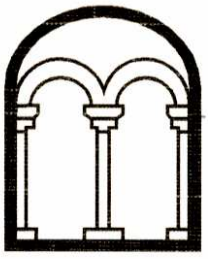
CAR PARK EXTENSION
NISSAN TECHNICAL CENTRE
CRANFIELD
BEDFORDSHIRE

ARCHAEOLOGICAL OBSERVATION, INVESTIGATION, RECORDING, ANALYSIS AND PUBLICATION

Albion archaeology



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Preface

Every effort has been made in the preparation of this document to provide as complete an assessment as possible, within the terms of the specification. All statements and opinions in this document are offered in good faith. Albion Archaeology cannot accept responsibility for errors of fact or opinion resulting from data supplied by a third party, or for any loss or other consequence arising from decisions or actions made upon the basis of facts or opinions expressed in this document.

The project was monitored on behalf of the Local Planning Authority by Martin Oake, Archaeological Officer of Central Bedfordshire Council.

The fieldwork was undertaken by Christiane Meckseper (Project Officer). This report has been prepared by Christiane Meckseper with figures by Joan Lightning (CAD Technician). All Albion projects are under the overall management of Drew Shotliff (Operations Manager).

The assistance and co-operation of David Edwards of Nissan Technical Centre Europe Ltd and Michael Kelly of Kelly Construction throughout the project are gratefully acknowledged.

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1.0	*08/11/2012*	*n/a*

Key Terms

Throughout this document the following terms or abbreviations are used:

CBCA	Central Bedfordshire Council Archaeologist
Client	Nissan Technical Centre Europe
DA	Development area
HER	Heritage Environment Record
I*f*A	Institute for Archaeologists
LPA	Local Planning Authority (Central Bedfordshire Council)
WSI	Written Scheme of Investigation
Procedures Manual	*Procedures Manual Volume 1 Fieldwork*, 2nd ed, 2001 Albion Archaeology

1. INTRODUCTION

1.1 Planning Background

Planning permission was granted for the extension of a car park and construction of new access road at the southern side of the Nissan Technical Centre in Cranfield (CB/11/04069/FULL). Due to the vicinity of the development to a known heritage asset in the form of cropmarks and ditches revealed during previous investigations at the same site (Albion 2011b) a condition (no. 5) for a further scheme of archaeological investigation was attached to the permission.

A brief for the necessary work was issued by the Central Bedfordshire Council Archaeologist (CBCA) (CBC 2012), detailing the requirements for a programme of archaeological observation, investigation and recording during the development works. In response to the brief, a Written Scheme of Investigation (WSI) was prepared (Albion 2012) and agreed with the CBCA.

Archaeological monitoring of the construction works took place between 9th and 22nd August 2012. A final service trench excavated along the new access road on 11th October was not monitored. The results are presented in this report.

1.2 Site Location and Description

The NTC Europe is part of the Cranfield Technology Park which lies to the south of Cranfield University and to the west of Cranfield Airfield and the village of Cranfield itself (Figure 1). The development area (DA) is *c*. 2.5ha in size and is centred on grid reference SP 933370 425508.

The DA lies to the south of the Technical Centre between an existing border area (incorporating a landscaped park, car parks and perimeter access road) and the Moulsoe-Cranfield main road.

The current development site represents the extension of a car park constructed the previous year in the southern and eastern part of the plot of land south of the Technical Centre. It also consists of the construction of an additional access road to the car park from an existing track along the northern boundary of the development area (Figure 2). Part of the DA is taken up by a sports pitch which consists of graded topsoil and short grass and was constructed a few years previously.

The DA is bordered by a small area of woodland in the west, the main road to the south, an access track towards the Technical Centre to the north-west and the Technical Centre itself to the north-east. Low earth banks form a bund towards the road.

Cranfield lies on a raised plateau above the valleys of the Marston Vale and River Ouzel in the west and east. The underlying geology is Oxford Clay Formation Mudstone with Till drift geology consisting of gravelly and loamy deposits.

The DA lies on level ground at an average height of 100–105m OD. To the south and west the land falls away gently into the river valleys.

1.3 Archaeological Background

A heritage assessment was prepared by Albion Archaeology to accompany the planning application for the first phase of car park extension (Albion 2011a). The following paragraphs summarise the findings of the assessment together with those of the archaeological observation and recording works during the car park construction.

One heritage asset was identified within a 500m-radius study area, centred on the DA. It comprised a complex of cropmarks (HER 16478), situated in the field immediately south of the DA and the Moulsoe to Cranfield Road (Figure 3). The cropmarks were plotted from the available aerial photographs in the HER; they consist of three possible sub-rectangular enclosures and a number of smaller sub-circular features which may also be archaeological in nature. The possibility that features associated with the cropmarks extended northwards into the DA was one of the research objectives of the investigation (Section 1.4 below).

The clay geology of the area makes archaeological sites difficult to identify and the cropmarks are not complex in nature. However, intrusive investigations of two similar cropmark complexes to the east of the site near Cranfield village have revealed substantial settlement evidence dating to the Iron Age and Roman period with further evidence for Saxo-Norman occupation and medieval agricultural activity. In addition the location of the DA on the edge of the Cranfield plateau overlooking the river valleys could make it a preferred settlement site.

Archaeological investigations during the first phase of car park construction (Albion 2011b) recorded two ditches at right angles to each other which line up well with one of the corners of the cropmark complex. Two smaller parallel ditches were also revealed which may be part of a separate enclosure (Figure 3). No dating material was retrieved from these features.

1.4 Project Objectives

The immediate objective of the archaeological fieldwork was to monitor and supervise all groundworks that had the potential to reveal archaeological remains and to investigate, characterise and record any archaeological deposits encountered within them.

The purpose of the archaeological investigation was to determine and understand the nature, function and character of any archaeological remains in their cultural and environmental setting. These characteristics are what form the "significance" of an archaeological heritage asset as defined by *PPS 5 Planning for the Historic Environment.*

Specifically the aims were to:

- establish whether any further evidence for settlement was present on the site, either related to the known cropmark complex or separate adjacent enclosures.

- establish the date, nature and extent of any activity or occupation within the development area;
- establish the relationship of any remains found to the surrounding contemporary landscapes;
- recover palaeo-environmental remains to determine local environmental conditions.

The broader objective of the project was to add to the knowledge and understanding of the origins and nature of settlement in Cranfield and to produce an archive report that fully described the archaeological investigations.

1.5 Methodology

The following groundworks were monitored:

- Excavation of 200mm of turf and topsoil over an area measuring *c.* 2300m²;
- Installation of 110mm-diameter drain pipe to the perimeter of the area, including 'tees' for future connection.

The turf and topsoil were removed by a JCB excavator fitted with a toothless ditching bucket. The excavation of the drainage trenches was undertaken by a JCB excavator with a narrow toothed bucket.

The stripping of turf and topsoil was inspected after the final strip while the excavation of the service trenches was monitored and the base and sides of the trenches inspected after their excavation. This strategy was agreed in advance with the CBCA.

Throughout the project the standards set out in the following documents were adhered to:

- IfA's *Code of Conduct (2010);*
- IfA's *Standards and Guidance for Archaeological Watching Briefs and Field Excavations (updated 2008);*
- Albion Archaeology's *Procedures Manual for Archaeological Fieldwork and the Analysis of Fieldwork Records* (2001);
- English Heritage's *Management of Archaeological Projects* (1991) and *Management of Research Projects in the Historic Environment (MoRPHE) Project Managers' Guide (2009)*.

2. RESULTS AND CONCLUSIONS

The first stage of the groundworks involved the removal of 200mm of overburden across the DA (Figures 5 and 6). This consisted of *c.*150mm of playing field turf or topsoil together with a further 50mm of the top of the underlying made-up ground. The exposed layer of made-up ground, left *in situ,* consisted of mid brown clay with moderate inclusions of pebbles, brick and concrete fragments. It masked any potential archaeological features that might have survived beneath it.

The thickness of the layer and its modern inclusions suggest that it was probably formed during the construction of Cranfield Airfield.

Excavation of the drainage trenches showed the made-up ground to be 0.30–0.50m thick. It increased in thickness from north to south.

Geological deposits were revealed within the base of the service trenches at a depth of 0.30–0.50m below ground level. They consisted of light to mid orange brown clay with frequent small and medium-sized chalk fragments and flecks. No archaeological features or artefacts were revealed in any of the trenches.

This soil profile is very similar to the layers revealed during the first phase of car park construction (Albion 2011b).

The absence of archaeological features within the service trenches suggests that occupation was restricted to the known cropmark complex. The cropmark complex plus the additional ditches, revealed in the previous investigations (Albion 2011b), are situated closer to the edge of the plateau that runs near the southern edge of the site, whilst the current area of investigation is situated further back on the clay plateau. It is likely that no settlement existed in this area.

The site records do not merit any further analysis or reporting. The project archive will be deposited with Bedford Museum (accession no. BEDFM: 2011.53). This report will be uploaded onto the Archaeology Data Service's OASIS website.

3. BIBLIOGRAPHY

Albion Archaeology, 2001. *Procedures Manual Volume 1 Fieldwork*, 2nd ed.

Albion Archaeology 2011a. *Nissan Technical Centre, Cranfield, Bedfordshire. Desk-based Heritage Assessment.* Report no. 2011/61.

Albion Archaeology 2011b. *Nissan Technical Centre, Cranfield, Bedfordshire: Archaeological Observation, Investigation, Recording, Analysis and Publication.* Report no: 2011/88, v. 1.1.

Albion Archaeology 2012. *Car Park Extension*. *Nissan Technical Centre, Cranfield, Bedfordshire. Written Scheme of Investigation for Archaeological Observation, Investigation, Recording, Analysis and Publication.* Report no. 2012/82.

CBC 2012. *Brief for a Programme of Archaeological Observation, Investigation, Recording, Analysis and Publication at Nissan Technical Centre Europe Ltd, Cranfield Technology Park, Moulsoe Road, Cranfield, Bedfordshire*. (V1 23rd May 2012 MKO).

IfA, 2010. Institute for Archaeologists' *Code of Conduct.*

IfA, 2008. Institute for Archaeologists' *Standard & Guidance* documents *(Desk-Based Assessments, Watching Briefs, Evaluations, Excavations, Investigation and Recording of Standing Buildings).*

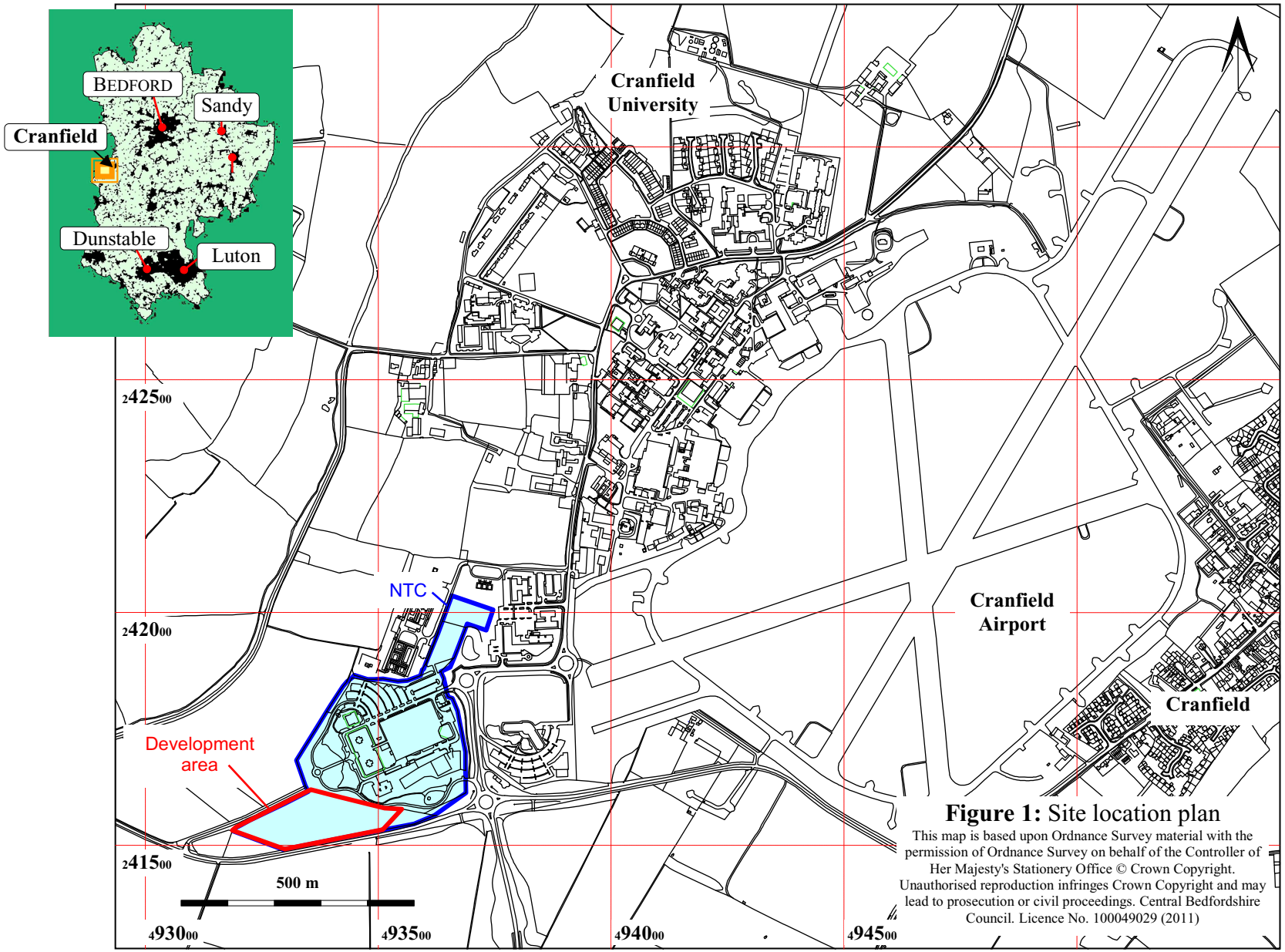

Figure 1: Site location plan

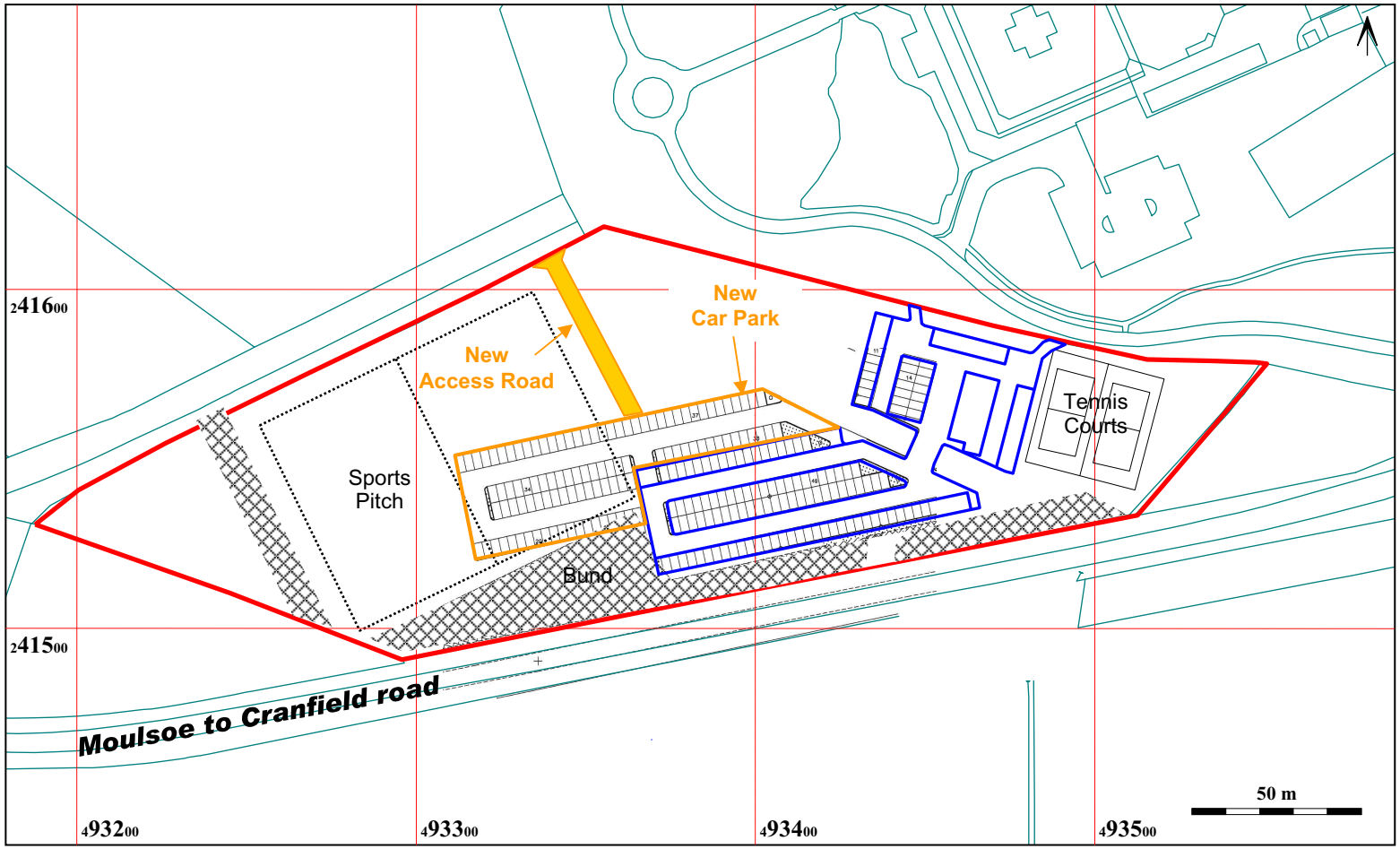

Figure 2: Layout of previously monitored car park (blue), car park extension and new access road (orange)

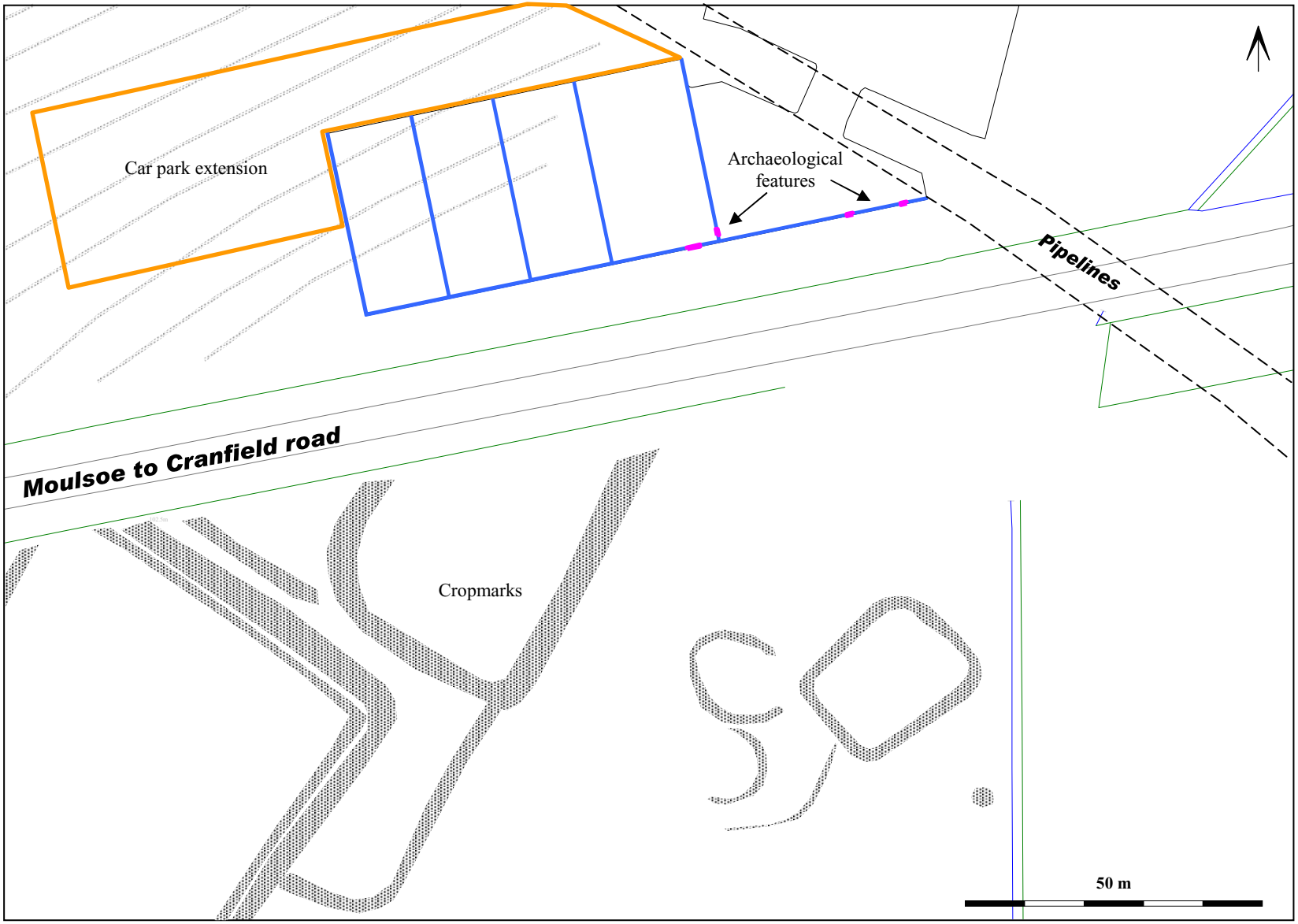

Figure 3: Cropmark complex and archaeological features revealed in previous investigations (blue)

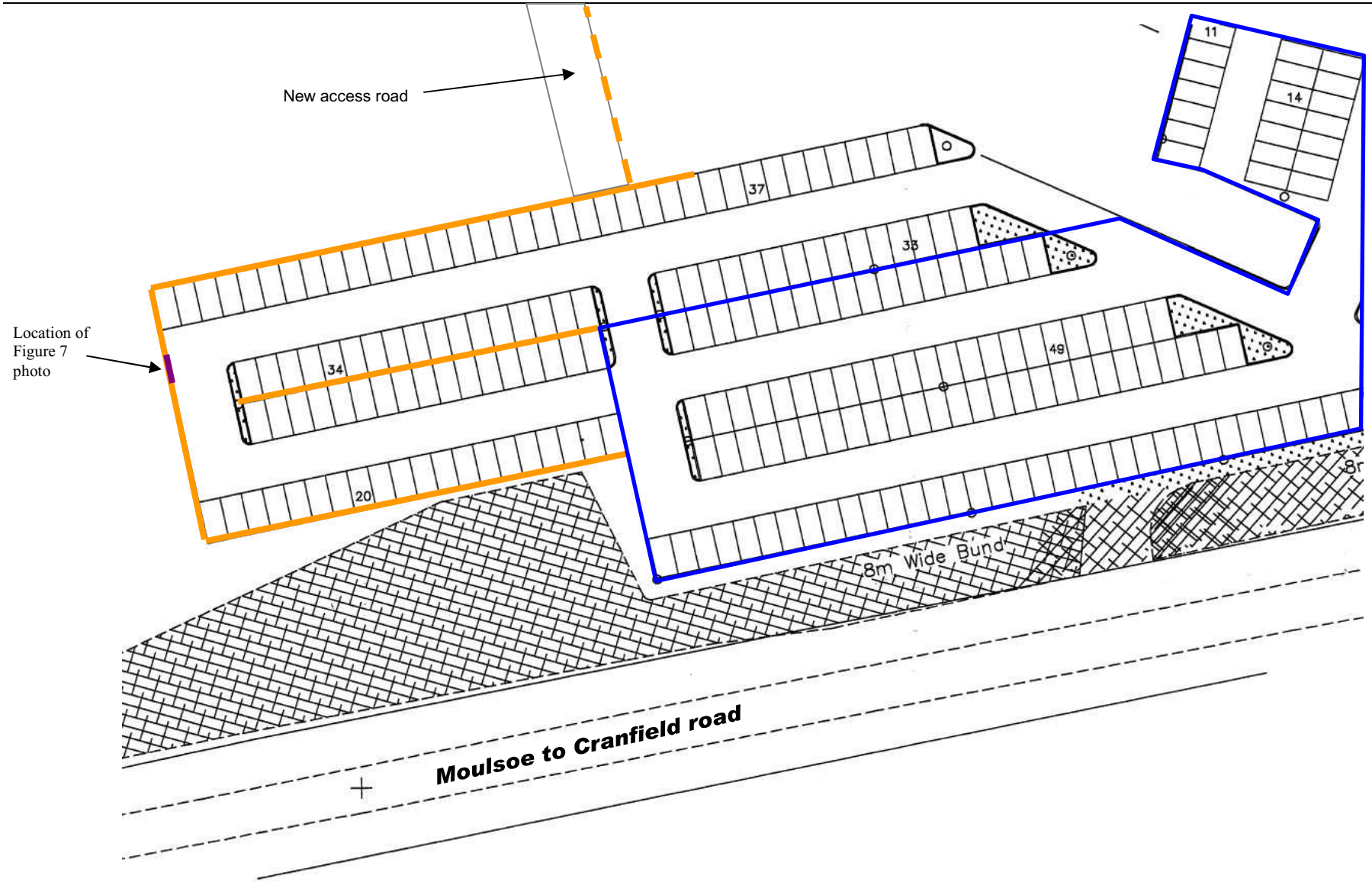

Figure 4: Location of monitored service trenches (orange)

Figure 5: Car park extension after stripping of topsoil (looking west)

Figure 6: New access road after stripping of topsoil (looking north)

Figure 7: Soil profile. Topsoil and Cranfield Airfield layer (0.50m thick) above glacial Till

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