows the extent of the site and the archaeological features recorded from aerial imagery which lie within and immediately adjacent to it.

Topography, geology and soils

2.3 The site slopes lightly from northeast to southwest between 30 and 25m above Ordnance Datum (AOD).

2.4 The underlying substrate is Oxford clay and chalky till, which in this location gives rise to soils of the Hanslope soil association (SSEW 1983 classification 411d). On most occasions these slowly permeable clayey soils are slow to develop marks in crops over buried features but in dry seasons provide responsive conditions for the recording of crop marks from the air.

Previously recorded heritage assets

2.5 Parts of the environs of the site have been surveyed from the air by Historic England (formerly English Heritage), Rog Palmer at Air Photo Services and The University of Cambridge (CUCAP). These surveys have been examined and mapped previously, by Rog Palmer at Cambridgeshire Council in 1983, when hand sketched mapping was undertaken in the vicinity of the site, and again by Palmer in 2008 who mapped crop marked sites to the immediate north of the site at Wintringham Park.

2.6 An Aerial Photographic Assessment (CHER ECB 3308) was undertaken in West Cambridgeshire in 2008 – 2009 by Rog Palmer at Air Photo Services Cambridge. Results of this assessment are noted on the CHER, and were derived from vertical aerial photographs which were taken at a time of responsive crop conditions in 1996 by Aerofilms. The original photographs are held at Bedfordshire Council. Ortho rectified photos from this collection were made available for the present assessment from our archives by Rog Palmer.

2.7 These previous surveys show that the site lies within a wider archaeological landscape which contains dense areas of early occupation in the subsoils. Buried enclosures, ditches, funerary, possible ritual and other eroded heritage assets show clearly as marks in crops adjacent to and in the environs of the site (CHER 9972, 5690 & 5689).

2.8 A Desk Based Archaeological Assessment (Peachey 2011) identified potential for remains relating to Iron Age and Roman sites, and evidence for medieval farming and prehistoric, Roman and later features in the site, its immediate vicinity and wider landscape.

3 ARCHAEOLOGICAL AND NATURAL FEATURES FROM AERIAL IMAGERY

3.1 In suitably cultivated soils, sub-surface features – including archaeological ditches, banks, pits, walls or foundations – may be recorded from the air via conventional aerial photographs or multi spectral imagery in different ways in different seasons. In spring and summer these buried sites may show through their effect on crops growing above them.

3.2 Such indications tend to be at their most visible in ripening cereal crops, in June or July in this part of Britain, although their appearance cannot accurately be predicted and their absence cannot be taken to imply evidence of the absence of archaeological features.

3.3 In this area of clay soils, there are occasions when soil moisture deficit is sufficient to allow the formation of crop marks, and recent intense reconnaissance from the air has revealed many typical curvilinear enclosures and tracks indicative of Iron Age or Roman rural settlement and farming activities.

3.4 In winter months, when the soil is bare or crop cover is thin (when viewed from above), features may show by virtue of their different soils.

3.5 Upstanding remains, which may survive in un-ploughed grassland, are also best recorded in winter months when vegetation is sparse and the low angle of the sun helps pick out slight differences of height and slope.

3.6 Airborne Laser Scan (ALS) data, otherwise known as Light Detection and Ranging (LiDAR), have also been collected from airborne survey platforms in more recent years at varying resolutions, and are available for download, processing and interpretation via the UK Environment Agency website. These data allow the visualisation and accurate recording of differences in the ground level when viewed as a Digital Surface Model (DSM) or Digital Terrain Model (DTM) to include tree cover and buildings, and are of assistance in recording micro and macro topographic features which may indicate relict or extant archaeological and historic landscapes and features.

3.7 These data are best interpreted and used in conjunction with modern and historic aerial photographs and maps to provide ground truth information for features and sites recorded via ALS.

Limitations of the data

3.8 Aerial photographic evidence is limited by seasonal, agricultural, meteorological and environmental factors which affect the extent to which either buried or upstanding archaeological features can be detected from the air. The visibility of archaeological features may differ from year to year, dependent on the type of crop or land use, prevailing weather and levels of moisture in the soil over the crop growing season.

3.9 Individual photographs often thus record only a small percentage of the actual extent of buried or upstanding features, and a wide range of photos taken over a long timescale may be needed to reveal the extent of buried features from the air. This has been particularly apparent when examining aerial photographs for this assessment, as features within the site

only show on a limited number of more recent aerial photographs, despite persistent arable land use during previous surveys.

3.10 The accuracy of the surface model derived from processing ALS (LiDAR) data is limited by the resolution of the original survey – the number and proximity of recording points in the 'point cloud' generated over the site or survey area.

3.11 Small topographic details may be derived and accurately profiled and measured from accurately and appropriately visualised ALS data very successfully, but their interpretation as heritage assets is best undertaken in conjunction with the ground truth data presented by aerial photographs, site visits or modern and historic map data.

4 AIR PHOTO INTERPRETATION AND MAPPING

Photographs which were examined

4.1 The most immediately informative aerial photographs of archaeological subjects tend to be those resulting from observer-directed flights.

4.2 This activity is usually undertaken by an experienced archaeological observer who will fly at seasons and times of day when optimum results are expected.

4.3 Oblique aerial photographs taken using a hand-held camera, are the usual products of such investigation. Although oblique photographs are able to provide a very detailed view, they are biased in providing a record that is mainly of features noticed by the observer, understood, and thought to be of archaeological relevance. To be able to map accurately from these photographs it is necessary that they have been taken from a sufficient height to include surrounding control point information to match fixed points on both the photograph and the ground.

4.4 Vertical aerial photographs have been taken over the whole of Britain and provide information on a series of dates, mainly between 1946–7 and the present. Many of these vertical surveys were not flown at times of year that are best to record the archaeological features sought for this assessment and may have been taken at inappropriate times of year to record crop and soil responses that may be seen above sub-surface features.

4.5 Vertical photographs are taken by a camera fixed inside an aircraft and with its exposures timed to take a series of overlapping views that can be examined stereoscopically. They are often of relatively small scale and their interpretation requires higher perceptive powers and a more cautious approach than that necessary for examination of obliques.

4.6 Use of these small-scale images can also lead to errors of location and size when they are rectified or re-scaled to match a larger map scale.

4.7 Photographs used for the assessment included those derived from routine vertical surveys, satellite imagery and oblique aerial photos.

4.8 Aerial photographic cover searches were obtained from the Cambridge University Collection of Aerial Photographs (CUCAP) – in this instance previously gathered material was used as the archive has recently closed for consultation, but is still available for web based searches of its databases only. The Historic England (formerly English Heritage) Archive and Rog Palmer's collection of digital aerial photographs was also searched, and vertical aerial photographs taken by Aerofilms and held by Bedfordshire Council were also used as described above.

4.9 The ortho-rectified mosaics of vertical aerial photographs at Google Earth (www.earth.google.com) were consulted online for this assessment in August 2016. This site displayed photographs which the website states were taken (or accessioned to the site) between 1945 and 2008/9. The images at the 2006 timeline were most useful as they

recorded a crop marked buried landscape which was also shown by the vertical aerial photographs at Bedfordshire Council.

4.10 ALS data which were derived from surveys undertaken in 2009 were downloaded in August 2016 from http://environment.data.gov.uk/ds/catalogue/index.jsp#/catalogue and processed into accurately located visualisations.

4.11 Aerial photographs and ALS data which were consulted are listed in the Appendix to this report.

Methodology

4.12 All photographs were interpreted and mapped at a level compatible with a 1:2500 scale base map.

4.13 The photographs were closely examined by eye and under 1.5x and 3x magnification and interpreted with the aid of a mirror stereoscope where appropriate, or in detail on screen when consulted as digital files.

4.14 Aerial photographs were digitally rectified to an OS map base using AirPhoto 3.58 and Quantum GIS software in order to remove perspective distortion and ensure correct rectification of aerial photographs to the OS map (Scollar 2002 & 2014). Images from Google Earth were also interpreted and rectified to OS map bases (Scollar and Palmer 2008).

4.15 AirPhoto calculates mismatch values of control points taken from the photos and the map base. In all transformations prepared for this assessment the mean mismatches were less than ± 1.5m.

4.16 The rectified files and the ALS visualisations were set as background layers in Quantum GIS 2.12, where features were interpreted and overdrawn.

4.17 Layers from this final drawing have been used to prepare the illustration for this report and are provided digitally for import to a Geographic Information System in ESRI SHP file format.

5 RESULTS

5.1 **Plan 1** shows the range of features which have been recorded from the air within the site and its immediate environs.

5.2 These are likely to be buried ditched settlement enclosures and other ditches associated with a more extensive complex of enclosures which were mapped previously by Rog Palmer (2008) to the immediate north of the site (at CHER 9972) within land at Wintringham Park. The features extend beyond the site boundary to the immediate south and further features have been recorded as crop marks to the west of the railways prior to development of this area.

5.3 These features are visible on the 1996 vertical aerial photographs, particularly AF96-19 frame 1683, and to a lesser extent at the 2006 timeline image displayed at Google Earth in August 2016. Oblique aerial photographs taken by Historic England also record part of the features which lie to the immediate north of the site, and frame TL 1958/32 provided some details which were augmented by later photographs.

5.4 A further complex of agglomerated curvilinear ditched enclosures was recorded as cropmarks by this assessment from the 1996 aerial photographs, c.500m to the south east of the site boundary.

5.5 The ALS/LiDAR visualisations showed the topographic remains of the residual medieval agriculture clearly in the wider environs of the site, where ridge and furrow and headlands were visible as residual earthworks. A series of three sub circular upstanding features were also visible on the ALS/LiDAR visualisations to the immediate north of the site. These features, when compared to aerial imagery at Google Earth, are the bases on modern pylons which support an overhead electricity supply line. No upstanding features were visible on the site or over areas where crop marks had been recorded previously and for this assessment. This indicates that the features are eroded by ploughing and likely to be residual in the top and sub soils only, with no surface remains and plough-truncation of the underlying deposits.

5.6 Features on the site and in the immediate vicinity are highly likely to be the buried remains of settlement and farming complexes which may date to the Iron Age or Roman period. These are typical of the past landscape of the clay land areas of Cambridgeshire.

5.7 Remains of eroded medieval ridge and furrow, headlands and geological features are visible around the site as noted above and some ridge and furrow was upstanding to the north of and outside the site in the 1940s.

6 CONCLUSION

6.1 This assessment of aerial imagery has indicated that the site contains buried remains of pre-modern heritage assets.

6.2 These remains of former settlement enclosures extend to the north of the site, where they were previously recorded by Palmer in 2008. They form part of a wider multi period archaeological landscape of enclosures, tracks funerary monuments and ritual sites which are visible as crop marks in the valley of the River Ouse.

6.3 Remains of residual medieval ridge and furrow are visible around the site and it is likely that the site was ploughed in the medieval period.

7 ACKNOWLEDGEMENTS

7.1 Many thanks to the archives at Historic England (HE), CUCAP, Bedfordshire Council and Rog Palmer for provision of data for this assessment.

7.2 ALS/LiDAR visualisations were downloaded and processed by Adam Jarvis of Foundations Heritage who works with Air Photo Services to provide the data for our assessments.

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Internet based resources accessed August 2016:

http://mapapps.bgs.ac.uk/geologyofbritain/home.html

www.earth.google.com

http://environment.data.gov.uk/ds/catalogue/index.jsp#/catalogue

APPENDIX

Aerial photographs consulted for this assessment

Historic England Archive, enquiry reference 101799 Vertical aerial photographs

Sortie number	Library number	Camera position	Frame number	Held	Centre point	Run	Date	Sortie quality	Scale 1:	Focal length (in inches)	Film details (in inches)	Film held by
RAF/106G/UK/635	37	RP	3417	P	TL 195 592	7	10 AUG 1945	A	10600	20	Black and White 8.25 x 7.5	NMR
RAF/106G/UK/635	37	RP	3418	P	TL 194 587	7	10 AUG 1945	A	10600	20	Black and White 8.25 x 7.5	NMR
RAF/106G/UK/635	37	RP	3419	P	TL 194 582	7	10 AUG 1945	A	10600	20	Black and White 8.25 x 7.5	NMR
RAF/106G/UK/635	37	RP	3447	P	TL 193 581	8	10 AUG 1945	A	10600	20	Black and White 8.25 x 7.5	NMR
RAF/106G/UK/635	37	RP	3448	P	TL 192 585	8	10 AUG 1945	A	10600	20	Black and White 8.25 x 7.5	NMR
RAF/106G/UK/635	37	RP	3449	P	TL 192 589	8	10 AUG 1945	A	10600	20	Black and White 8.25 x 7.5	NMR
RAF/106G/UK/969	123	RP	3077	P	TL 194 587	3	01 NOV 1945	AC	10200	20	Black and White 8.25 x 7.5	NMR
RAF/106G/UK/969	123	RP	3078	P	TL 186 586	3	01 NOV 1945	AC	10200	20	Black and White 8.25 x 7.5	NMR
RAF/106G/UK/1490	326	RS	4202	P	TL 198 580	8	09 MAY 1946	AB	10000	20	Black and White 8.25 x 7.5	NMR
RAF/106G/UK/1490	326	RS	4203	P	TL 191 580	8	09 MAY 1946	AB	10000	20	Black and White 8.25 x 7.5	NMR
RAF/106G/UK/1490	326	RS	4204	P	TL 184 580	8	09 MAY 1946	AB	10000	20	Black and White 8.25 x 7.5	NMR
RAF/106G/UK/1490	326	RS	4208	P	TL 185 583	9	09 MAY 1946	AB	10000	20	Black and White 8.25 x 7.5	NMR
RAF/106G/UK/1490	326	RS	4209	P	TL 193 583	9	09 MAY 1946	AB	10000	20	Black and White 8.25 x 7.5	NMR
RAF/CPE/UK/1952	554	FS	2299	P	TL 196 588	23	25 MAR 1947	A	10000	20	Black and White 8.25 x 7.5	NMR
RAF/CPE/UK/1952	554	FS	2300	P	TL 192 583	23	25 MAR 1947	A	10000	20	Black and White 8.25 x 7.5	NMR
RAF/CPE/UK/1952	554	FS	2301	P	TL 189 578	23	25 MAR 1947	A	10000	20	Black and White 8.25 x 7.5	NMR
RAF/541/483	1062	RP	3128	P	TL 192 588	6	07 APR 1950	A	10100	20	Black and White 8.25 x 7.5	NMR
RAF/541/483	1062	RP	3129	P	TL 186 588	6	07 APR 1950	A	10100	20	Black and White 8.25 x 7.5	NMR
RAF/541/483	1062	RS	4091	P	TL 198 577	19	07 APR 1950	A	10100	20	Black and White 8.25 x 7.5	NMR
RAF/541/483	1062	RS	4092	P	TL 192 576	19	07 APR 1950	A	10100	20	Black and White 8.25 x 7.5	NMR
RAF/541/483	1062	RS	4093	P	TL 185 576	19	07 APR 1950	A	10100	20	Black and White 8.25 x 7.5	NMR
RAF/82/1006	1520	F63	215	P	TL 172 574	42	31 AUG 1954	AB	15000	36	Black and White 8.25 x 7.5	NMR
RAF/82/1006	1520	F63	216	P	TL 171 585	42	31 AUG 1954	AB	15000	36	Black and White 8.25 x 7.5	NMR
RAF/82/1006	1520	F64	215	P	TL 206 578	50	31 AUG 1954	AB	15000	36	Black and White 8.25 x 7.5	NMR

RAF/82/1006	1520	F64	216	P	TL 205 589	50	31 AUG 1954	AB	15000	36	Black and White 8.25 x 7.5	NMR
RAF/58/5754	2153	F22	207	P	TL 194 585	30	04 JUN 1963	A	10000	20	Black and White 8.25 x 7.5	NMR
RAF/58/5754	2153	F22	208	P	TL 194 577	30	04 JUN 1963	A	10000	20	Black and White 8.25 x 7.5	NMR
RAF/58/2384	2649	V	1	P	TL 187 583	1	14 MAR 1958	B	5000	6	Black and White 9 x 9	NMR
RAF/58/2384	2649	V	2	P	TL 185 578	1	14 MAR 1958	B	5000	6	Black and White 9 x 9	NMR
RAF/CPE/UK/2272	2793	V	5026	P	TL 195 589	8	29 AUG 1947	A	8800	14	Black and White 8.25 x 7.5	MOD
RAF/CPE/UK/2272	2793	V	5027	P	TL 189 588	8	29 AUG 1947	A	8800	14	Black and White 8.25 x 7.5	MOD
RAF/CPE/UK/2272	2793	V	5028	P	TL 184 588	8	29 AUG 1947	A	8800	14	Black and White 8.25 x 7.5	MOD
RAF/CPE/UK/2272	2793	V	5044	P	TL 183 580	9	29 AUG 1947	A	8800	14	Black and White 8.25 x 7.5	MOD
RAF/CPE/UK/2272	2793	V	5045	P	TL 188 580	9	29 AUG 1947	A	8800	14	Black and White 8.25 x 7.5	MOD
RAF/CPE/UK/2272	2793	V	5046	P	TL 192 580	9	29 AUG 1947	A	8800	14	Black and White 8.25 x 7.5	MOD
RAF/CPE/UK/2272	2793	V	5047	P	TL 197 580	9	29 AUG 1947	A	8800	14	Black and White 8.25 x 7.5	MOD
MAL/65088	4201	V	26	N	TL 185 579	1	04 OCT 1965	A	2400	6	Black and White 9 x 9	NMR
MAL/65088	4201	V	27	P	TL 185 577	1	04 OCT 1965	A	2400	6	Black and White 9 x 9	NMR
MAL/65088	4201	V	28	P	TL 184 575	1	04 OCT 1965	A	2400	6	Black and White 9 x 9	NMR
MAL/73045	7105	V	139	P	TL 187 576	3	22 AUG 1973	A	6000	6	Black and White 9 x 9	NMR
MAL/73045	7105	V	140	P	TL 188 581	3	22 AUG 1973	A	6000	6	Black and White 9 x 9	NMR
MAL/73045	7105	V	141	P	TL 190 587	3	22 AUG 1973	A	6000	6	Black and White 9 x 9	NMR
MAL/73045	7105	V	171	P	TL 183 577	6	22 AUG 1973	A	3000	6	Black and White 9 x 9	NMR
MAL/73045	7105	V	172	P	TL 186 579	6	22 AUG 1973	A	3000	6	Black and White 9 x 9	NMR
MAL/73045	7105	V	173	P	TL 188 580	6	22 AUG 1973	A	3000	6	Black and White 9 x 9	NMR
MAL/73045	7105	V	174	P	TL 190 581	6	22 AUG 1973	A	3000	6	Black and White 9 x 9	NMR
MAL/73045	7105	V	182	P	TL 180 581	7	22 AUG 1973	A	3000	6	Black and White 9 x 9	NMR
MAL/73045	7105	V	183	P	TL 182 583	7	22 AUG 1973	A	3000	6	Black and White 9 x 9	NMR
MAL/73045	7105	V	184	P	TL 185 584	7	22 AUG 1973	A	3000	6	Black and White 9 x 9	NMR
MAL/73045	7105	V	185	P	TL 187 585	7	22 AUG 1973	A	3000	6	Black and White 9 x 9	NMR
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OS/68031	9313	V	36	P	TL 188 584	2	09 APR 1968	A	7500	12	Black and White 9 x 9	NMR
OS/68031	9313	V	37	P	TL 188 576	2	09 APR 1968	A	7500	12	Black and White 9 x 9	NMR
OS/71275	10175	V	39	P	TL 198 588	2	02 JUN 1971	A	7500	12	Black and White 9 x 9	NMR
OS/71275	10175	V	40	P	TL 192 588	2	02 JUN 1971	A	7500	12	Black and White 9 x 9	NMR
OS/71275	10175	V	41	P	TL 186 588	2	02 JUN 1971	A	7500	12	Black and White 9 x 9	NMR
OS/71275	10175	V	60	P	TL 194 577	3	02 JUN 1971	A	7500	12	Black and White 9 x 9	NMR
OS/71275	10175	V	61	P	TL 187 577	3	02 JUN 1971	A	7500	12	Black and White 9 x 9	NMR

OS/85223	12769	V	7934	P	TL 187 575	4	01 OCT 1985	A	5200	6	Black and White 9 x 9	NMR
OS/85223	12769	V	7935	P	TL 187 579	4	01 OCT 1985	A	5200	6	Black and White 9 x 9	NMR
OS/85223	12769	V	7936	P	TL 187 584	4	01 OCT 1985	A	5200	6	Black and White 9 x 9	NMR
OS/85223	12769	V	7937	P	TL 187 588	4	01 OCT 1985	A	5200	6	Black and White 9 x 9	NMR
OS/85223	12769	V	7938	P	TL 187 592	4	01 OCT 1985	A	5200	6	Black and White 9 x 9	NMR
OS/85223	12769	V	7959	P	TL 193 574	5	01 OCT 1985	A	5200	6	Black and White 9 x 9	NMR
OS/85223	12769	V	7960	P	TL 193 579	5	01 OCT 1985	A	5200	6	Black and White 9 x 9	NMR
OS/85223	12769	V	7961	P	TL 193 583	5	01 OCT 1985	A	5200	6	Black and White 9 x 9	NMR
OS/85223	12769	V	7962	P	TL 194 587	5	01 OCT 1985	A	5200	6	Black and White 9 x 9	NMR
OS/85223	12769	V	7963	P	TL 194 592	5	01 OCT 1985	A	5200	6	Black and White 9 x 9	NMR
OS/86011	12789	V	6	P	TL 183 583	1	07 MAR 1986	A	10200	6	Black and White 9 x 9	NMR
OS/86011	12789	V	7	P	TL 191 587	1	07 MAR 1986	A	10200	6	Black and White 9 x 9	NMR
OS/91029	13803	V	64	P	TL 189 592	1	12 APR 1991	A	7700	12	Black and White 9 x 9	NMR
OS/91029	13803	V	65	P	TL 187 586	1	12 APR 1991	A	7700	12	Black and White 9 x 9	NMR
OS/91029	13803	V	66	P	TL 184 580	1	12 APR 1991	A	7700	12	Black and White 9 x 9	NMR
OS/96303	20778	V	269	N	TL 199 585	2	15 SEP 1996	A	7700	12	Black and White 9 x 9	NMR
OS/96303	20778	V	270	N	TL 194 585	2	15 SEP 1996	A	7700	12	Black and White 9 x 9	NMR
OS/96303	20778	V	271	N	TL 189 585	2	15 SEP 1996	A	7700	12	Black and White 9 x 9	NMR
OS/96303	20778	V	272	N	TL 184 585	2	15 SEP 1996	A	7700	12	Black and White 9 x 9	NMR
OS/96304	20780	V	26	N	TL 194 595	1	15 SEP 1996	A	7700	12	Black and White 9 x 9	NMR
OS/96304	20780	V	27	N	TL 189 595	1	15 SEP 1996	A	7700	12	Black and White 9 x 9	NMR
OS/96304	20780	V	28	N	TL 184 595	1	15 SEP 1996	A	7700	12	Black and White 9 x 9	NMR
OS/96304	20780	V	63	N	TL 185 575	2	15 SEP 1996	A	7700	12	Black and White 9 x 9	NMR
OS/96304	20780	V	64	N	TL 190 575	2	15 SEP 1996	A	7700	12	Black and White 9 x 9	NMR
OS/96304	20780	V	65	N	TL 194 575	2	15 SEP 1996	A	7700	12	Black and White 9 x 9	NMR
OS/93040	20948	V	62	N	TL 180 589	3	18 MAR 1993	A	7700	12	Black and White 9 x 9	NMR
OS/93040	20948	V	63	N	TL 180 585	3	18 MAR 1993	A	7700	12	Black and White 9 x 9	NMR
OS/93040	20948	V	64	N	TL 180 579	3	18 MAR 1993	A	7700	12	Black and White 9 x 9	NMR
OS/93040	20948	V	82	N	TL 193 578	4	18 MAR 1993	A	7700	12	Black and White 9 x 9	NMR
OS/93040	20948	V	83	N	TL 193 584	4	18 MAR 1993	A	7700	12	Black and White 9 x 9	NMR
OS/93040	20948	V	84	N	TL 193 590	4	18 MAR 1993	A	7700	12	Black and White 9 x 9	NMR
OS/94281	22118	V	317	N	TL 183 586	1	15 AUG 1994	A	8200	12	Black and White 9 x 9	NMR
OS/94281	22118	V	318	N	TL 183 584	1	15 AUG 1994	A	8200	12	Black and White 9 x 9	NMR
OS/94281	22118	V	319	N	TL 183 581	1	15 AUG 1994	A	8200	12	Black and White 9 x 9	NMR

OS/94281	22118	V	320	N	TL 183 578	1	15 AUG 1994	A	8200	12	Black and White 9 x 9	NMR
OS/01954	23710	V	420	N	TL 196 574	11	22 MAY 2001	A	8000	6	Black and White 9 x 9	NMR
OS/01954	23710	V	421	N	TL 189 574	11	22 MAY 2001	A	8000	6	Black and White 9 x 9	NMR
OS/01954	23710	V	422	N	TL 183 574	11	22 MAY 2001	A	8000	6	Black and White 9 x 9	NMR
OS/01954	23710	V	479	N	TL 182 587	12	22 MAY 2001	A	8000	6	Black and White 9 x 9	NMR
OS/01954	23710	V	480	N	TL 189 587	12	22 MAY 2001	A	8000	6	Black and White 9 x 9	NMR
OS/01954	23710	V	481	N	TL 196 587	12	22 MAY 2001	A	8000	6	Black and White 9 x 9	NMR
OS/03951	24273	V	1488	N	TL 193 580	1	12 JUL 2003	A	6000	12	Colour 9 x 9	NMR
OS/03951	24273	V	1489	N	TL 188 580	1	12 JUL 2003	A	6000	12	Colour 9 x 9	NMR
OS/03969	24281	V	136	N	TL 199 589	2	21 JUN 2003	A	6000	12	Colour 9 x 9	NMR
OS/03969	24281	V	137	N	TL 193 589	2	21 JUN 2003	A	6000	12	Colour 9 x 9	NMR
OS/03969	24281	V	138	N	TL 188 589	2	21 JUN 2003	A	6000	12	Colour 9 x 9	NMR
OS/03969	24281	V	139	N	TL 183 590	2	21 JUN 2003	A	6000	12	Colour 9 x 9	NMR
OS/03969	24281	V	213	N	TL 188 579	3	21 JUN 2003	A	6000	12	Colour 9 x 9	NMR
OS/03969	24281	V	214	N	TL 193 579	3	21 JUN 2003	A	6000	12	Colour 9 x 9	NMR
OS/03973(Z)	24355	V	1396	N	TL 193 590	2	10 JUL 2003	A	6000	12	Colour 9 x 9	NMR
OS/03973(Z)	24355	V	1397	N	TL 188 590	2	10 JUL 2003	A	6000	12	Colour 9 x 9	NMR
OS/04067	24413	V	7	N	TL 186 593	1	15 JUN 2004	A	10000	12	Colour 9 x 9	NMR
OS/04067	24413	V	8	N	TL 195 593	1	15 JUN 2004	A	10000	12	Colour 9 x 9	NMR
OS/04067	24413	V	79	N	TL 195 575	2	15 JUN 2004	A	10000	12	Colour 9 x 9	NMR
OS/04067	24413	V	80	N	TL 186 576	2	15 JUN 2004	A	10000	12	Colour 9 x 9	NMR
RAF/58/3061	50010	V	65	N	TL 185 582	11	06 AUG 1959	A	4000	6	Black and White 9 x 9	NMR
RAF/58/3061	50010	V	66	N	TL 183 577	11	06 AUG 1959	A	4000	6	Black and White 9 x 9	NMR
									Total Sorties		26	
									Total Frames		115	

Oblique aerial photographs

Photo reference (NGR and Index number)	Film and frame number		Original number	Date	Film type		Map Reference (6 figure grid ref)
TL 1758 / 9	CCX 16362	/ 14	94.110	05 JUL 1994	Black & white	70mm,120,220	TL 179588
TL 1758 / 10	CCX 16362	/ 15	94.110	05 JUL 1994	Black & white	70mm,120,220	TL 179588
TL 1758 / 11	CCX 16363	/ 01	94.111	05 JUL 1994	Black & white	70mm,120,220	TL 179588
TL 1758 / 12	CCX 16363	/ 05	94.111	05 JUL 1994	Black & white	70mm,120,220	TL 179588
TL 1857 / 7	AFL 61336	/ EAW000864		15 MAY 1946	BW Cut Roll Film	5½ "	TL 184576
TL 1857 / 8	AFL 61337	/ EAW000871		31 MAY 1946	BW Cut Roll Film	5½ "	TL 186578
TL 1857 / 9	AFL 61337	/ EAW000872		31 MAY 1946	BW Cut Roll Film	5½ "	TL 184576
TL 1857 / 10	AFL 61337	/ EAW000873		31 MAY 1946	BW Cut Roll Film	5½ "	TL 182578
TL 1857 / 11	AFL 61337	/ EAW000874		31 MAY 1946	BW Cut Roll Film	5½ "	TL 182576
TL 1857 / 12	AFL 61337	/ EAW000875		31 MAY 1946	BW Cut Roll Film	5½ "	TL 181576
TL 1857 / 13	AFL 61337	/ EAW000876		31 MAY 1946	BW Cut Roll Film	5½ "	TL 182577
TL 1857 / 14	AFL 61337	/ EAW000877		31 MAY 1946	BW Cut Roll Film	5½ "	TL 183575
TL 1857 / 15	AFL 61337	/ EAW000879		31 MAY 1946	BW Cut Roll Film	5½ "	TL 184578
TL 1857 / 16	AFL 61420	/ EAW003725		18 MAR 1947	BW Cut Roll Film	5½ "	TL 183577
TL 1857 / 17	AFL 61336	/ EAW000865		15 MAY 1946	BW Cut Roll Film	5½ "	TL 183578

TL 1857 / 18	AFL 61336	/ EAW000866		15 MAY 1946	BW Cut Roll Film	5½ "	TL 182578
TL 1858 / 2	NMR 149	/ 182		05 AUG 1969	Black & white	70mm,120,220	TL 187580
TL 1858 / 3	NMR 149	/ 186-188		05 AUG 1969	Black & white	70mm,120,220	TL 188584
TL 1858 / 4	NMR 149	/ 183-185		05 AUG 1969	Black & white	70mm,120,220	TL 188584
TL 1858 / 5	NMR 311	/ 36-37		22 JUL 1971	Black & white	70mm,120,220	TL 180585
TL 1858 / 6	NMR 311	/ 38		22 JUL 1971	Black & white	70mm,120,220	TL 180585
TL 1858 / 7	NMR 311	/ 39-42		22 JUL 1971	Black & white	70mm,120,220	TL 180585
TL 1858 / 8	NMR 311	/ 43-44		22 JUL 1971	Black & white	70mm,120,220	TL 180585
TL 1858 / 9	NMR 1811	/ 462-464		04 JUL 1980	Black & white	70mm,120,220	TL 186582
TL 1858 / 10	CCX 16347	/ 07	92.58	28 JUN 1992	Black & white	70mm,120,220	TL 183585
TL 1858 / 11	CCX 16360	/ 03	94.108	05 JUL 1994	Black & white	35 mm	TL 182583
TL 1858 / 12	CCX 16360	/ 05	94.108	05 JUL 1994	Black & white	35 mm	TL 182586
TL 1858 / 13	AFL 61337	/ EAW000878		31 MAY 1946	BW Cut Roll Film	5½ "	TL 181581
TL 1859 / 1	CCX 16360	/ 04	94.108	05 JUL 1994	Black & white	35 mm	TL 181590
TL 1859 / 2	CCX 16363	/ 02	94.111	05 JUL 1994	Black & white	70mm,120,220	TL 181591
TL 1859 / 3	CCX 16363	/ 03	94.111	05 JUL 1994	Black & white	70mm,120,220	TL 181591
TL 1957 / 1	NHC 2506	/ 28		20 JUL 1984	Black & white	70mm,120,220	TL 192574
TL 1957 / 2	NHC 2506	/ 27		20 JUL 1984	Black & white	70mm,120,220	TL 192574
TL 1957 / 3	NMR 26067	/ 31		21 JUL 2008	Digital colour	35 mm	TL 190573
TL 1957 / 4	NMR 26067	/ 32		21 JUL 2008	Digital colour	35 mm	TL 190572
TL 1957 / 5	NMR 26067	/ 33		21 JUL 2008	Digital colour	35 mm	TL 190572
TL 1957 / 6	NMR 26067	/ 34		21 JUL 2008	Digital colour	35 mm	TL 190571
TL 1957 / 7	NMR 26067	/ 35		21 JUL 2008	Digital colour	35 mm	TL 190573

TL 1957 / 8	NMR 26067	/ 36		21 JUL 2008	Digital colour	35 mm	TL 190572
TL 1957 / 9	NMR 26067	/ 37		21 JUL 2008	Digital colour	35 mm	TL 190573
TL 1957 / 10	NMR 26067	/ 38		21 JUL 2008	Digital colour	35 mm	TL 190573
TL 1957 / 11	NMR 26067	/ 39		21 JUL 2008	Digital colour	35 mm	TL 190573
TL 1957 / 12	NMR 26067	/ 40		21 JUL 2008	Digital colour	35 mm	TL 190573
TL 1958 / 1	NMR 311	/ 32-35		22 JUL 1971	Black & white	70mm,120,220	TL 192585
TL 1958 / 2	NMR 1811	/ 465-467		04 JUL 1980	Black & white	70mm,120,220	TL 191583

Cambridge University Collection of Aerial Photographs: Photographs examined for previous assessments as this archive is now closed for consultation

id	type	photoDate	subject	eastings	northings
ACA88	Oblique	1960-07-14	Cropmarks, 0.75 mile S of Eynesbury	518200	258200
ACA89	Oblique	1960-07-14	Cropmarks, 0.75 mile S of Eynesbury	518200	258200
ACA90	Oblique	1960-07-14	Cropmarks, 0.75 mile S of Eynesbury	518200	258200
ACA91	Oblique	1960-07-14	Cropmarks, 0.5 mile S of Eynesbury	518100	258400
ACA92	Oblique	1960-07-14	Cropmarks, Eynesbury	518200	259100
ACA93	Oblique	1960-07-14	Cropmarks, Eynesbury	518200	259100
ADO51	Oblique	1961-07-06	Cropmarks, enclosures, W of Eynesbury Hardwicke	518700	258400
ADO52	Oblique	1961-07-06	Cropmarks, enclosures, W of Eynesbury Hardwicke	518700	258400
ADO53	Oblique	1961-07-06	Cropmarks, 0.25 mile S of Eynesbury	518300	258700
BGD31	Oblique	1971-07-12	Crop marks, 1 mile SW of Eynesbury	518100	258300
BGD32	Oblique	1971-07-12	Crop marks, 1 mile SW of Eynesbury	518100	258300
BGD33	Oblique	1971-07-12	Crop marks, 1 mile SW of Eynesbury	518100	258300
BIX55	Oblique	1972-06-22	Crop marks, 1.75 miles NW of Eynesbury Hardwick	518700	258300
BIX56	Oblique	1972-06-22	Crop marks, 1.75 miles NW of Eynesbury Hardwick	518700	258300
BXU86	Oblique	1976-06-22	Cropmarks, 2 miles WNW of Eynesbury Hardwicke	518200	258200
BXU87	Oblique	1976-06-22	Cropmarks, 2 miles WNW of Eynesbury Hardwicke	518200	258200
CQ81	Oblique	1949-06-24	Helmingham Hall	518700	257700
CQ82	Oblique	1949-06-24	Helmingham Hall	518700	257700
CQ83	Oblique	1949-06-24	Helmingham Hall	518700	257700
CQ84	Oblique	1949-06-24	Helmingham Hall	518700	257700
RC8A002	Vertical	1967-04-07	St. Neots, Huntingdonshire	518156	258425
RC8AR146	Vertical	1974-10-01	Ouse valley near St Neots	518287	257987
RC8AR147	Vertical	1974-10-01	Ouse valley near St Neots	518487	258398
RC8AR148	Vertical	1974-10-01	Ouse valley near St Neots	518686	258809

RC8AR149	Vertical 1974-10-01	Ouse valley near St Neots	518885	259220
RC8BJ019	Vertical 1976-05-21	Industrial estate, St Neots	518731	258899
RC8BJ027	Vertical 1976-05-21	Industrial estate, St Neots	518824	259132
RC8BJ028	Vertical 1976-05-21	Industrial estate, St Neots	518660	258757
RC8EH249	Vertical 1982-04-14	Ouse Valley, between Huntingdon and Little Burford	518708	259096
RC8EH250	Vertical 1982-04-14	Ouse Valley, between Huntingdon and Little Burford	518461	258378
RC8EI075	Vertical 1982-05-11	Ouse Valley, between Little Barford and Earith	518682	258418
RC8EI076	Vertical 1982-05-11	Ouse Valley, between Little Barford and Earith	518931	259154
RC8knBF200	Vertical 1988-06-12	Cambridgeshire	519569	258508
RC8knBF201	Vertical 1988-06-12	Cambridgeshire	518562	258469
YK5	Oblique 1959-06-18	Crop marks, 1.5 miles NW of Eynesbury hardwicke	518800	258000
YK6	Oblique 1959-06-18	Crop marks, 1.75 miles NW of Eynesbury and of Hardwicke	518700	258300
YK7	Oblique 1959-06-18	Crop marks, 1.75 miles NW of Eynesbury and of Hardwicke	518700	258300
YK8	Oblique 1959-06-18	Crop marks, 1.75 miles NW of Eynesbury and of Hardwicke	518700	258300
YK9	Oblique 1959-06-18	Crop marks, 1.75 miles NW of Eynesbury and of Hardwicke	518700	258300
YK10	Oblique 1959-06-18	Crop marks, linear ditches, Eynesbury Hardwicke	518300	258400
YK11	Oblique 1959-06-18	Crop marks, linear ditches, Eynesbury Hardwicke	518300	258400
YW62	Oblique 1959-06-23	Cropmarks, 1.75 miles SE of Eynesbury Hardwicke	518500	258300
YW63	Oblique 1959-06-23	Cropmarks, 1.75 miles SE of Eynesbury Hardwicke	518500	258300
ZknOZ229	Vertical 2003-08-03	Cambs	518761	257771
ZknOZ230	Vertical 2003-08-03	Cambs	519683	257777

www.google.earth.com (Google Earth Pro)

1945	RAF/GeoInformation Group
1999	Infoterra and Bluesky
2002	Infoterra and Bluesky/GeoInformation group
2003	Digital Globe Satellite
2003	The GeoInformation Group
2006	Getmapping PLC
2008/9	Infoterra and Bluesky

Bedfordshire Council: Vertical aerial photographs

5-1875 25th June 1976
AF96-19-1683 & 1684 18th July 1996
AF96-20-1738 & 1739 18th July 1996

Airborne Laser Scan (ALS/LiDAR) data

LIDAR_NAME	TILENAME	DATE_FLOWN	RESOLUTION
D0119204 DSM & DTM	TL1856	26 Feb-30 Mar 09	1m
D0119205 DSM & DTM	TL1858	26 Feb-30 Mar 09	1m

Open positive, open negative, skyview and multiple hillshade visualisations

TERMS AND CONDITIONS

Air Photo Services has produced this assessment for their client Archaeological Solutions Ltd subject to the following conditions:

- Air Photo Services will be answerable only for those transcriptions, plans, documentary records and written reports that it submits to the client, and not for the accuracy of any edited or re-drawn versions of that material which may be subsequently produced by the client or any other of their agents.

- The transcriptions, documentation and textual reports presented within this assessment report shall be explicitly identified as the work of Air Photo Services.

- Air Photo Services has consulted only the aerial photographs specified. It cannot guarantee that further aerial photographs of archaeological significance do not exist in collections which it is not aware of or has not examined.

- Due to the nature of aerial photographic evidence, Air Photo Services cannot guarantee that there may not be further archaeological features found during ground survey which are not visible on aerial photographs or that apparently 'blank' areas will not contain masked archaeological evidence.

- We suggest that if a period of 6 months or more elapses between compilation of this report and field evaluation new searches are made in the appropriate photo libraries. Examination of any newly acquired aerial imagery is advised.

- The original working documents, being interpretation notes, overlays, copies, photographs, control information and digital data files will remain the property of Air Photo Services and be securely retained by it for 3 years from the completion date of this assessment after which only the digital data files may be retained.

- It is requested that a copy of this report be lodged with the relevant Historic Environment Record (HER) within 6 months of completion of the archaeological evaluation if appropriate to the nature of the project.

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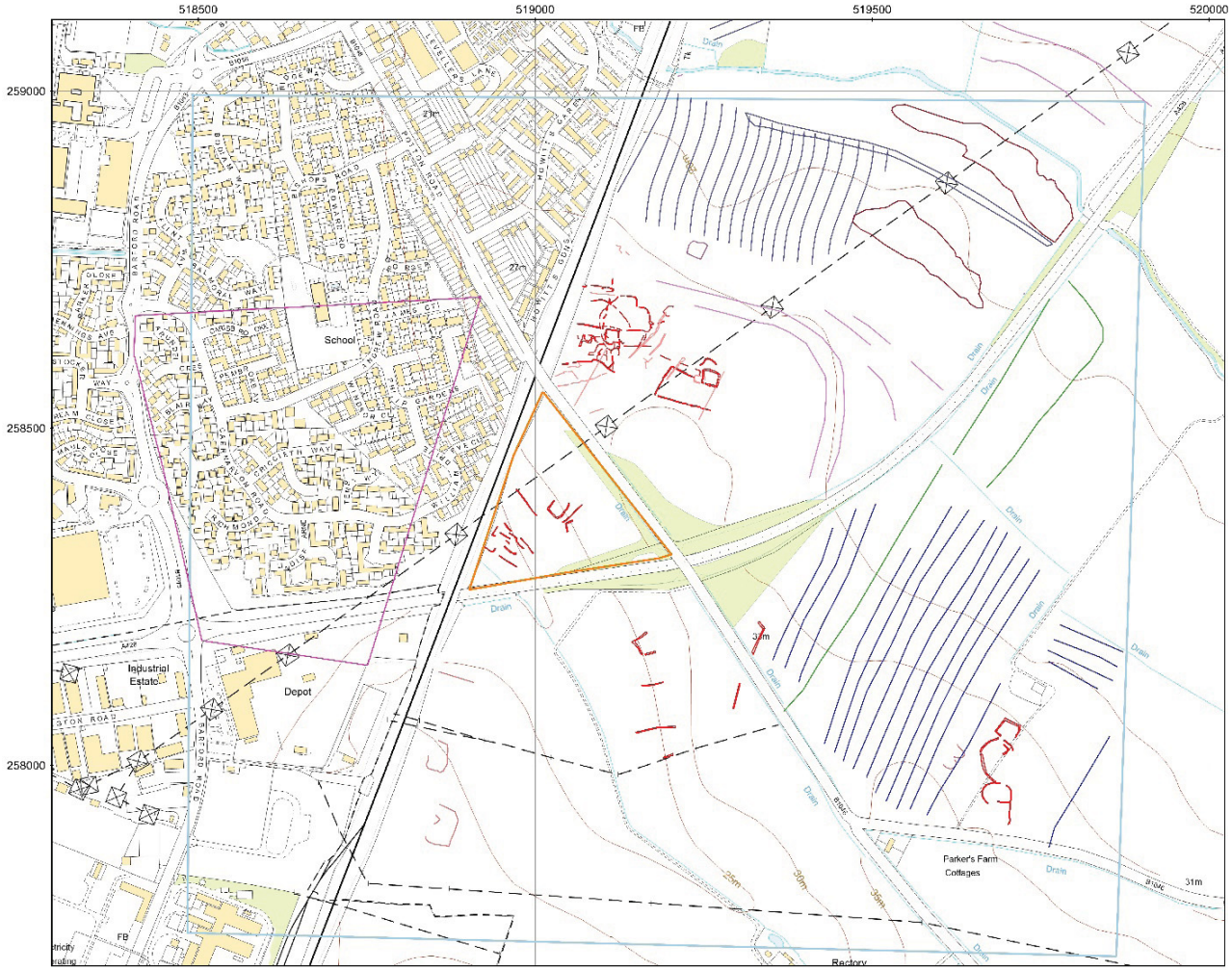
- We reserve the right to use or publish any material resulting from this assessment, but only with the permission of the client and with respect to the nature of the project.

Plan 1 Assessment of aerial imagery



PLAN 1
Assessment of aerial imagery
Potton Road, St Neots, Cambridgeshire

Project: APS 216 07 03
Date: August 2016
API: Chris Cox and Rog Palmer
Source: Historic England Archive, CUCAP, www.earth.google.com accessed 08 2016 and UK Environment Agency

- Wider AP survey area
- The site
- Ditches
- Possible ditches
- Former quarry
- Deeper soil
- Medieval agriculture
- Geological features
- Former boundaries

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216 07 03 Land South of Potton Road, St Neots

END OF REPORT