

Chapter 1: Introduction

by Paul Booth and Dan Stansbie

This volume presents the results of archaeological excavations undertaken, mostly in 2006-7, in advance of engineering works to relieve congestion along the M1 between Junctions 6a and 10, within Hertfordshire and Bedfordshire. The work was undertaken by Oxford Archaeology (OA) and was commissioned by Atkins Heritage, acting on behalf of Balfour Beatty/Skanska Joint Venture who undertook the M1 widening scheme for the Highways Agency.

SITE LOCATION, GEOLOGY AND TOPOGRAPHY

The sites (Figs 1.1-2) lie on both sides of the M1 between Junction 6a and Junction 10, a length of about 15km, stretching roughly south to north from a point east of Hemel Hempstead to just south of Luton, on the Bedfordshire border (from c TL 115 038 to TL 087 184).

The underlying geology is Upper Chalk (Fig. 1.3), which for much of the length of the route is overlain by clay-with-flints and associated deposits of pebbly clay and sand, the latter seen, for example, in the vicinity of The Aubreys (Sherlock 1922; Sherlock and Pocock 1924). Soils are mainly clayey soils of the Carstens series, frequently flinty with a silty plateau drift and modern landscape use consists principally of arable agriculture. The topography of the route, which in broad terms lies on the dip slope of the Chilterns, is mostly undulating plateau. More specifically, the southern part of the route lies close to the watershed located between the valleys of the Gade to the west and the Ver to the east. Further north it then draws closer to the west side of the Ver, after which it crosses this valley in the vicinity of Junction 9, just north of Redbourn, before resuming the plateau location in its northernmost stretch.

Current water levels in this area may be lower than at any time since the end of the Ice Age. This is largely due to the large-scale extraction of water related to the growth of the modern towns of the region, which has resulted in significant reductions in the volume of water in the River Ver. Many of the small dry tributary valleys of the Ver, for example those at Friar's Wash, The Aubreys and St Michaels, St Albans, had at least seasonal streams in them in the past (R Niblett pers. comm.).

ARCHAEOLOGICAL AND HISTORICAL BACKGROUND

An archaeological statement was produced as part of the Environmental Impact Assessment (EIA) for the scheme in September 1994 by St Albans Museum in association with Hertfordshire County Transportation Design services for the Highways Agency (Highway Agency 1994). This work was confined to a 500m-wide corridor centred on the line of the motorway, within which approximately 16 sites were identified in the SMR (now HER) and the records of the St Albans Museum. In addition, a surface collection survey, undertaken as part of the EIA, identified a further 31 potential sites, indicated by the presence of archaeological finds (mostly medieval and later building materials, prehistoric flint and pottery). A programme of geophysical survey was also undertaken.

The following brief summary of the archaeological background to the project is based, in part, on this information and where appropriate, site reference numbers within this chapter (prefixed with an 'A') correspond to the scheme-specific numbering system set out in the Archaeological Design produced by Atkins Heritage (2005). However, to provide a wider background, particularly for successive periods of prehistory, it also draws on a variety of other sources, both site specific and more synthetic in character, which are vital for interpretation of the developments in the wider region from the late Iron Age onwards. The synthetic works consulted include, a review of the archaeology of the Chilterns (Holgate 1995a) and a more recent survey of the archaeology of St Albans (Niblett and Thompson 2005).

Lower Palaeolithic

Lower Palaeolithic settlement in the Chiltern region is indicated by the discovery of four intact flint-working areas in brick pits at Caddington, Gaddesden Row, Whipsnade and Round Green, Luton, by Smith in the early 20th century (Holgate 1995b, 6). Over 2000 flints were recovered from Caddington and reinvestigation of the site by Sampson in the 1970s recovered faunal remains and pollen dating to the Ipswichian interglacial (c 125,000 bp) (ibid., 6). Lower Palaeolithic worked flint has also been recovered from gravel deposits at Rickmansworth and Hitchin, in Hertfordshire and from Limbury in Bedfordshire, although this

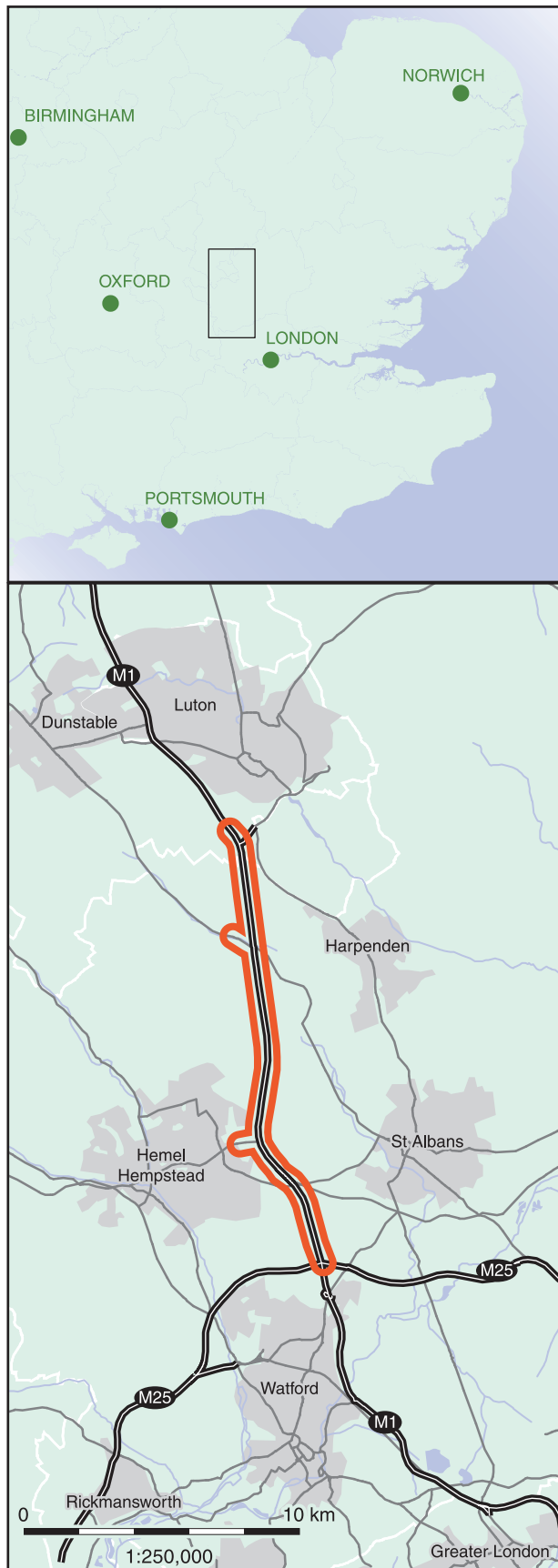


Fig. 1.1 Site location

material was not *in situ* (ibid.). In addition, Palaeolithic handaxes have been discovered at Slip End and in the vicinity of Redbourn, whilst field-walking in the environs of St Albans has produced flint assemblages including lower Palaeolithic material (ibid.).

Upper Palaeolithic and Mesolithic

In contrast to the earlier period, evidence for upper Palaeolithic activity in the Chiltern environs is limited. The only material of early upper Palaeolithic date comprises leaf points or leaf-shaped spearheads from Broxbourne, Hertfordshire (ibid., 6-7). Sites dating to after the Devensian maximum (in the 10th millennium BC) include Three Ways Wharf, Uxbridge and Broxbourne Site 106 (ibid., 7) and, further afield, Gatehampton Farm, Goring, Oxfordshire (Barton 1995). Early Mesolithic activity, however, is relatively widespread, with assemblages of worked flint, including broad blades, occurring in the lower stretches of the Colne and Lea, in similar locations to late upper Palaeolithic sites (ibid., 8). Late Mesolithic occupation was more widespread, being mainly situated along the river valleys of the Chiltern region (ibid.). Sites with later Mesolithic flint assemblages include: Stratford's Yard, Chesham; Redbourn; The Grove, Watford; Low Farm, Fulmer; Gerrard's Cross; and Tolpit's Lane Site B, Moor Park. The excavations at Stratford's Yard revealed a buried land surface with an *in situ* flint scatter (Stainton 1989, 50). Excavations at The Grove found evidence for repeated intermittent occupation on the edge of the Gade and similar evidence comes from Aldwickbury, Harpenden, on the margin of the Lea (AOC Archaeology Group 2002; R Niblett pers. comm.) Other late Mesolithic sites in the Ver valley include settlement at Redbourn and Friar's Wash (Holgate 1995b, 9).

Neolithic and early Bronze Age

Monuments belonging to the early Neolithic period are all located on the periphery of the Chiltern region, either on the scarp, or in the middle Thames and Stort valleys (Holgate 1995b, 10). Early Neolithic settlement sites are also scarce and apparently mostly situated on the upper slopes of the Chiltern scarp or dip slope (ibid., 10), with early Neolithic pottery and flint having been recovered from beneath Bronze Age barrows at Whiteleaf Hill, Buckinghamshire (Hey *et al.* 2007) and Five Knolls barrow, Bedfordshire. A Neolithic polished axe has been discovered near Redbourn. In addition, early Neolithic pits have been excavated near Maiden Bower, Old Parkbury, Hertfordshire and at Foxholes Farm, Hertfordshire (Holgate 1995b, 11). An early Neolithic building measuring 7m wide by at least 9m long, and radiocarbon dated (HAR-3484) to 3513-3389 cal BC, has been excavated at Gorhambury (Neal *et al.* 1990, 9). At Radlett airfield

a watching brief in 1992 by Verulamium Museum recorded a penannular ditch associated with early Neolithic pottery (R Niblett pers. comm.). The density of settlement in the region increased during the late Neolithic, with settlement spreading to the valley bottoms. Several sites, including Old Parkbury, Foxholes Farm, Codicote, Baldock and Blackhorse Road, Letchworth, all in Hertfordshire, comprised scatters of pits containing pottery, animal bone and worked flint (Holgate 1995b, 12). Late Neolithic to early Bronze Age occupation has been recorded at Feldon Lane (Hemel Hempstead) and on the Berkhamsted bypass at Rucklers Lane (R Niblett pers. comm.; McDonald 1996).

Evidence for early Bronze Age activity is dominated by round barrows and ring-ditches, which cluster along the Chiltern scarp (Holgate 1995b, 14). Flint scatters containing early Bronze Age material are closely associated with these monuments, suggesting that the scarp may also have been the main focus of settlement (*ibid.*, 15). About 14 ring ditches (generally described as Bronze Age in date) have been recorded on air photographs within 15km of the M1 corridor. In addition, fragments of early and middle Bronze Age pottery are recorded on later occupation sites in the area, such as Folly Lane, St Albans, Colney Street and The Grove, near Watford, and King Harry Lane, St Albans (R Niblett pers. comm.; Longworth 1989, 53-8). A number of the late Neolithic flint scatters also contain early Bronze Age material, so there may have been some settlement continuity on these sites (Holgate 1995b, 14). Furthermore, at Cheapside Farm, between St Albans and Harpenden, a large collection of late Neolithic and early Bronze Age flint suggested the presence of a truncated occupation site situated on the plateau (R Niblett pers. comm.). A Bronze Age metal hoard found near Westwick Farm is also recorded in the HER (A51) and in the wider region there is a large late Bronze Age hoard from Watford (Coombs 1979).

Later prehistoric: middle-late Bronze Age and Iron Age

The majority of evidence for later prehistoric settlement in the Chilterns comes from fieldwalking (Bryant 1995, 17), but settlement sites, including early and middle Iron Age hillforts and smaller farmsteads belonging to the late Bronze and Iron Ages, are also known from other evidence.

Late Bronze Age-early Iron Age settlement is known from Puddle Hill, Foxholes Farm, Cole Green, Pea Lane and Bottom House Lane, all on the Berkhamsted bypass (*ibid.*, 19) and also occurs at the hillfort at Ivinghoe Beacon (Cotton and Frere 1968). In addition, excavations at Rucklers Lane on the Berkhamstead Bypass have also produced evidence for late Bronze Age/early Iron Age occupation (R Niblett pers. comm.). Two late Bronze Age roundhouses and eight four-post structures were excavated at Oakwood, Berkhamsted (McDonald 1996, 23), and

a probable Bronze Age roundhouse was excavated in Westwood Quarry, about 500m west of The Grove site, near Watford; environmental evidence also suggests that during the Bronze Age woodland was cleared and arable farming was practised close to this site (R Niblett pers. comm.). Late Bronze Age occupation is also known from much nearer to the M1 project area at Buncefield Lane, Hemel Hempstead, where pits, postholes, a ditch and a buried soil horizon were discovered dating to the late Bronze Age/early Iron Age (McDonald 2003, 51). At Gorhambury linear ditches may be part of a late Bronze Age field system (Neal *et al.* 1990, 10), whilst evidence of bronze working has been found at Half Hide Lane, Turnford and Prior's Wood, Hertford (Bryant 1995, 19). Concentrations of Ewart Park metalwork hoards correspond to clusters of settlements, particularly around the Hitchin gap and in the Lea Valley, and a Bronze Age metal hoard has been found near Westwick Farm (*ibid.*). Few settlements can be definitively assigned to the early Iron Age, but the earliest defences of the hillforts at Ravensburgh Castle and Maiden Bower were constructed in this period, and there was early Iron Age occupation at Puddle Hill (*ibid.*, 21).

Middle Iron Age settlement is known from Puddle Hill, Foxholes Farm, Barley and Leavesden Airfield (Brossler *et al.* 2009); at Puddle Hill there were four successive rectilinear enclosures (Bryant 1995, 22). Middle Iron Age pottery has been recorded on later Iron Age sites at Mackerye End, Harpenden (R Niblett pers. comm.), and King Harry Lane, St Albans (Longworth 1989, 53). In addition, many enclosures attributed to the late Iron Age in the St Albans area have only been recorded on aerial photographs and may be of early or middle Iron Age date (R Niblett pers. comm.). At least four hillforts in the Chiltern Region, including Cholesbury, Ravensburgh Castle, Wilbury Hill and Maiden Bower, were either constructed in the middle Iron Age, or had their defences reconstructed at that time. Evidence for Iron Age activity in the vicinity of the scheme is mostly localised in two areas. The area between Blunts Lane and Bedmond Lane (Area T) was identified in the St Albans District Plan as being of high archaeological potential on the basis of scattered flint finds and suggested Iron Age enclosures visible on aerial photographs. It has also been suggested that the Devil's Dyke, Wheathampstead, may date to the late 2nd century BC (Thompson 1979, 178). A copper-alloy knife dating to the late 3rd or early 2nd century BC has also been discovered in the St Albans area, west of the town (Megaw *et al.* 1999).

A major earthwork, The Aubreys, a Scheduled Ancient Monument (SAM), lies adjacent to, and has been clipped by, the M1 on its eastern boundary. This earthwork is defined for most of its oval circuit by two substantial banks and ditches enclosing an area of c 8ha. Its dating is not completely certain, and while it is commonly referred to as an Iron Age hillfort, topographically the site is positioned on

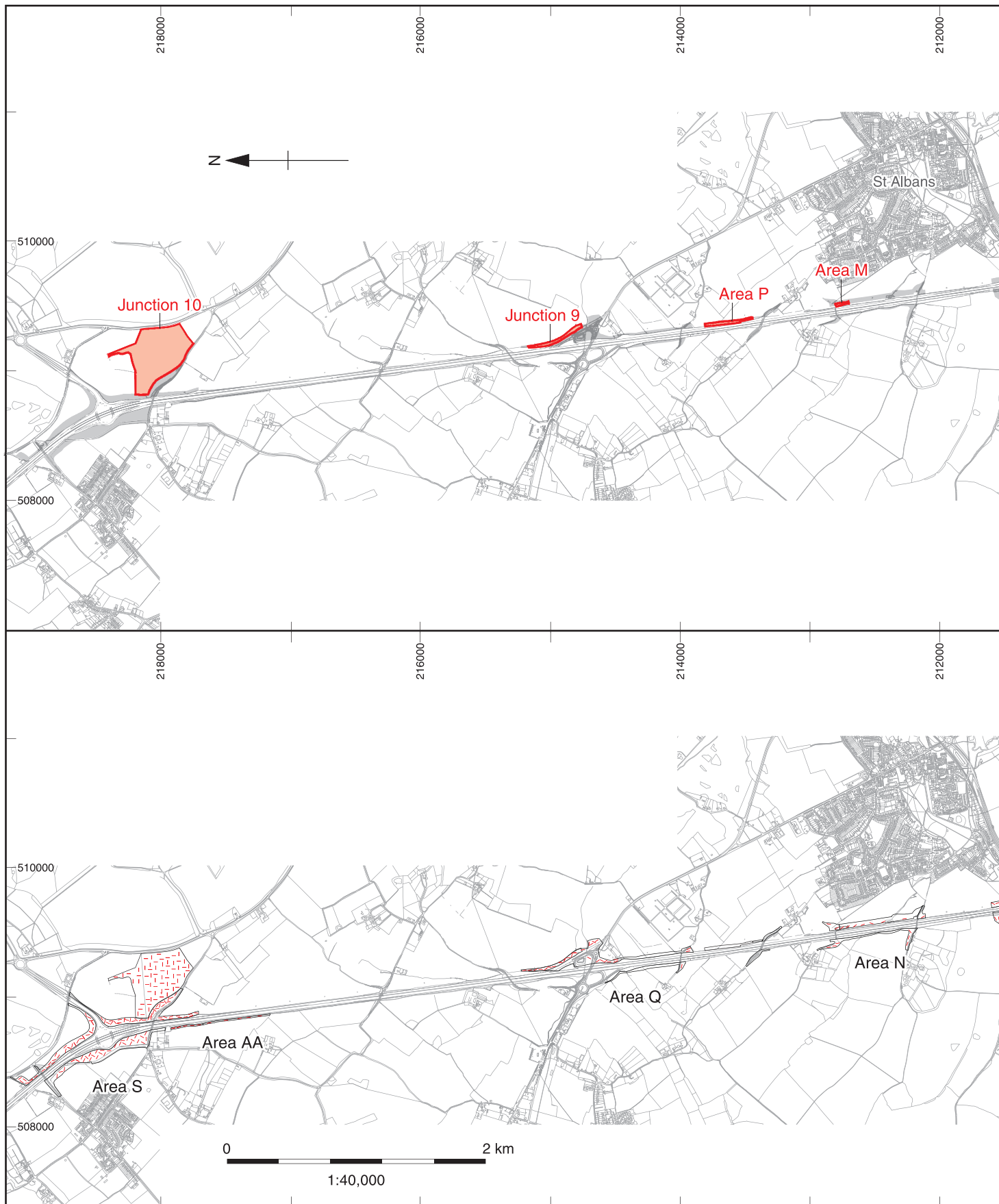
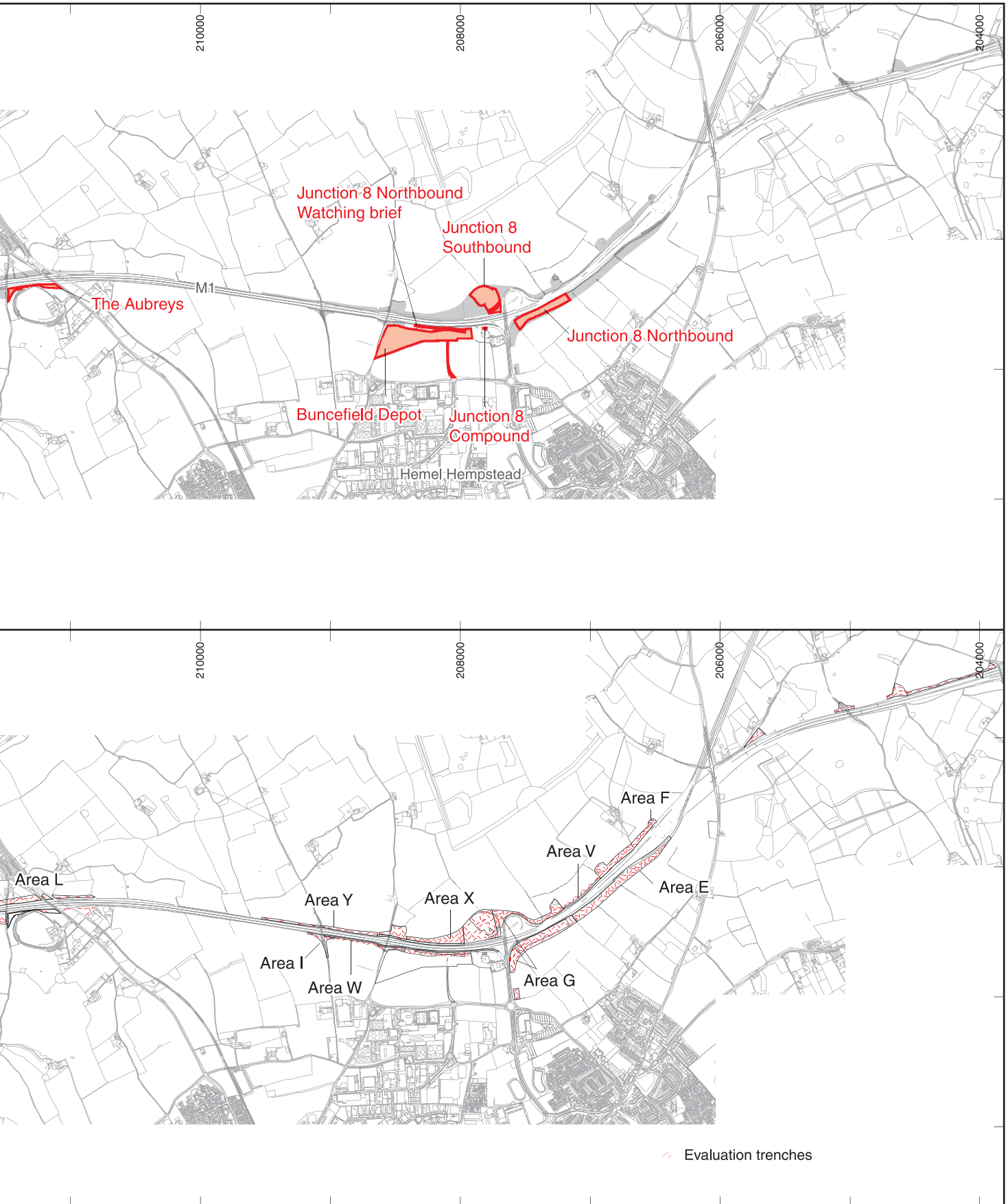


Fig. 1.2 Location of sites and evaluation trenches



sloping ground above the River Ver valley. Residual flint finds from the ditches have been dated to the early Neolithic, but there is no evidence for the nature and chronology of activity within the earthwork. A minor and inconclusive excavation occurred in the 1930s (Atkins 2005, A39). Geophysical survey and trial trenching undertaken in advance of the M1 widening scheme established the continuation of the outer defences on the east side and suggested a possible middle Iron Age date for their construction, but the amount of dating evidence was extremely small. The Iron Age is also represented in the immediate vicinity of the scheme by a number of cropmark features comprising enclosures and other ditches (*ibid.*, A52, A63 and A67), but these are only dated on morphological criteria.

Late Iron Age

The density of late Iron Age settlement in the area was high, and over 150 late Iron Age settlements are known from the Chiltern region (Bryant and Niblett 1997, 271). Late Iron Age settlement appears to have been concentrated in the river valleys of the Bulbourne and the Lea, and of the Ver, Mimram and Rib, tributaries of the Colne and Lea, which cut the Chiltern dip slope (*ibid.*, fig. 27.2). Late Iron Age enclosures in the Bulbourne valley at Cow Roast and Ashridge covered an area of over 300ha and excavation has revealed evidence of a major iron-working centre, exploiting local bog ore on a massive scale (Morris and Wainwright 1995; Bryant and Niblett 1997, 272). All of these settlement foci, with the exception of the Cow Roast/Ashridge complex and Wheathampstead, have produced evidence of high-status burial. A high-status late Iron Age burial was also found at Harpenden during the construction of the Luton and Dunstable branch of the Great Northern Railway in 1867 (Bagshawe 1928; Freeman and Watson 1949). Imported pottery, metalworking debris and coinage were present at Verulamium in the Ver valley and imported pottery has been recovered from Braughing in the Rib valley (Bryant and Niblett 1997, 271-8). The Braughing complex was particularly important as a major centre of exchange and distribution in the 1st century BC, as considerable quantities of imported Continental pottery have been found at this site (*ibid.*, 276). However, it appears to have gone into decline as Verulamium started to grow in size. All of these settlement complexes have been compared to Continental oppida, although some of their characteristics, particularly the density of settlement within them, are notably different (*ibid.*, 279) and subsequent work at some of these sites has cast doubt on this interpretation (Bryant 2007, 73). Given the extent of these sites, and their largely rural nature, it seems that they could account for the majority of settlement in the region. The Verulamium complex lay close by, to the south-east of the M1 widening excavations, and must have provided a focus for

late Iron Age activity along the line of the M1. Furthermore, at least some of the cropmarks of rectangular enclosures in the hinterland of Verulamium may represent sites where occupation started in the late Iron Age (R Niblett pers. comm.).

Roman

At its southern end the scheme lies only 3km west of St Albans (Roman Verulamium) and the whole of the scheme area therefore lies within the hinterland of the Roman city, and Roman sites are frequent in the area. Environmental evidence suggests a relatively densely occupied hinterland for Verulamium in the mid 1st century AD. Pollen evidence from the River Ver, at St Albans, for example, shows that the landscape upstream of Verulamium was largely in agricultural use during the Roman period and only contained small areas of remnant woodland (Dimbleby 1978). In addition, pollen evidence from the mid-1st-century funerary shaft at Folly Lane supports this, whilst the discovery of animal dung and trampled soil from the same feature suggested the presence of nearby stockyards (Niblett 1999, 62). The NMR lists four Roman roads that are known, or thought to exist, along the route of the scheme, or to cross it (Atkins 2005, A58-61). The main one of these (*ibid.*, A60) is Watling Street, the course of which is followed approximately by the modern A5183 and A5, and which intersects the M1, as well as the River Ver, at Junction 9. Although the route of Roman Watling Street runs through the Junction 9 area, the location of the present works did not provide scope for examination of the line of this road or its relationship with the River Ver. Indeed, much, if not all, of this evidence will have been destroyed by the original construction of Junction 9. The three other roads are all ones identified by The Viatores (1964, 34) and comprise their roads 163, 165 and 169b, although no evidence for them was uncovered during the M1 widening scheme excavations. Of these, a road running west from St Albans to join the well-known alignment of Akeman Street in the Bulbourne valley was the most important and would have crossed the line of the M1 in the vicinity of Junction 7 (cf Margary 1973, 155-6).

Knowledge of the Roman rural settlement pattern in this area is dominated by the evidence for villas and shrine complexes. The villa complexes at Gorhambury, which had high-status pre-conquest origins (Neal *et al.* 1990), and Gadebridge Park (Neal 1974), respectively 2km east and 4.5km west of Junction 8, have both been the subject of major excavations. Several other villa sites in the area have also been examined in part (eg Neal 1976). There are a further four known villas in the area between the rivers Gade and Ver, including those at Kings Langley, Park Street and Childwickbury. In addition, probable villas exist at Netherwild and Munden (Hunn 1995a, 81), but a potential villa site near the southern end of the present project area,

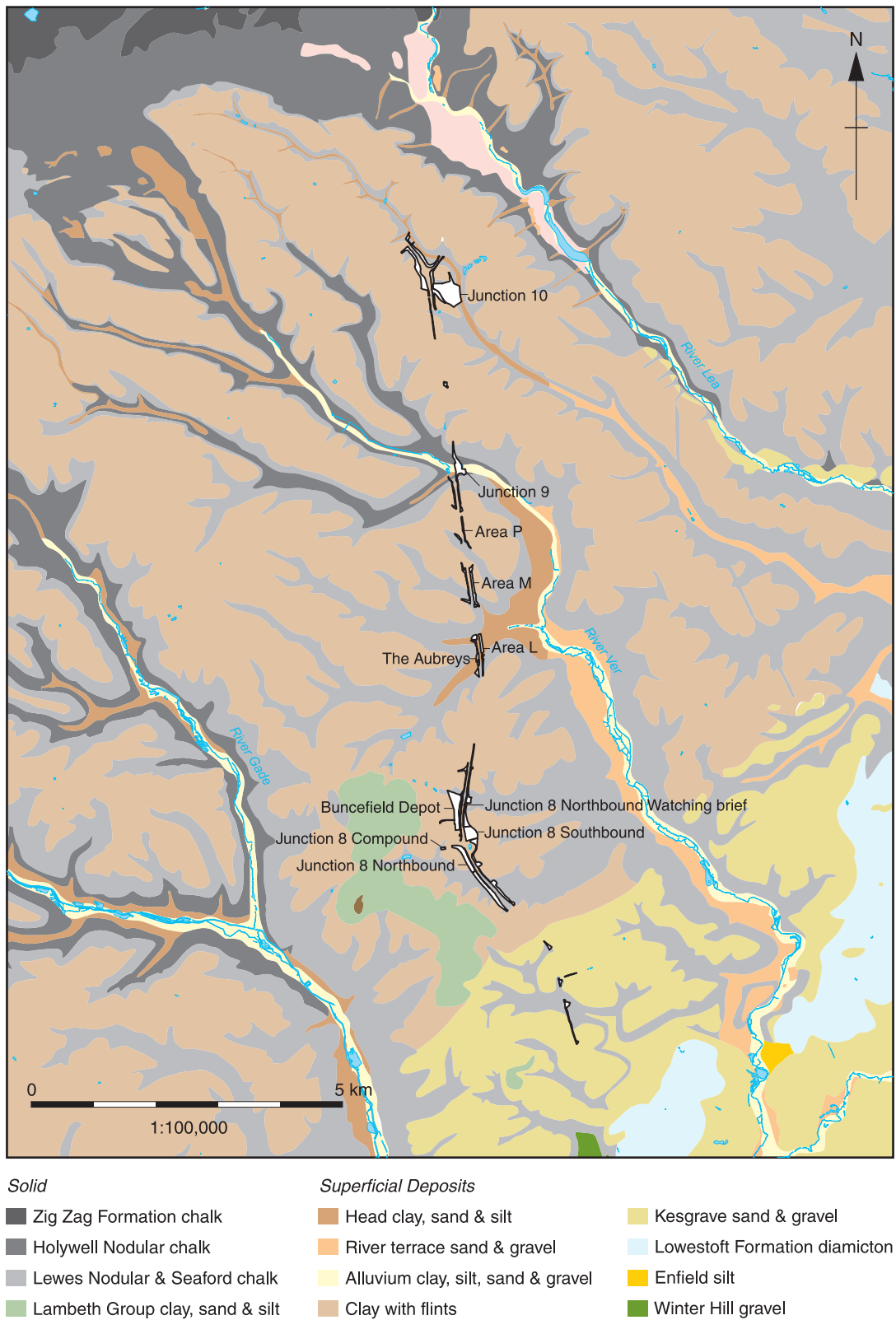


Fig. 1.3 Geology

just east of Potters Crouch (Atkins 2005, A37), has been discounted (R Niblett pers. comm.).

Villas appear to be absent on the Chiltern dip slope to the east of Verulamium (Hunn 1995a, 91), where the local superficial geology produces soils that are generally infertile. The villa at Mackerye End, Harpenden, developed on the site of an established late Iron Age farmstead, as did the Romanised building/villa at Fairfolds Farm, Sandridge. Further villas are known from aerial photographic evidence, or are suspected, at Harpenden, Gaddesden and Frithsden, Berkhamsted. Roman pottery from the site of the farmstead at Prae Wood may be evidence for its continued use, while an aisled building occupied the centre of the post-conquest enclosure, south of the King Harry Lane cemetery (Niblett 2005a, 123-4).

Shrine complexes are known from Annables Cottages, near Friars Wash, close to Watling Street and the River Ver, where there were two adjacent temple structures (Wessex Archaeology 2009), and Wood Lane End, just to the west of Junction 8, where a large temple and associated buildings, including a bath house, were discovered (Neal 1983; 1984). In addition, an early 2nd-century temple/mausoleum complex has been excavated at Rothamstead, Harpenden, and this was possibly associated with a suspected villa near Harpenden church, or at Hatching Green (Lowther 1937).

Roman tiles and masonry remains were seen in the vicinity of Junction 8 of the M1 during its original construction, but the real nature of this evidence is very unclear. It may indicate that there was a small villa or farmstead at this location, with a building of rectangular plan (Anthony 1960, 8; Hunn 1995a, 83). However, the present work suggests continuity of settlement from the late Iron Age and the presence of reused building materials rather than a more substantial structure. Lower status Roman rural sites are rare on the Chiltern dip slope (Hunn 1995a, 91), but sites of varying degrees of status and complexity are known to the north of Gorhambury, at Old Jeromes West, at Prae Wood, at Breakspears and at Boxfield Farm, 22km to the north of St Albans (*ibid.*, 83-4). In addition, rural settlements are known from Harpenden, Redbourn, Kettlewells and Bladder Wood (*ibid.*, 84). A low-status rural site is also known from Bishops Stortford where an extensive settlement, comprising ditches, pits, gullies and spreads of domestic debris, grew up at Thorley (R Niblett pers. comm.). Other rural settlements include Harpenden, Fairfolds Farm, Sandridge and Gaddesden Row (R Niblett pers. comm.). To the south, excavation at Leavesden Airfield recorded a complex of ditched enclosures, pits and postholes, dating from the middle Iron Age to the late Roman period, along with a kiln producing grog-tempered pottery, which was dated to the late 1st century AD (Brossler *et al.* 2009). A further, and perhaps earlier, kiln has been excavated recently during work associated with widening of the M25 at Bricket Wood (OA forth-

coming). Excavations at Westwood Quarry, near The Grove site in Watford, recorded three rectilinear enclosures (R Niblett pers. comm.) and field walking on the enclosures at Old Jeromes East and Beech Hyde Farm have produced late Iron Age pottery and Roman pottery and tile (R Niblett pers. comm.). A sub-rectangular ditched enclosure on the line of the Redbourn bypass, excavated in 1983, dated to between the late Iron Age and the early 2nd century and produced metalworking slag (R Niblett pers. comm.). Kiln sites belonging to the Verulamium region pottery industry are also known from the area, but these are concentrated along the route of Watling Street, south of Verulamium, between it and Sulloniacis (eg Hunn 1995a, 85; Bird 2005; Smith *et al.* 2008).

Saxon and medieval

The medieval period is well represented along the route. Many of the farmsteads and manorial complexes in the area have early medieval origins, with materials dating from this period still evident in their fabric. Although evidence for Saxon activity on the Chiltern dip slope is scarce, settlement dating to the 7th century is known from Foxholes Farm, Hertford, Old Parkbury, Colney Street, Bricket Wood and Aldenham. In addition, a 7th-century burial is known from Wheathampstead (Wingfield 1995, 39), whilst an Anglo-Saxon cemetery of 39 inhumation graves from King Harry Lane was probably established during, or following, the middle of the 7th century (Ager 1989, 226). Other possible evidence for early Saxon burial comes from the 'mound of the banners' at Redbourn, close to the line of Watling Street (Williamson 2010, 155). This site was dug into by the monks of St Albans Abbey in the 12th century, who reported the remains of skeletons and iron weapons, which may have been early Saxon in date (*ibid.*, 155).

It is possible that there was significant increase in woodland in the region at some point in the early medieval period, although the extent of this is unclear (*ibid.*, 77). That there was survival of a post-Roman British enclave in the Chilterns, incorporating St Albans, is a long-standing hypothesis, most recently examined at length by Baker (2006) and potentially supported by Niblett's review (2005b) of the post-Roman (as opposed to early Anglo-Saxon) evidence for St Albans itself. In the 8th century St Albans was part of the kingdom of Mercia, under Offa who founded the Abbey of St Alban on, or near, a late Roman church. Hemel Hempstead, Redbourn and Wheathampstead are all also mentioned in late Saxon charters (Williamson 2010, 151, 155, 172).

The evidence for settlement in the St Albans region between the late Roman period and the 10th century is limited, with no archaeological or historical evidence to suggest that the known medieval settlements existed before the 10th century (Hunn 1995b, 46). Although the sites of the five parish

churches of Redbourn, St Michaels, St Peters, St Stephens and Sandridge are not mentioned in Domesday book, they were nevertheless probably established by the late 10th century (*ibid.*, 47). Two of these, Redbourn and Sandridge, were probably sited adjacent to settlements (*ibid.*), whilst the church of St Mary in Redbourn (Atkins 2005, A11) retains fabric which dates to around 1100. Overall the medieval settlement pattern can be characterised as dispersed (*ibid.*, 50), with St Albans forming a large central focus, which was surrounded by hamlets and individual farmsteads. Only two settlements (Redbourn and Sandridge) had village-like characteristics (*ibid.*). The place-name Potterscrouch was recorded as early as 1346-7, but there is no evidence for pottery production there (McCarthy and Brooks 1988, 435-6).

Post-medieval and 20th century

The dominance of the agricultural economy continued into the post-medieval period, although in recent years the construction of the motorways and the expansion of London's satellite towns have changed the character of the area, and have led to the growth of urban settlements in Hertfordshire, such as Hemel Hempstead. Villages such as Redbourn have also expanded; their growth characterised by recent housing estates. These changes are important in that they represent a time of significant development in Britain's 20th-century cultural heritage.

More specifically, the direct impact of the original M1 construction on the landscape was very striking and was, in terms of its disregard for the landscape and the historic boundaries within it, comparable in its effect to the major phase of railway construction in the 19th century. This was also the first substantial stretch of motorway to be constructed in England, as the earlier Preston bypass was just eight miles long. The 61-mile length of the M1 from Watford to Daventry was opened in November 1959 and incorporated, amongst other things, new developments in bridge construction technology. The effect of the motorway on the evolution of settlement patterns in this part of Hertfordshire was less direct, although its presence did encourage secondary eastward expansion of the 'new town' of Hemel Hempstead.

THE PROJECT

The scheme involved the asymmetric widening of the motorway by an extra lane to relieve congestion along the corridor. Existing junctions were adapted to reduce the level of accidents and some modifications to slip and approach roads were also made. Accompanying mitigation took the form of activities such as planting and most existing structures were demolished or altered. Many of these late 1950s concrete structures (bridges and underpasses) were of interest in their own right and were the

subject of a separate recording project (OA 2006a).

An Environmental Statement (ES) for the scheme was produced in 1994 (Highways Agency 1994) based on a full EIA. The Archaeological input to the ES was prepared in September 1994 by St Albans Museum in association with Hertfordshire County Transportation Design Services. It identified several sites of potential archaeological significance on the basis of site walkover, limited geophysical survey and existing knowledge. In total, nine sites were identified in the ES, and the commitments established at the Public Inquiry (PI) included further evaluation and mitigation at these sites. Moreover, further assessment concluded that the scope of the preliminary survey work needed to be expanded in respect of the rest of the scheme area. This led to extensive evaluation trenching being undertaken in locations which were not identified as archaeologically sensitive at the PI, in order to reduce the risk of discovering remains during the watching brief, which was required during construction. In addition, a record was made of changes to the historic landscape through an innovative photographic project, but this was separate from the work reported in this volume.

A complex system of area nomenclature was developed (Table 1.1). Evaluation trenching (Fig. 1.2) in Area S (Junction 10) was undertaken in December 2005 and January 2006 and was reported on in March 2006 (OA 2006b). Evaluation of a proposed borrow pit area immediately south-east of Junction 10, in Bedfordshire, took place in February 2006 and was also reported upon in March of that year (OA 2006c). Areas Q, L, M and N were subjected to a programme of trial trenching from January to April 2006 in line with a Written Scheme of Investigation (WSI) prepared by Oxford Archaeology (OA 2005). The results were presented in a report (OA 2006d) which also included an account of a watching brief undertaken near Junction 9. Evaluation trenching in Areas T, A, B, D, F, V, G, X, H, J, Y, I, W and E was undertaken from November 2005-May 2006 and the results of this work were presented in a further report (OA 2006e).

The results of the various phases of evaluation were used as the basis for establishing a programme of further mitigation works (Atkins 2006). The principal mitigation strategies are listed in Table 1.1 and the excavations and watching briefs were undertaken from autumn 2006-summer 2007. Substantive results were derived from excavation at three sites (Junction 8 Southbound; Junction 8 Northbound; and Junction 9) with smaller bodies of information recovered from The Aubreys and Areas M and P, and minor observations at locations in the vicinity of Junction 8 Northbound and at Junction 10. All of these are presented in summary in this volume, whilst records of observations from other areas are retained in the project archive.

A programme of post-excavation assessment work was undertaken in 2007 and a revised report was submitted in March 2008 (OA 2008). This report

outlined the nature of the records and the character of the archaeological features and finds with an assessment of their significance, and set out proposals for further analysis and reporting. The results of this programme of work form the basis of the work presented in this volume.

MITIGATION: AIMS, METHODOLOGY AND ARCHIVE

The main aims of the mitigation fieldwork programme were very broadly defined, with an emphasis on basic characterisation of sites in terms of their function and date. Particularly in terms of prehistoric archaeology, this broad-based approach reflects the relative lack of detailed evidence dating to this period in the vicinity of the scheme. The primary objectives were, therefore, to define the nature of landuse and its evolution and development through time, relating such developments,

where possible, to the wider landscape. Given the lack of comparative excavation data from the area, similarly broad objectives were defined in relation to the examination of medieval features at Junction 8 Northbound.

It was possible, however, to pose more specific questions for sites of Roman date, although the need for accurate basic characterisation remained paramount. Attention was focussed on defining the balance between the evidence for domestic occupation and types of activity, and the origins and sequence of such occupation, particularly with regard to continuity of settlement from the late Iron Age. The principal wider question for examination concerned the role of these sites within the hinterland of Verulamium, the dominant focus in the local and regional settlement pattern, and the extent to which it was possible to identify evidence that would illustrate the connections, if any, between the rural settlements and this Roman city.

Table 1.1: M1 sites listed in geographical order from north to south (based on Atkins 2006, section 4.2.3)

ES number/ evaluation area	Additional evaluation area	Description of site and reason for evaluation	Evaluation result
	S (includes OA site AA)	Junction 10 area. Prehistoric, Roman and medieval. Predominantly Roman potential	Positive. Possible field system of ditches with five/six possible pits. Focus of site a possible ring ditch with one worked flint. No other dating material
	Borrow Pit Area	Borrow Pit Area east of Junction 10 Prehistoric, Roman and medieval. Predominantly Roman potential	Positive but limited. Series of field boundaries and five possible gullies in concentrated area. Possible prehistoric settlement. Dating material primarily post-medieval in date. Possibly connected with Area S
	R	Coles Lane crossing. Prehistoric potential	Not evaluated due to limitations of access – reverted to a scheme-wide watching brief as proposed at PI
	Q	Area around Junction 9 and the A5 Watling Street. High Roman potential (also prehistoric and medieval)	Positive. Series of ditches containing Iron Age/Roman material and some containing Mesolithic, Neolithic and Bronze Age material. Large amount of 2nd-century AD pottery and building material. Stakeholes, postholes, other occupation debris. Roman roadside activity and occupation? Stratified deposits and concentrated features
	Junction 9 compound	Junction 9 compound. Potential prehistoric, medieval and Roman remains	Negative
6/P (including OA site Z)		Struck flint scatter and geophysical anomalies. Prehistoric and medieval potential	Not evaluated due to limitations of access – evaluation watching brief employed
	O	Lybury Lane crossing. Prehistoric and medieval potential	Not evaluated due to limitations of access – reverted to a scheme-wide watching brief as proposed at PI
7/M		Flint scatters and geophysical anomalies north of The Aubreys. Iron Age/prehistoric potential	Positive. Trackway and boundary ditches (Iron Age and Roman). Possible yard surface and postholes. Some Iron Age and Roman finds. Dispersed archaeology and not deeply stratified

Fieldwork methodology

Fieldwork methodologies followed standard agreed procedures set out in a series of site specific WSIs (OA 2006f; 2006g; 2006h; 2006i; 2006j). Excavation areas were stripped with a 360° tracked machine, fitted with a toothless ditching bucket, under direct archaeological supervision. Machine excavation proceeded to the first archaeological horizon or to the underlying natural geology, whichever was encountered first.

In the principal excavation areas base plans were produced digitally. Sections and detailed plans of complex areas and archaeological interventions were drawn by hand and integrated with the main site plans. A representative sample of the features and deposits revealed was excavated by hand to determine their depth, extent and nature. Finds, where present, and environmental samples, where appropriate, were recovered and all artefacts were

retained. All features and deposits encountered were issued a unique context number and recording followed procedures laid down in the *OA Fieldwork Manual* (Wilkinson 1992). Photographs, including a record of each intervention, were taken using colour-slide and black-and-white print film.

The procedures for targeted watching briefs and other watching brief areas followed those set out above, with the exception that, in some cases, base plans were prepared by hand using local grids. Fixed points on these grids were subsequently surveyed and related to National Grid Reference (NGR) co-ordinates.

Post-excavation methodologies

The excavation and watching brief site records were subject to assessment in 2007 (OA 2008). A context database was compiled for all the principal sites

<i>Report</i>	<i>Further mitigation</i>	<i>Mitigation result</i>	<i>In present volume</i>
5038930/TE/DO/EHE/007	Excavation, targeted watching brief, Junction 10	Minor features, mostly undated	Y
11.4.2006	Excavation, Borrow Pit Area	see above	Y
-	Scheme-wide watching brief	-	N
5038930/TE/DO/EHE/011	Excavation, Junction 9	Prehistoric and late Iron Age-Roman features	Y
-	-	-	N
-	Evaluation watching brief	Roman linear features	Y
-	Scheme-wide watching brief	-	N
5038930/TE/DO/EHE/011	Targeted watching brief, Nicholls Farm	Late Iron Age and Roman linear features	Y

and hand-drawn plans were digitised and incorporated into the digital base plans for each site. Features were assigned to broad period-based phases (late Neolithic-early Bronze Age, late Bronze Age-early Iron Age, Roman and medieval), using key stratigraphic sequences and spot dates provided by the pottery assessments and, in the case of the earlier prehistoric features, the flint assessment. Phase plans were produced for all of the sites and, in some cases, major features were assigned to feature groups.

All of the artefacts were assessed. In the case of the principal artefact groups (pottery, ceramic building material and lithics) the material was fully recorded. In most cases, recording was restricted to the establishment of chronology, in order to assist the development of schemes of phasing for each site, while an assessment of each assemblages' character and potential for further analysis was also undertaken.

Animal bone, like the principal artefact categories, was fully recorded at this stage, but additional work was confined to assessing the potential of the material for further analysis. Environmental samples were assessed by category and, although full recording was not undertaken, provisional assessments of the character of the material were made and its potential for further work determined.

The post-excavation assessment report has formed the basis for the results outlined in this volume. However, in addition, site sequences have been examined in more detail and site narratives expanded and amended accordingly. Artefact assemblages have also been analysed in the light of revised phasing and selected environmental samples have been fully examined. The site narratives and specialist reports presented in this volume

are nevertheless quite condensed, and further analytical data can be found in the project archive.

Within this volume, reports are presented on the results of work at the principal sites examined during the project, although in some cases the results were disappointing and the scale of reporting is therefore limited. The sites are described separately, proceeding in geographical sequence from south to north (Chapters 2-6). Reports on artefactual and ecofactual material consider the finds from all the sites together, but with a clear distinction between each assemblage (Chapters 7-8), which are then followed by a report on the programme of radiocarbon dating (Chapter 9). A final discussion (Chapter 10) attempts to place the results from each individual site together, within a developing chronological framework.

Archive

Quantification of aspects of the project archive was set out in the post-excavation assessment report (OA 2008). The finds, paper record and digital archive will be deposited with the Verulamium Museum. Owing to increasing inaccessibility to microfilm services the basic digital archive will take the form of a pdfA scan of the hard-copy records. These pdfA scans will be preserved on the OA South archive server and a copy on disk will accompany the hard copy deposited within the project archive. Born digital data, such as jpeg digital images and databases or geomatics data, which are not suitable for hard copy, will also be stored in this way. In time it is hoped that these digital archives will be made publicly available through the internet, but in the interim anyone unable to access the hard copy or museum disk copy may approach OA South for access.